The Coalition's Climate Change Strategy

The Federal Government and Opposition agree that Australia must reduce its greenhouse gas emissions to 5 per cent below 2000 levels by 2020. They disagree strongly, though, on how to do it. This public discussion explored the Opposition's policy with the Shadow Minister for Climate Action, Greg Hunt.

"A Coalition Government will implement a climate change strategy based on direct action to reduce emissions and improve the environment. Under the Direct Action Plan, a reverse auction will be used to buy back carbon at the lowest price, such as through revegetation, soil carbon, capturing gas from land fill and energy efficiency. Our policy will deliver significant environmental outcomes without the need for a damaging, economy-wide tax, that no other country has implemented." *Shadow Minister for Climate Action, Greg Hunt*.

Speaker: The Hon Greg Hunt MP, Federal Member for Flinders, Shadow Minister for Climate Action, Environment and Heritage
Chair: Mr Tony Wood, Energy Program Director, Grattan Institute
Key Experts: Mr Erwin Jackson, Deputy CEO, The Climate Institute
A/Prof Michael Brear, Mechanical Engineering, The University of Melbourne

TONY WOOD: Good evening ladies and gentlemen. My name is Tony Wood and I'm the Energy Program Director at Grattan Institute and we are very pleased to have been co-hosting the Future Energy Series now for a couple of years. This is obviously a good healthy crowd - it's probably something to do with the weather I guess in Melbourne tonight. Our seminar is being held on the traditional lands of the Kulin nation and I wish to acknowledge them as the traditional owners and pay my respects to their Elders past and present and Elders from other communities who may be here today.

I guess in talking about today, it doesn't get much more topical than this. We like to think we do a reasonable job at picking some of the issues that are worth talking about, but I guess we couldn't have got it much better than today. Backing up a little bit, the climate change debate is obviously serious, the climate continues to change despite, or instead of or whatever you like to word it, the way governments are addressing this issue. We as the world continue to pump out greenhouse gases and I guess most people probably in this room know that in May we passed the magic 400 parts per million level in terms of concentrations in the atmosphere. And yet interestingly, despite the fact we celebrate all sorts of anniversaries that one didn't seem to be getting much attention. And whether or not we get any progress in Poland this year or Paris next year I guess remains questionable, but tonight we're going to focus on Australian climate change policy.

In relation to the political framework of this year there are some interesting significant comparisons where both the government and the Coalition have the same position and what we're going to probably focus on more tonight is where there are some differences. Broadly speaking, both the government and the Coalition accept the global community's commitment to hold global warming to no more than two degrees centigrade to prevent dangerous climate change. Secondly, the government and the Coalition have an unconditional target to reduce Australia's greenhouse gas emissions to 5% below 200 levels by 2020 and they share the same conditional targets of 15% and 25% conditional upon international action. And thirdly, there is a common commitment to a renewable energy target that was introduced by the Howard government and was extended by Labor.

Of course, there are differences. The targets to be achieved: how will they be achieved; what's the appropriate policy to achieve those short term targets and set up Australia for the longer term? The government has adopted an Emissions Trading Scheme and most people I'm sure in this room would be aware that the Prime Minister today announced some changes in that scheme; the Coalition on the other hand is proposing a direct action approach to meeting the same target. The government both set and is sticking to a 41,000 gigawatt hour target for renewable energy; the Coalition remains specifically committed to the 21% target. So there are similarities and differences.

What's, I guess, interesting after today is that we are now going to see climate change, at least for a while and maybe through to the election, as a real area of policy discussion and policy debate, and I think those of us who are seriously concerned about climate change would welcome that change. Certainly the Prime Minister's announcement moved it onto the centre stage at least for a while. Arguably the government didn't handle the fixed price very well and its policy still remains I think an area of messy policy in all sorts of ways. But tonight is not a debate, tonight is an opportunity for the Shadow Minister to describe the Coalition's direct action policy and for you to engage in a conversation with the Shadow Minister about that policy and to better understand and appreciate the policy and its details. I should also say we have invited the government to do something similar.

So for the next half-hour Greg Hunt will have the floor and he will outline aspects of the direct action policy. I'll then ask a couple of people with some specific expertise who I'll introduce after Greg has spoken to get the whole thing rolling with a few questions and then we'll open it to the floor. I should let you know that I do also some questions that were submitted in writing before tonight and we may intersperse those with questions from the floor, but given I'm sure the interest from the floor we won't need to have too many of those. And I think hopefully those of you who've had the opportunity today will have seen Greg's speech notes because he did send them to us and they were posted on our website and where we had email addresses they were sent to you.

So the Hon Greg Hunt is the Shadow Minister for Climate Action, Environment & Heritage. He's been so in somewhat slightly different guises since 2007, so he's been in this role for a while and is very experienced in thinking about this policy question. He came to Federal parliament as the Member for Flinders in 2001. He did have a background with McKinsey & Co. and worked as a senior advisor to Alexander Downer when he was Foreign Minister and previously as a practising lawyer. So please join me in welcoming Greg Hunt.

GREG HUNT: Thanks very much to Tony, to Irwin, to Michael, to the very distinguished audience here. I see Professor Ross Garnaut; Rob Gel, who was President of Greening Australian for so many years; Professor Robin Batterham, Chief Scientist of Australia; David Green the Chair of the Clean Energy Council; I think some of Australia's most distinguished economists in Adrian Palmer and Stuart Allison; and so many of you who are involved in the policy world, the academic world and the practical world. So to those of you whom I haven't yet seen I apologise, but I will run through the names I suspect as I see them through the day.

Let me begin with two simple propositions. The first is that human nature is such that people respond well to incentives. It is in part the way in which we are hard-wired, in part the way in which we live, and it is a reality. I want to deal against that background then with how we approach the question of climate change and let me start with three fundamental propositions. The detailed paper is about 4,500 words, I won't inflict that on you, you can read it at your leisure, but it's tonight that I want to go through the key propositions and how we propose to respond to the question of climate change.

So the three key principals are these: firstly, we believe in the science and we accept the reality, accept the importance. For me, that's been a position since 1983, I think, was when I first engaged in the issue. The question is never about whether we do nothing or something; it's about what is the action? So the second principal here is we also accept, and we gave support

to the government for the targets, not just the 5% but also the conditions for change. Now many will say that they should go further and I understand and respect that view deeply, but this is about how do we make a key start and how do we play a role in having the world take steps forward? So we accept the science, clearly, categorically, absolutely. Secondly, we accept the targets, clearly, categorically, absolutely.

I was stopped by two young ladies on the way in who wanted to talk about the targets and I respect the views on that, but let me be clear: we'll achieve our targets; we'll achieve them easily if we are elected; and we will achieve them through actions which actually reduce Australia's emissions. I think the one thing that comes as an extraordinary surprise to people is that on the government's say-so in 2010 domestic emissions were 560million tons. Under the Carbon Tax, whatever you want to call it, they then rise to 637million tons by 2020. These are the latest figures from the government of Australia on what will actually happen in Australia under the mechanism which they have. So therefore the way they deal with it is by buying permits from Europe, some from Kazakhstan, some from China, but overwhelmingly from Europe. And so when you look at what is actually happening, there is agreement on the science, there is agreement on the targets, although the government meets its targets not by decreasing emissions in Australia, but by overseeing an increase in emissions from 560million to 637million tons. Not our figures, not our analysis; their figures, their analysis, their public data most recently submitted to the United Nations.

So the third point then is if we agree on the science and we agree on the targets, but we want to do our work in actually cleaning up Australia's emissions, we disagree on the mechanism. Now until today there had been a fairly clear divide where we did not believe that a Carbon Tax was the right way to go and the government did believe that a Carbon Tax was the right way to go. Tony, some people may have heard that apparently the Carbon Tax was terminated today. Those were the Prime Minister's words. I say "apparently" because it's a combination of having said that he no longer believes in the high electricity prices, the high energy prices, the high gas prices which were the purpose of the tax. That's the theory behind it, it increases electricity and gas prices so as to decrease both demand and to change supply by causing sufficient pain. And he said he doesn't accept that theory any longer and therefore he will move to terminate the tax; again, the Prime Minister's words. Except, and I'll come to this a little bit later, he keeps the tax.

Over an eight year period the prior Carbon Tax version, the previous Prime Minister's version, the Gillard version, raised $64billion. Under the new version of the tax, the Emissions Trading Scheme, it raises $58billion. So we're in this curious position where the Prime Minister today has announced that he doesn't believe in, no longer supports, and will terminate the Carbon Tax, but in reality by simply bringing forward the floating price by 12 months there is a one-off period of discount or reduction in the total revenue. Beyond that, the forward projections are identical. So over eight years, years one and two have an identical revenue; years four, five, six, seven and eight have an identical revenue to what was the case previously. Only year three has a level of revenue which is in gross terms about $6billion less and in net terms about $4billion less. So that's just to give you a little bit of the lie of the land given that there have been certain events of some significance today, in case any of you missed it.

The next thing there is well, what is that we're proposing? And the world has two great systems afoot. One is the tax-based system, the punitive charge which was always designed as primarily an electricity tax, but a tax on all the different forms of activity which create and generate emissions; the second is a direct approach where you actually go to clean things up and you do that through the market, through purchasing emissions reduction, and that's what we propose. And the history and the context of that is that the United Nations has a clean development mechanism where people go and purchase the lowest cost abatement. Norway uses a Carbon Purchasing Fund. India has a very similar scheme in many respects, the Perform, Achieve & Trade Scheme. What we have in Australia is the Water Buy-Back Scheme, which is the same thing. What we have in Australia which was given to us by the government was a non-Kyoto Carbon Fund which was almost exactly, almost exactly identical to what we propose and it was their scheme which they argued for modelled entirely on ours and which was taken away only recently because they needed to save the funds. So the world has two different approaches:

one is the tax-based scheme; two is the incentives-based scheme where you purchase, just as you do with water, the lowest cost reductions on a competitive basis.

So then let me go forward now to the major parts of the speech, and this is the proposition that firstly, the theory is clear that the best way to reduce emissions is by actually doing practical things rather than simply, as is occurring in Europe, engaging in a large-scale trade but which is not reducing emissions in any significant way. Because what do I actually care about? I want to get emissions down. I want to do things which help not just Australia, but help achieve a global agreement in the medium-term which actually make a genuine difference, not to appear to be just making a difference which is, I think, the critical part here. And so going forwards, as I say, the theory is that if you price the carbon on the one hand that you have a penalty, that therefore people would consume less. The alternative on the theory is that you actually go and clean things up. The second part is to look at what the world is doing. The third part is to look at exactly how we will implement our approach.

Now, in terms of the theory let me go to what occurred not that long ago where Bjorn Lomborg from Scandinavia gathered together a panel of Nobel Laureates, amongst others, three of the world's great Nobel Economic Laureates: Finn Kydland, Thomas Shelling, Vernon Smith. All are strong believers in climate change. All are believers in activity to reduce emissions. And their task was to gather together the best schemes from around the world and to rate them. They related 15 different schemes, three of which were variations of the Carbon Tax. The others included a range of activities around forestry, around technology; all of the different approaches. The top three approaches were direct investment in technology. You don't have to agree with what they chose, but they argued that the best chance and the cheapest way and therefore the greatest emissions reduction would come from direct investments in technology. And these are strong clear believers in climate change. These are people with the most impeccable economic credentials in the world in terms of market economists.

The second part of what they did was they found that the bottom three in terms of efficiency if you actually wanted to reduce emissions were three variations of the Carbon Tax depending on price. The higher the price, the worse it came on their ranking. These are not ideologues, these are people who did a long and exhausting process of comparing systems and came out with a view that of 15 different systems the top three were direct investment in technology, the bottom three were basically forms of trying to punitively price electricity. And you say "Well, why would that be the case?" and the answer's very simple, because we saw that answer today in the Prime Minister's own words. Electricity is an essential service, it's a fundamental good. In economic terms, it's therefore an in-elastic good. Not perfectly so, anybody who says that isn't saying the right thing, but in economic terms what does that mean? You can drive up the price of electricity, but it only has a modest impact in reducing the demand. That's a historic truth. It's probably one of the most developed economic relations in the western world. In the United States, one of the papers I've cited in my paper today did a longitudinal study there and found that there was an elasticity ratio of about 0.2, or in other words for every 10% increase in electricity you had about a 2% decrease in usage over a long period of time. In Australia the work of the New South Wales IPART was that for every 10% increase in electricity there was about a 1% decrease in use. Again, that's the Independent Review Tribunal of New South Wales. So for some reason Australian electricity demand is even stickier than the western hemisphere average.

What does it mean? It means that firstly, you can drive up the prices enormously and it only has a modest impact. It's not a zero impact, but it has a modest impact and, secondly, that that comes at an enormous social and economic impact as we've seen. The whole of today's announcement was the Prime Minister saying "We recognise that the current electricity price rates are not acceptable, that they had been hurting jobs, hurting the economy and hurting families". Again, I am paraphrasing, I hope accurately, what the Prime Minister was saying today. So in other words, they gave up on the theory today. They gave up on the argument. But then they said "Okay, so now we'll terminate it" but in reality of course it was kept. That's the political argument, our point that you've given up on the theory but you're still keeping it and changing the name. But what really matters is does it reduce emissions? And the answer is no.

560million tons to 637million. So that's why at the theoretical level there is a deep divide here. I am one for the practical incentives that will really reduce emissions. And so then let's look at what's happening around the world.

AUDIENCE: Don't turn your back on our future.

GREG HUNT: Okay, I'm happy for you to protest. Speak up, name yourself, set out your position. I'm happy for you to speak up and to name yourself, to set out a policy position, to engage, to ask questions. What's your name? Are you sure, you don't even want to share your name? Alright, well, I've tried to give you voice. I hope you allow me to have voice. And I respect the right of peaceful protest and I respect the right of free speech, and I try to encourage you to actually speak and to articulate the concerns because I'm setting out precisely how I want to address the future in a real way, not a pretend way.

So having said that, going forwards, let's look at what the world is actually doing and let's start with the fact that the Productivity Commission of Australia made this point. The Productivity Commission of Australia said "No other country has an economy-wide Carbon Tax or Emissions Trading Scheme like Australia".

The only thing I would ask is there are people behind you who may want to see. I'm happy for you to protest and stand, would you perhaps want to do that out the back out of respect and courtesy for those who did come? No? Alright, you can disrespect those who are behind you. Leave them there, let them do that. I don't want to do anything that disrupts free protest, it's just a shame that you're disrupting others and taking away their right.

China: much is heard about what China is actually doing. This is the truth: China's emissions are increasing from 5billion to 12billion tons over the period from the early 2000s through to 2020. It is the fastest growth in emissions in human history. Chinese coal consumption is summarised by what's happening in the one area of Xilingol. Xilingol is one prefecture in Inner Mongolia which is one province of 30 in China. In Xilingol over a five year period what we're seeing is an increase in terms of coal-fired power stations, eight major coal-fired clusters, a multitude of new coal pits, and that's for a population of 1million. I'm not saying it's a good thing, I'm not saying it's a bad thing; I'm saying it's an indisputable fact. When we then look at China as a whole; Chinese coal consumption is going from 1.4billion tones in 2002 to 4billion tons in 2015. And only last year we heard from Minister Woo Ying that Chinese coal consumption then goes up to 7.5billion tons in 2030. So there's no solution without China. Apparently there's an Emissions Trading Scheme in Shenzhen, and there is an Emissions Trading Scheme in nature. One city in one province across the entire country. The interesting thing about the Shenzhen Trading Scheme is 100% of permits are given out for free. None are auctioned. 100% are given out for free. There is some value because some have excess capacity that are given to them and others are storing them for the future, but 100% of permits are given out for free. That's a very interesting position. So that's where things are in China.

In the United States, President Obama has just released what I think is an outstanding climate change mitigation and adaptation plan. I think it is a critical document for the world. That document is a 20-page document and in that document not at any stage, as far as I can see, is there reference to a Carbon Tax, an Emissions Trading Scheme or a Cap & Trade Scheme. The greatest and mightiest economy in the world is going to deal with this issue through direct interventions and action: energy efficiency; protection of the great forests; cleaning up the power stations. You may agree or disagree, but that's actually what's happening. In Canada a Carbon Tax or Emissions Trading Scheme is off the agenda. In Japan it's off the agenda. In Korea it's been deferred and then it's free permits completely initially. So these are some of the things that are happening.

In Europe this is very interesting. First, Europe does have an Emissions Trading Scheme, but in its first five years with a population of 500million people it raised on average $500million. That's $1 per person per year. And here's the rub: in Australia over the first two years we're seeing on average $400 per person raised. That's the difference. There's just no comparison between

what has average $1 per person per year and $400 per person per year. Those are, in my view, the indisputable figures. It's been a $9billion tax in Australia. We've just had the view from the Prime Minister that that is not acceptable.

So then we go forward and say "Well, what can you do at the international level?" and my view here is quite hopeful. We are about to assume the Chair of the G20 group of nations. It doesn't matter who's in government, Australia will be the Chair of the G20. We have a once in a generation opportunity to help pull together a G4 agreement between China and the United States, India and the EU as the heart of a global agreement. That's I think where we can make phenomenal progress. And the good news is China is desperately concerned about air quality and the same drivers of air quality problems are also the same drivers in large part of their total emissions. Even though the air quality issue is different from the CO2 and related greenhouse gas question, it is from the same drivers of power stations and vehicles and industrial processes. So there is real incentive in China to be part of this because of the domestic concerns and there is real incentive in the United States. The EU, to their credit, is already there on the goal and India I think is interested, but will be guided by what China does. So we can do that.

The second thing internationally is we can have a suite of measures in terms of sectoral agreements. We don't have to wait; we can work towards a sectoral agreement in steel, a sectoral agreement in cement, a sectoral agreement in automotive manufacturing. Rather than making the big bang the only way to do this which, in turn, become is think the enemy of the good, we can progress in a way where let's get bricks in the wall. The third part is a global rainforest recovery agreement. That's something we can push on immediately and out of a global 40billion tons of CO2 equivalent, about 8billion tons comes from rainforest destruction each year. It's my judgement and my view that we are able to halve that by 2020 and two things occur: that's the single biggest fastest reduction in emissions that we can make; it's also probably the greatest legacy in terms of the biota that we could ever do to protect the environment for our children and our grandchildren. That global rainforest recovery agreement, if you ask me in my time if I were Minister what would I most want to achieve, I think that could be the most important thing that I might ever be involved with.

So then going forwards, what about the domestic scene? I've set out the case as to why we don't believe that the Carbon Tax is either economically efficient, but just as significantly why it doesn't reduce emissions in Australia, the fact that they go from 560million to 637million tons, because for all of the discussion the only thing that the planet knows is are emissions here or here? And Australia's emissions go up. So against that background, what is direct action? Direct action is at its heart a carbon purchasing fund. It's not exclusively confined to that, but at its heart, and there are four parts that I want to go through to wrap up the discussion and turnover to questions. Firstly, there's the structure; secondly, there's the cost; thirdly, there are the mechanisms; and fourthly, there's the implementation.

In terms of the structure, what we create is a Carbon Purchasing Fund. Now, that's the same as a Water Buy-Back Fund; it's the same as the non-Kyoto carbon fund that the government created; it's the same as the Norwegian Carbon Purchasing Fund for example. It's a very common way of going about things, but we do it through a competitive approach. We find all of the emissions reduction, all of the abatement that people want to offer up, and then we have a reverse auction. We put in an order of merit where we buy from the lowest until we meet our targets and our objectives. And what I've seen over the last four years since we were developing it and released it three-and-a-half years ago is that the available pool of abatement has increased, the average price of abatement has decreased, and the task in terms of where we are compared with where we need to be has also decreased because there's been a collapse in overseas demand for our manufactured goods which has flowed through to a series of different things. That is all in terms of our emissions reduction a way of saying that we'll not just achieve our targets, but we'll achieve it easily. And that prepares us then to look to the next step because people say "Oh look, are you prepared for the next step?" I think about that every day of my life because I think it is important. So everybody here does, you're all here because you think there are important issues. What you need to understand is, we've got a system which

is designed for the first stage, but which is designed to then go and to allow us to make further progress beyond that.

The second part then is you say "Well, how much does this reverse auction cost?" We've allocated cap figures: $300million, $500million and $750million over the course of the first three years. What we then do is we have said we will look to the period beyond 2020 and 2015, we'll be judging how the world is going. My view, my expectation is that we'll continue on this approach because of where the United States is going, not in terms of their emissions; they're doing great work in reducing their emissions. But in terms of the fact that they're not adopting a system remotely like this and I think that the world is effectively heading to where Japan is pointing and that is Japan is looking at setting up an international abatement scheme remarkably like, incredibly like the sort of things that we're proposing.

So then third thing is how do we operationalize this; how do we actually set up the mechanisms? And the simple answer is we'll use existing mechanisms and there are three key mechanisms that we focus on. The first is we will use the Carbon Farming Initiative. The government established it after we had proposed it some while ago and I think they've done generally a great job. I think they've done a great job. And what the Carbon Farming Initiative does is it recognises different ways to reduce emissions and then provides credits. It starts in the land sector and so it says if you've reduced emissions in the land sector then what occurs is that you get credit for it. You get a certificate at the end of the year which says that you have saved 1,000 tons or 10,000 tons or 1million tons of abatement that would otherwise have occurred. And you can do that in either of two ways: you can stop things going up or you can bring them down. They're effectively the two things that we have to reduce emissions: stop things going up or bring them down and sequester them. I think the best treatment – and I hope Ross that I don't misinterpret what you've said – but the best treatment that I've ever see of the land sector in Australia was in I think it was Chapter 22 of the Garnaut Report which set out the full range, the extraordinary potentials in Australia in terms of the land sector and we have just begun to touch what's possible there.

We then use the existing Clean Energy Regulator on top of the Carbon Farming Initiative and the Clean Energy Regulator will do exactly what she currently does, and there's a whole institution built around Chloe Munro. That is they recognise the projects, at the end of the year they determine whether or not the abatement predicted has occurred, and then they go ahead and issue the credits for that. It's exactly the same system. We created the Office of Renewable Energy Regulator which became the Clean Energy Regulator. We support it, we'll keep it. And then the third thing that we do is we use the same measurement scheme which we put in place, the NGER Scheme, so that measures and reports on emissions in Australia. So we use the same accreditation scheme, the same regulator and the same measurement scheme. In other words, we make it very easy to just get on and find the lowest cost abatement. And I've got to say this, we have cities, we have firms, we have farming groups, we have communities, we have people working all around the country right now. Gordon Wiess from Energetics is here who's done extraordinary work looking at abatement opportunities in Australia. And so we have people who are already preparing to aggregate emissions reductions. This is a very hopeful story as to what can happen to the country.

Finally that brings me to the implementation. If we are elected the Carbon Tax will be gone by the 1st of July next year and my aim is to make it the 1st of April. I understand that there are many who will disagree with that, but remember always emissions go up, not down. The second thing is that our system we aim to have in place by the 1st of July next year. We'll go through a White Paper process on some of the industry-facing sides, but we're unashamedly about giving people the opportunity to create opportunities for emissions reduction and then to bid them in and we buy the lowest cost. And that is going to get us to where we need to go. It will do it not just on a near basis, but it will do it easily. We have enormous capacity to go further.

So I want to finish there by saying this: we do believe in the science; we share the targets; we do disagree on the mechanisms but we disagree for good reason, because it doesn't do the job, and, as the Prime Minister said today, it comes at an extraordinary social cost. Secondly, where

the world is heading is a very different place from where the government sometimes presents it. We have only Europe which in real significant terms has a system which is set out as a broad system, but in reality you have that massive gulf between what is actually paid there and what's occurring here. And you have the conclusion of the Head of Point Carbon that between now and 2020 the European scheme will not actually reduce one additional ton of emissions; the same problem that I have with Australia. And then ultimately we can go and clean things up, and this is about actually doing things that you can understand because at the end of the day to reduce emissions you've either got to stop something going up or you've got to bring emissions down into the land sector. They're the only two ways that you can actually reduce emissions and if you do as Kydland, as Shelling and have Smith have suggested, you actually go and do things to actually clean up the planet then you can make a difference.

Thank you for your patience and for your tolerance. I would be delighted to take any and all questions and I suspect there won't be any Dorothy Dixers. Thank you.

TONY WOOD: Okay, now while Greg catches his breath and while some of you might want to think about issues you'd like to raise, we do have a couple of people who have specific and slightly different backgrounds in this whole area. Firstly on Greg's right is Erwin Jackson. Erwin is the Deputy CEO of The Climate Institute; he's got nearly 20 years' experience in both domestic and international policy on climate change and has been involved in many of the international negotiations. And on his right is Professor Michael Brear from the Melbourne University here. Michael is an ARC Futures Fellow, he works in transport and energy systems, runs the Masters of Energy Systems Program, and he has a particular focus on low-emission technology, greenhouse and other pollutants, and energy efficiency. So they've both got slightly different backgrounds and particularly areas of expertise and so, just to get things started, Erwin, would you like to address a question to Greg first?

ERWIN JACKSON: Thanks Tony, and thank you Greg. I think I'd probably like to say and acknowledge just upfront the important role that Greg has played in the last little while. I've always appreciated the fact that he keeps talking about targets and not just the 5% target which the debate currently sometimes gets sucked in in Australia, but also the role that Greg has played in taking a bipartisan approach to international diplomacy on this issue which can't be underestimated in terms of how Australia's positioned itself internationally on things like the Kyoto Protocol.

My question relates to that interface really between the international and the domestic because, as you've identified, the Coalition does support the two degree global goal of voiding two degrees which 190 other countries also have agreed to. And the question then is we have a number of processes internationally which are addressing that at the moment. We have the review of the global goal. As a Kyoto party we also have a commitment next year to review our own target and submit our increased ambition next year. We have Ban Ki-moon hosting a summit of world leaders, but the Coalition's policy doesn't actually review effectively the mechanisms to achieve our targets until 2015. And my question really was around the White Paper process and whether you can align the White Paper process around an Emission Reduction Fund to those international processes and as part of that process actually do an independent review of Australia's ambition; whether it's appropriate to increase our ambition above the unconditional 5% and, if we do do that and are required to do that internationally, how the Emission Reduction Fund would be scaled to achieve up to a 25% target?

GREG HUNT: Sure. Firstly, also to thank Erwin and The Climate Institute for the work that you do. We may disagree from time-to-time, but I have never for one second doubted the purpose and the belief and the goal that you're pursuing and always respected the intelligence and the work that you guys put into it. So against that background, the question is about the international negotiations and what we can do domestically and what we can do internationally.

In terms of the domestic approach, we will in 2015, as we prepare for the final round of pledges – there's an initial one next year and then there's a final round of pledges in the lead-up to the UNF CCC conference at the end of 2015. 2015 is when we have said that we will do the review

of targets and long term mechanisms. I believe that our mechanism is likely to be in place, if we're successful, for the best part of 20 years. I think that the Japanese and American directions are very clear and I don't see those changing, that's in terms of the mechanism. In terms of the targets, we have designed the Emissions Reduction Fund so as it exceeds what it is intended to do. My point now is that the cost of abatement is lower than we expected; the size of the task, because of the collapse in domestic manufacturing due to the collapse in overseas demand for a combination of high prices/low productivity, is lower than we expected; and the pool of abatement is higher. So let me put it this way, I think we have over-allocated – just keep it to us, don't tell Joe – but I think we've over-allocated in terms of the amount we have relative to what we need. But that gives us the scope to go to the next step and I don't want to pre-empt that tonight, and I apologise for that, but every thought I have in this space is about stage one, but then about preparing for stage two. And that's in terms of our international commitment, that's in terms of how we actually achieve the reduction. So it is designed and intended to not just achieve, but to exceed our current targets and to give us the flexibility going forward.

TONY WOOD: So Greg, just to be reasonably clear, you're anticipating that there will be a need to potentially scale-up depending on how those numbers come out and it will be at a subsequent point you'd expect to be able to make further announcements in that area or?

GREG HUNT: We'll review that in 2015, but there's a plan for the next decade and then there's a plan beyond that, and that is to be reviewed in 2015, but my judgement is that we have a system which is going to be abiding. There's a lot of talk, honestly, there's a lot of talk about preparing for 100 years from now and each new system is announced as if it will last for 100 years or a millennium and the outcome has been five systems in three years. And so what you actually want is something that doesn't last one or two years, something that will take us through to the end of the decade and actually reduce emissions. And we've been completely stable for three-and-a-half years in what we've announced. Today we had the latest incarnation, the fifth system in three years. I've got to say that people are saying to us "I'm just not going to invest, unless there's a change of government, in certain emissions reduction activities" because the clean tech investment fund was thrown up in the air. We had Arena thrown up in the air recently. We've had a massive number of changes in different funding programs. We had a solar flagships program. We've had all sorts of programs created and despatched. I lived through the green loans and the home insulation program; created and despatched. What people actually want is something which is simple and abiding, and that's what we can deliver.

TONY WOOD: And Michael, do you want to pick up?

MICHAEL BREAR: Yes, I've got a separate question. I share your optimism that there are tremendous opportunities for abatement. Being a technologist though, that's perhaps predictable, engineers tend to think engineering solutions are pretty good.

GREG HUNT: I like engineers.

MICHAEL BREAR: Thank you. I like some politicians too.

GREG HUNT: You can fill the rest of that sentence out, but I'm a little worried as to where you're going.

MICHAEL BREAR: We've only just met, Mr Hunt. I'm interested though to talk about electricity prices for industry and for households. They've gone up a lot in the last five or six years and the main drivers of those have been investment in poles and wires, the regulated network assets, and then most likely the second largest driver has been the Renewable Energy Target. Now, correct me if I'm wrong, both of those drivers were initiated by the Howard government; the Carbon Tax for the last 12 months hasn't been as large a driver. So I'd like to know what are you going to do about the regulated return on assets, on the poles and wires, and the Renewable Energy Target, and why are we focusing so much on the Carbon Tax driving up consumer energy costs when it's not the biggest driver overall?

GREG HUNT: Sure, I think it's a very important question. Let me set out the problem and the solution because I think it's more than just removing the Carbon Tax, although you do have to go to the Prime Minister's own comments today to understand that he believes that it is a very big part of the electricity price equation.

So firstly there's this. We've had, depending on your timeframe, a 50% price rise in electricity over the last three to four years depending on your state. Victoria has actually been a little bit better than Queensland and New South Wales in part because, as Tony would know, we have a deregulated system of pricing which worried people at first, but it's been to our advantage. If you take a longer timeframe, it's been pretty close to a 90% increase in electricity prices since 2007. The Carbon Tax is clearly not responsible for the things that occurred before it, but you take that bad situation and what's occurred since the 1st of July 2012 is this: the Tax is responsible for two-thirds of the price rise in the last year. So we had a 15% national price rise over the first year of the Carbon Tax, the Carbon Tax was responsible for 10% of that. It was therefore responsible, as I say, for two-thirds of the price rise. The first quarter of the Carbon Tax was the quarter in which we had the highest national increase in electricity prices. So it's not responsible for what occurred, but it is responsible for two-thirds of the price rises since, and that's why the Prime Minister's announcement today was all about electricity prices. So then you say what can you do? Removing the Tax removes about 10% of electricity cost. That's clear, that's simple and that will actually occur. We've spoken with the regulators and we've spoken to the electricity companies; there's no doubt that that's what will occur.

The second thing is, it is extremely important to allow for the deregulation I think. I have long said in public, there's no surprise here, that I support the privatisation of the state-owned electricity assets in New South Wales and Queensland - and New South Wales is heading down that path, Queensland at this stage is not - and in return there is a deregulation which is likely to have a very significant impact. Ian Macfarlane, our Energy Shadow Minister, has talked this week about that trade-off where I think it's extremely important.

Then the third thing is how do you get to a point where you take the pressure off the poles and wires? Because what's the big driver of poles and wires been? Partly the regulated return, but secondly the acquisition of, you've got high demand and ordinary demand so extreme peak and then ordinary demand. With the addition of air conditioners to the system – everybody can think do I own an air conditioner – what happens is that we have to over-build the system for the four, five or six primary days of the year. The answer to that is to allow in what's called demand-side bidding. And a year ago I announced, after in fact talking with Tony amongst others, that we would support demand-side bidding. What does it mean? It means that whether it's Coles or Woolworths; whether it's large energy producers or if people wanted to voluntarily opt-in, you could create a situation where on the really hot days there's an automatic turn-off in return for certain tariff reductions, that would be remotely done or it be done by checking, and so you could bid in these reductions. So Coles might say "Well, we will power-down all of our non-critical refrigeration for a period of six hours on a 35-40 degree day and we'll power-up overnight during off-peak" and that reduces the total size of energy demand. And that reduces the need to build the networks and that takes away one of the core drivers.

So there are three parts, the Carbon Tax is one, but it is a significant one; the second one is the deregulation; and the third is allowing this demand-side bidding. Very big in California and an important part in then trying to manage the rolling brown-outs that they'd had.

TONY WOOD: Just one other thing Greg before we go to the floor I think. One is in terms of the differences between the Coalition's position and government, and you referred to this several times in your presentation that the current government proposal – and the numbers certainly support this – doesn't achieve all of its abatement within Australia. The emissions in Australia actually may go up according to those numbers, but of course it is achieved by arguably achieving abatement in other places. The reason for that would be because it would be potentially lower cost to do so. The argument would be that the planet doesn't care where the abatement comes from provided it comes down. There are many people I'm sure who are environmental activists who would take a view maybe more similar to yours and that is that no,

we should be doing it in Australia, if you like, to ourselves and get our own emissions down. How do you respond to this question that well, why doesn't it make sense to purchase international permits provided the system has integrity, and arguably the European system at least in this area does, that buying international permits is not a good idea?

GREG HUNT: There are probably three problems. The first is our long term task is to actually clean up our own production, I think that that is important and that's the presumption that most people have when they hear, whether it's a Carbon Tax or an Emissions Trading Scheme or Australia reducing their emissions, that it occurs in Australia. In reality, we have a 155million ton task for 2020. It's averaged over a period of years, but let's just look at 2020. 55million tons of that comes in Australia and then on top of what would be by then about an $11.5billion Carbon Tax on today's latest figures, we'd then spend about $3.8billion buying 100million tons from overseas. Which brings me to the second concern, and that is you create an enormous flow of money. That $3.8billion then extends on the government's figures to $57billion a year by 2050 and so that's a huge flow of funds which could actually be cleaning up things in Australia. And then the third point is you said so long as the integrity is fine.

Look, I have great respect for the European ambition, I laude that, I believe in it, I strongly endorse it, but the system is a very different kettle of fish. What we've seen there is a 3billion Euro fraud in Norway. We've got a Ponzi scheme in Hungary. We've got an Italian mafia don who's been declared the Lord of the Winds, and I'm not sure it's a gastric issue. And so there are huge issues around the integrity and, as I say, Stig Schjølset who's the Head of Carbon Markets for Point Carbon and pretty close to one of the world experts on the EU scheme, said they're going to push around all of this paper in Europe and between now and 2020 – and this was said in April – he doesn't expect that there will be a single ton of additional abatement because of the European trading scheme. So they're the problems I have. I know that we can get value for money by doing real things here.

TONY WOOD: Okay, so that's a bit of a start. Now we might call for some questions from the floor. I've got some written ones here, but I'm more than happy to start by taking questions from the floor. So please, could you raise your hand and when I ask you for your question if you'd like to identify yourself by name and affiliation, and we might begin with Ross Garnaut.

ROSS GARNAUT: I'd like to start with three points of thanks Greg. First thanks for coming to engage in this sort of discussion which is the sort of thing we should have more of, and I'd like to endorse two points that Erwin made. Thanks for your personal consistent support for the science. Naturally we are concerned that we don't always hear such strong support from all of your colleagues, but it's good that we hear it from you. And secondly, I appreciate the consistency of your own talking about targets, the 5% unconditional target and up to 25% depending on what else is going on in the world. That tends to be lost a bit in the discussion, it's not emphasised by some of your colleagues, but it's important for us to know that you're thinking that way.

I'd just like to take up a couple of your references to my own work. You mentioned in the oral presentation Chapter 22 of the original report and there was further development of that in the updates, and you said you hoped you weren't misrepresenting me. You weren't misrepresenting me because you talked about my discussion of potential, potential abatement. And that's what I was talking about, that there is a considerable potential but before we know that we can turn that it into actual abatement there's a lot of research and development to be done; a lot of work on measurement and administration; and the main thrust of what I was saying is that we should be putting resources into that research, development, measurement administration, and through those mechanisms we will learn whether it's just potential or actual. So you quite accurately portrayed what I had said, both the leader of the Opposition and the leader of the National Party have interpreted my work in a rather different way and said "Garnaut says there is so much abatement". Yours was the correct version.

Secondly, the reference to what I said in Paper No. 3 in the update series on emissions trends about developments in China, and I'm glad of this opportunity for a clarification. It was very clear

that all of that elaborate work was based on what would happen – and I looked particularly at the three big developing countries: China, India and Indonesia. And that work on emissions trends was quite explicitly premised on what would happen if they did not introduce policies that would reduce emissions? And I did say in that update work that fortunately there are very good prospects of them introducing policies that will change these trajectories and what you've cited and what the leader of the Opposition has cited are the projections under business as usual without the qualification that I said the good news is that there's likely to be changes in policy.

And the very good news is that in the last few years, and I've been following it very closely, there has been major change in policy in China. The largest changes in trajectory from what we might once have anticipated under business as usual and what's actually going to happen is happening in China and there's huge structural change going on being driven by a whole range of factors, and you mentioned one of them. The concern for the local environment, concern for greenhouse gas emissions and the concern that China plays its role in the global effort is one of them, and there are also concerns about energy security. For all of these reasons and certainly the greenhouse issue is important in the reasons, you're getting a dramatic change in trajectory and the very good news is that what one would have thought a few years ago was going to happen in China under business as usual is not happening.

GREG HUNT: Okay, thank you. Look, again, I respect the work; I don't want to disagree with any of it. There's good and bad news, I think, coming out of China. The coal consumption figures from a global emissions perspective going, as I say, from 1.4 to 4billion – these are hard Chinese Economic Ministry figures – and then onto 7.5billion tons are concerning, let me say that. I think they are concerning. Other activities are good. I do think, I absolutely agree that the paramount leadership as a concern about air quality, but also gets the issue. I think the paramount leadership does get the issue and that is probably as important as anything else in the world in this space. And that is a cause for significant hope, and it's also where the role as G20 Chair and the ability to help bring the G4 together over the next 12 months is a unique chance that we have.

TONY WOOD: Mike?

MIKE SANDIFORD: Thank you very much. Mike Sandiford, Director of the Melbourne Energy Institute and co-host, and thank you very much Greg for coming along on behalf of the University, wonderful to have this dialogue, I'd just like to tease out some of the issues to do with the emissions in the sector which is most heavily influenced by the Carbon Tax, and that is the electricity sector. And AEMO of course reports its emissions, estimates mind you, which show in the last year emissions in the electricity sector have declined significantly at well above the rate at which electricity demand has fallen. So there is the case there that processes are working within the area where the Carbon Tax is most directly pointed or the policy is most directly pointed. The figures are about 7% emissions reduction in the electricity sector according to AEMO for about a 3.5% total demand reduction. Quite a staggering set of figures, I think.

GREG HUNT: Okay, so let me deal with that. I was fortunate to meet not long ago with Matt Zema who is the Director of AEMO, so this is the Energy Market Operator for Australia, and I asked him exactly that question and he divided it into sixths. And he said that three-sixths of the difference are because of a collapse in overseas demand for our manufactured goods, and he said that that's a combination of the high dollar; combination of low economic performance relatively or low economic demand, you can see things are coming off in China as opposed to where they were and also the ongoing European position; and then competition against Australian goods, particularly in the aluminium space, in the zinc, in the manufactured metals space. So three-sixths of the electricity change is in that space because of the collapse of demand. He said one-sixth was seasonal factors, one-sixth was the good news of the uptake of solar energy. He said that is actually having an impact in displacing demand from the grid to the domestic situation - and I didn't mention we have a million roofs, 100,000 roofs a year solar policy focused on low income families - and then the last part he said, the last sixth was a price demand equation. So that's what the Energy Market Operator himself said in relation to your question.

I should also add, where there has been an uptake in renewable energy that is the Renewable Energy Target, it is doing its job. I think the Renewable Energy Target is a very, very effective mechanism. Let's put it this way: before the Carbon Tax there was a 20% Renewable Energy Target and we were going to achieve it; after the Carbon Tax there's still a 20% Renewable Energy Target. So it hasn't actually altered the equation. The heavy lifting, as many in the sector tell me, is the Renewable Energy Target which I think is a very effective mechanism.

TONY WOOD: Erwin, do you want to?

ERWIN JACKSON: Yes, I just wanted to follow-up on this broader issue around this and also the whole issue of whether it's an electricity tax or not. Because the way I would think about the carbon pricing mechanism, beyond the fact that you've got the regulated limit which will drive down our contribution to climate change, it's not really ultimately designed to change mums' and dads' behaviour, it's designed to change the behaviour in boardrooms. And I think this is where we struggle sometimes when we think about the Emission Reduction Fund because if you think of a two degree world it means decarbonising our electricity sector nearly completely. And without some mechanism to create a competitive tension or to drive the big brown coal units and the black coal units out of the system and make them uncompetitive against your winds and your gas-fired generation, it's actually difficult to see how you can achieve that transformation without a direct price, which actually changes competitive behaviour in the market. And the Emission Reduction Fund, as we conceive it, won't actually do that.

GREG HUNT: I respectfully disagree and the reason why is two things. The government itself has recognised that there's not likely to be any significant change in the merit order and as of today they have argued specifically against pricing electricity higher, although continuing to engage in that practice. But on the flip side, it is very possible to clean up power stations and it was designed with the express intent of cleaning up power stations under the Emissions Reduction Fund. I can tell you what the people in the boardroom say, having met with the Chairs and the CEOs of all of the major power stations in Victoria, they say "Hey, we just pass the price on under the Carbon Tax. We just keep going. We just pass the price on. It's no problem for us. However, if you had a system where we could receive reward for actually cleaning up our power stations where there was an express payment tied to that so we know that if we strike a contract that we reduce our emissions by 2million tons a year and 4million tons by year four we would get a bounty and a payment to do that, then we may do a coal-to-gas conversion at Hazelwood, or we may do that a Loy Yang, or we may do that at Yallourn". That's what the CEOs and the boards are actually saying, we'll just pass on the price under the Carbon Tax so there's a good feeling that many have, let's punish those power stations. That's fine, except what they do is they just pass on the price and it's mums and dads who end up paying it, that's the reality. Whether they should or shouldn't, that's the design of the system.

TONY WOOD: I guess one of the things that does arise with the tendering process, Greg, and as you said, it is designed to take advantage of market forces, is that, as with the Emissions Trading Scheme, it's virtually impossible to know what the price will be and so to some extent when you begin this tendering process you don't really know what you're going to get at what price. I mean, you can do your calculations, as everybody will do, but if you've got, as you said, I think it's 300, 500 and then 750million for the first three years you don't know what you're gonna get yet and maybe it'll be on the optimistic side, as you said. But it's equally possible for some of the reasons even Ross referred to that it could be more expensive. So what would give? I mean, given you have to finance your program on budget, if you find you're not getting the abatement you need at the numbers you're talking then do you give up on the dollars or do you give up on the abatement? Or how do you see yourself resolving that sort of issue?

GREG HUNT: Sure. So when this was put together we took the worst case scenarios on all of the three variables: the cost of abatement, the availability of abatement, and the size of the task. All three have broken our way, but we've kept our original allocation and our original projections. So we've got an extremely conservative set of numbers upon which our allocations are based. The costs are capped, there's no question about that. I had the choice and the decision as we were designing it, and I designed it for a day like today when Mr Rudd would make certain

claims, and we capped the costs. But in reality, we over-allocated relative to what we need and in fact the numbers have worked towards us, not against us. So even if it springs back on all three, we've actually got a system which was designed to deal with the worst case not reliant on a best case scenario.

AUDIENCE: Mr Hunt, given the recent research into bunker oil use by shipping and Australia is a major port, and the fact that it now would appear that the use of bunker oil in shipping, Marine Grade No. 6 fuel, is the single largest pollutant of toxic pollution in the world and –

GREG HUNT: Sorry, dumb question: when you say toxic pollution, do you mean marine pollution or are you talking atmospheric?

AUDIENCE: Atmospheric and marine pollution. The marine pollution was never greatly appreciated and the effect of the maritime depletion of carbon absorption by the oceans was never fully appreciated. These are just new figures, but in the northern hemisphere it kills from cancer and carcinogenic sources over 100,000 people a year. It's one of the largest sources. What's the Opposition's policy on reducing this, given that Australia is a major maritime nation? I realise the fact that ships no longer use bunker oil in port but, as the gentleman said, the Earth's a biosphere and it doesn't really just recognise the fact that if you sail 12km off the coast the pollution stops. Thank you.

GREG HUNT: Sure. Look, I was involved in maritime pollution legislation and helping push that through the parliament in 2005/2006. I engaged in this issue in terms of a whole range of different maritime fuels, the practice of dumping and the practice of observation and how we actually monitor that. I don't want to pretend to be the expert that you are in this space, but my answer is two-fold. You actually raise issues that are firstly related to the climate, but secondly related to health in terms of marine and air quality. I would be very keen to get a submission, if I could see something which updates the problem because that's more advanced than the knowledge that I had. And it's an open invitation to get a submission on the problem and to look at the issue of standards, but I am very aware of the work of Rachel Carson of Silent Spring where she blew the whistle on pollutants, carcinogens, toxins. She took the equivalent of what had happened with the Chisso Corporation in Minamata with cadmium and applied that in the US setting. So if there is pollution which is having a local impact in terms of health, human health, air quality, water quality, marine quality, I don't want to just know about it; I want to get it and take strong measures. We took steps in 2005/2006 with marine oils which were being dumped and we put in a tougher regime. If it needs to be tougher I'm not afraid of making those decisions.

AUDIENCE: Firstly, I'd just like to say thank you to the people organising this event, it is actually really great to get a whole bunch of information that we've maybe so far not heard. I actually have quite a specific question but it's in regards to the Clean Technology Program. The Clean Technology Program has actually brought a large amount of business towards our group and we've actually seen it being really effective in getting especially the manufacturing sector on-board with energy efficiency initiatives and renewable energy projects and the like. So my question is, under the direct action plan is there anything similar to the Clean Technology Program which actually drives really robust incentives towards the manufacturing sector for making this kind of reform?

GREG HUNT: Great. Thanks very much. I have bad and good news for you. The bad news is that the Prime Minister today decimated the Clean Technology Program. It's a pattern: announce, promote and then abolish. The flip side, the good news is that the Emissions Reduction Fund is absolutely designed to help with energy efficiency, to help with clean technology. Let me give you a way that you might think about it. Let's say that you're an energy efficiency firm. I spoke with a firm this morning, Simons Green Technology, and we said you might bring together a million tons of savings for industrial transformation aggregated up, you will then bid it into the system and you'd have what's called a contract for delivery. So you don't have to produce the savings to bid it in and we don't pay you until you deliver, but you've got the certainty of a contract which could be two or three or four or five years. And that's a very

different situation to the absolute uncertainty of the fluctuations we've seen over the last three years: five systems, three years, complete uncertainty. What we'd do is we would strike a contract for delivery with you for 100,000 tons or a million tons of energy efficiency or industrial transformation, so long as it's real and so long as it's the lowest cost.

AUDIENCE: Thank you for the answer and just to clarify, so you're looking at less of a direct grant amount scheme and more of a cooperative contract emissions reduction?

GREG HUNT: So there's the allocation in the mechanism. The allocation would be on a competitive basis, effectively a reverse auction. The same way as you'd buy wheat, if you're a wheat merchant you would buy the lowest cost wheat subject to verification of quality and you would pay on delivery. The farmer can go and plant the wheat, has the security of a contract. The buyer knows that they have the certainty that they don't have to pay up-front, but they have the duty to pay so long as they receive it. And it's exactly the same contractual relationship that we'd set up.

TONY WOOD: Greg, a number of the questions we had in writing concern to some extent associated with this issue of verification and you made the point that you've got to pay for what's delivered. The questions seem to be relating to this issue of additionality, which doesn't arise so much with the cap and trade-type approach; it maybe does based on in-credit which is another scheme I know you've talked about. But in relation to direct action, how do you propose to ensure that actions that are taken by organisations, be they big companies or aggregations of small organisations, actually beyond what would have been business as usual and that they're doing something extra to actually reduce emissions?

GREG HUNT: That's exactly what the Carbon Farming Initiative and the Clean Energy Regulator do at the moment. They determine that there's an activity that's occurred that's genuinely reducing emissions and that it has actually taken place. So you might have people like Peter Costello here who are engaged in measurement and advice. They can submit methodologies which are then approved and projects are then tested under it. This is exactly what occurs. We're making no change to that current combination of the Carbon Farming Initiative and the Clean Energy Regulator. They, in my judgement, are doing a first-class job. They can have a broader remit though and we would broaden the Carbon Farming Initiative out to take on-board energy efficiency, cleaning up of power stations, cleaning up of industrial processes. At the moment you can have cleaning up of piggeries, you can have cleaning up of waste landfill gas, but it's limited in the range of activities. So we use precisely that same process of test and verify.

AUDIENCE: Good evening. Thanks for the presentation. I've been keenly reading your previous speeches, the 2010 document and the speech that was released today, so I've got a better sense of what direct action might involve, but I want to ask some more about the policy detail. So from what I understand, the hallmarks of direct action are that it's simplicity and it provides incentives, but I'm hoping that you can just go into a little bit more detail about some of the features in relation to criteria and attributes such as certainty, effectiveness and the administrative efficiency of the scheme. So some of the areas that I'd like some more information on, if you don't mind, are whether you believe that the size of the fund will be sufficient to create the incentive needed to drive emissions down? Whether given that every different type of activity will require a different methodology to accompany it to ensure that we do have effective integrity in the system that emissions are being reduced, what that means for the administrative burden and costs in that respect?

Thirdly, whether you can address the question of well, what happens in Australia if we've got major polluters increasing their emissions? In the 2010 document there was a proposal that they would be penalised if they increased their emissions above a certain baseline level and how that baseline will be determined? And finally, one of the hallmarks of the Carbon Pricing mechanism is that you've got a revenue stream. Yes, it is meaning that a certain amount of money is going to the government however we know that that money is being then allocated to bodies like the Clean Energy Finance Corporation for long term investment in renewables. So whether you

could address that point about how direct action will assist in funding the long term transition to renewables? Thank you, I know that's an awful lot, if you could just provide some clarification on some of that I'll have a better sense of what direct action is about. Thank you.

GREG HUNT: Okay, I'll try to be as quick as I can in terms of the size, administration, baselines and renewables. In terms of the size of the fund yes, I do think we'll achieve our results for the reasons I've set out in terms of the key three variables, all of which have moved our way but we'd taken a pessimistic worst case scenario of what was required. In terms of the administration, we actually have the bodies that are doing the job right now. We have the Carbon Farming Initiative and the Climate Division within the Department of Industry are doing that work on improving methodologies and working with the Clean Energy Regulator which tests. The Clean Energy Regulator has an enormous bureaucracy which has been set up to deal with the Carbon Tax. They still have the personnel, they have the expertise, and they will seriously have spare capacity. We'll do it with less personnel than currently, I've been upfront about that, but it's not a wholesale change. We've looked at it, we can do it with fewer personnel, with fewer bodies. We have an Energy Security Council, we have other organisations. There's a lot of excess, surplus capacity there. We'll do it with less bureaucracy because we just use what's already there. It's not a difficult system.

In terms of the baselines, so the point that we make here is that firms are entitled to do what they currently do without suffering any imposition on them. We're giving people the chance to reduce their emissions, but we're not compelling that because what matters to me is that we reduce the overall national bubble. And the really important point here is we're not fussed where that comes from, whether it's land sector, whether it's energy efficiency, whether it's power sector, whether it is in terms of industrial processes, waste coal mine gas, waste landfill gas. In order to do this though we do exactly what the Clean Energy Regulator is doing at the moment where you set a baseline, which is what is 100% of the last five years of activity in most cases, and then you see whether somebody goes below that. That's the way that you effectively get the credit. We'll do that on a sector-by-sector basis after the election if we get there. We've spoken to industry and they've all said they'd prefer to do that after the election rather than before, and we'll do that through the White Paper process. I think that's the only way you can do it.

In terms of renewables, it's the Renewable Energy Target that drives things. The sad thing about this Clean Energy Finance Corporation, it's exactly the same as the Carbon Tax. There's $10billion which is being borrowed - none of it's actually being financed by the Carbon Tax by the way, it's all money which is being borrowed – and for that $10billion you have exactly the same renewable energy outcome at the end of that money which has been borrowed and invested as it would otherwise have been. So the Renewable Energy Target was 20% before the 10billion and it's 20% afterwards, and effectively what it does is it displaces the merit order of renewable energies. We've had significant numbers of people within the renewable energy sector come to us and say about the CEFC "Hang on, you're now going to subsidise a much higher cost renewable energy to put it below what we've invested in terms of, for example, a wind farm". So there's a lot of mixed feeling about it within the sector.

AUDIENCE: I have met with you years ago as part of Beyond Zero Emissions, so I have no doubt at all about your own sincerity. However, given that the Liberal Party plan carefully does not mention the words "climate change" at all, given that Opposition leader Tony Abbott repeatedly dog whistles to climate deniers with phrases such as "The climate is always changing" and given that Malcolm Turnbull refers to the direct action policy as "A fig leaf to hide the lack of a policy" and says that there are some in the Liberal Party that see its greatest asset is being easily scrapped; what confidence do you have that you'll have the numbers in the Cabinet to implement the direct action policy, especially your talk of Phase 2, which I've never heard in the public domain at all, and also given apparently your lack of support for the 80% reduction by 2050 target, your party's lack of support? Recent calculations show we need to get to zero emissions by 2020 for our fair share of a two degrees carbon budget, so it seems like 80% by 2050 is pretty minimal. Is it right that you don't support it, your party?

GREG HUNT: Thank you for the question, and I do recall working with yourselves and others and people like Andrew Bray who's here. So let me say this. What confidence do I have that there's support within the Cabinet for implementing this? I have 100% confidence. I speak to the leader most days. Tony and I will sometimes talk two or three times a day and will we go ahead and do this? Yes, there's never been a moment's doubt in myself; there's never been a moment's hesitation in discussions with Tony. It's just a complete given that we will go do and deliver. It's a non-negotiable. It's a non-negotiable for me.

Let me talk out of school for a minute, I realise I'm on tape. I made it clear that the conditions under which I would do this job were support for the science, support for the targets, and the ability to design the mechanism that I had always wanted to deliver. And I am in that rare position that very few people in life have of the ability to draft and design the policy that I wanted. And it's a very fortunate position that I have and I feel very privileged, and so I actually have and will just not stop in delivering the policy that I had wanted, something that I wrote and designed in 2006 and delivered at another institute in Sydney, the Centre for Independent Studies. And so yes, we will deliver it.

In terms of 2050, we will look at that long term figure. I've got to say, it's the easiest thing in the world to pledge a figure for which you have no responsibility for delivering. I would be fascinated to know what the outcome of today's decision was on Australia's domestic emissions because they changed the price, they axed the Clean Tech Investment Program, they axed a range of programs. I've not seen any updated figures from the Prime Minister. I would be fascinated to know what the impact of those decisions were on the figures. But we'll deliver on the targets and we'll deliver on the system and that is not just a commitment, that is something that I believe in with every single fibre.

TONY WOOD: Okay, we're getting towards the last series of questions.

AUDIENCE: We're Carbon Farmers registered with Environmental Planning's methodology, the first Carbon Farmers doing that in Victoria. My question is a nuts and bolts question. For three years the Coalition has been saying that their direct action is all about sequestering carbon in the soil. All the science says we don't know how to do it, we don't know how to measure it. How are they going to deliver on their promises?

GREG HUNT: There are a variety of ways to reduce emissions and we are source-blind. I think that energy efficiency will be an early major winner. At the moment we have cities that are gathering together proposals; we have large companies that are gathering together proposals; we have energy efficiency advisors gathering together proposals; we have all of the industrial processes; we do have the land sector. I was just in Tasmania last week dealing with some of the biggest Carbon Farmers in the state and their view was that they had a measureable capacity to deliver, for at least two of them, a million tons of abatement a year. Measured, verified and delivered. Around the country we've dealt with a variety of farming groups; we've dealt with the land sector; we've dealt with the waste coal mine gas sector, the waste landfill gas sector. There are numerous ways to do it and I am not just confident, but extremely confident that we will achieve the targets and do it easily. I would encourage and invite you to be part of it. I know that there was about $140million cut from the Carbon Farming Fund today by the government - again, another case of announce, promote and abolish - along with the Clean Tech Investment Program which was asked about before.

So against that background, yes, can we do this? Of course we can. This is about the ingenuity of the country, it's about improving our soils, it's about exactly what you're doing, but in the last few weeks I've met with farm groups across the country and this isn't something that's hypothetical; this is something that is happening, going to happen and it will, as you know, transform our soils, not in every case, but significantly and that improves water productivity, it improves food productivity and it fixes carbon in the land sector, and that is a good thing.

AUDIENCE: Getting down to tin tacks, Australia is the world's largest exporter of sea-borne coal. Coal seam gas is expanding rapidly and entails reportedly huge fugitive emissions of

methane as well as those that are realised at its combustion. So these add up to some very important emissions, in fact they exceed Australia's domestic emissions by a very wide margin, those of our exported fossil fuels. And as we speak, we're expanding these extractive industries hand over fist. Shouldn't we be concerned with curtailing this sort of expansion, given that Australia is such an important exporter and can also influence world prices quite significantly? And wouldn't this be an effective pathway towards the goal that you state and, of course, we all endorse of reducing emissions?

GREG HUNT: Let me start with a couple of things. Gas: the United States has reduced its emissions, not just reduced its trajectory, reduced its growth; it's actually reduced its emissions. We're at pretty close to a 15-year low in US emissions. Some of it has been about the downturn in the American economy, but interestingly there's been a significant bounce-back in the economy but a reduction in emissions and the thing which has allowed that is the switch from coal to gas. So I'd genuinely council against saying we shouldn't be looking at natural gas. Natural gas has been fundamental in the American transformation and it has actually seen a reduction in American emissions to mid-1990s levels, and the trend is likely to continue. So I think natural gas is extremely important as a transitional fuel.

The second thing here is in terms of coal. One of the things that's happening, for better or worse, is that our coal emissions or the fugitive emissions, the waste coal mine gas emissions, relative to what was expected are dropping quite significantly. They're likely to be some tens of millions of tons less than what was projected by the government because of a change in demand for the Australian coal profile. Now, do I think we should ban coal exports? No, I don't. I honestly don't. I think the idea of turning off a large section of the Australian economy, of having a huge impact on the livelihoods of tens of thousands of blue collar Australians – I know you say it's miniscule, I respectfully disagree. I think that idea of closing down the livelihoods for tens of thousands of Australians directly and indirectly is not something that I'd focus on or support. What I do support is setting the targets. Tony's point before is the planet doesn't care how the emission are reduced. What does matter is that the emissions are reduced. And so whether you do it through conversion of power stations from coal to gas, cleaning up waste coal mine gas or other things, it's not the how that matters; it's the amount that matters.

AUDIENCE: Coal seam gas he's talking about, not coal mine gas. You didn't answer the question. He's talking about our fugitive emissions from coal seam gas.

GREG HUNT: Yes, I understand. No, natural gas is coal seam gas. It's exactly the same as a physical property, and Tony is the expert in this, he worked for a large evil gas company – that's a joke, I'm on tape! So as Tony can tell you, the physical properties of natural gas don't change depending on the form of extraction. But what's happened in the United States is that the greater use of natural gas from new forms of extraction has actually decreased their overall emissions very significantly.

TONY WOOD: There is clearly a debate going on, and there will continue to be for some time in Australia and elsewhere, about some of the issues relating to the way in which that gas is extracted using various technologies. Most of the data would suggest that, even when you include the fugitive emissions, gas is still cleaner than coal. That does not mean that gas is not a fossil fuel. It does not mean that at some point we have to turn away from gas and even the President of the United States' Energy Advisor has said that sometime around the middle of the century we need to start moving away from gas as well as coal. But in the meantime, as Greg said, we are achieving emissions reduction in the world, in the United States and other places as a result of gas, and that's I guess a simple fact. But I'm aware of the time. Greg has at least indicated that he will be happy to take a couple more questions. I hope we've paid for our power bill for the lights here Mike. Well I guess I'd like Michael Brear to almost get towards the last question.

MICHAEL BREAR: I'll almost get towards the last question because I just want to follow-up on that and then I'll pose my last question anyway. I'd like to think that the US has reduced its

emissions out of global conscience. It's reduced its emissions because natural gas in the United States is very, very cheap relative to coal.

GREG HUNT: That's true.

MICHAEL BREAR: And it's largely very cheap, so for the first time in history gas on an energy basis is cheaper than coal, which is unprecedented historically. And that price is so low because the US is restricting its export, unlike us. So our gas price is relatively high and so I wonder whether we can do a lot more with natural gas domestically, that's one question.

Another question I have concerns this long term target, this 80% abatement which the Federal government said a lot of the heavy lifting will be done by geothermal. Now, as a technologist who loves technological solutions, that's one which doesn't yet work at scale. So I'm a bit suspicious about that and when I see a dispatchable large-scale base load generator, the only one that I know that works with near-zero emissions starts with a capital N. That's the only one I know of, I could be wrong. So my question to you is, like your deputy leader and the Shadow Minister for Energy & Resources, are you personally a supporter of nuclear power? And will nuclear be part of the future longer term Coalition low emission energy policy?

GREG HUNT: Is it part of our policy? No. I have set out in writing the three elements that I think you'd need before it could happen in Australia. And let me make a principle point: we export uranium, we're part of the nuclear cycle; I think it would be completely ridiculous to pretend that you are for uranium but against nuclear energy. It's not being used for paperweights or lava lamps when we export it overseas, let's be honest. So am I against it in principle? No. But I think you need three things: you've got have bipartisanship or it would tear the country apart; you've got to have community support; and you've got to have a lead time which would be probably 10 to 15 years. And I think it's premature and there's a long way to travel before we would get to that.

Geothermal, I've got to say it's been a big disappointment. I had really hoped that it would be successful. I remember eight years ago meeting with firms where it was only two years away and for the last eight years it's been two years away. I think it's been one of those technologies which hasn't stacked up. We've got some support in that space, but I think you've got to start small and you wouldn't bank the house on it, and that's why in relation to the question we had about these pledges for the future where they've pledged on something that they can't deliver I'm always cautious. I want to deliver over the next five and six and seven years something that's real and significant, and then you use that as the platform to keep going.

TONY WOOD: Given the number of hands that are up I know we'll be going here for at least another hour if not more.

GREG HUNT: Can we take one more, one more random question? We'll take two more random questions.

AUDIENCE: Greg, you mentioned earlier the Renewable Energy Target and of course the main technology that the RET supports is wind power because it is one of the cheapest technologies. But as I go around Victoria speaking to our farmer members, most of whom are conservative voters, they have a good deal of confusion around what the Coalition policy across the country is on wind energy. What they're seeing is that their farms and their communities are being starved of vital investment income because new wind projects are not going ahead. Federally, you support or at least for the time being support the fixed 41,000 gigawatt hour RET target, but at a state level there are anti-wind planning laws that are shutting a lot of these projects down in Victoria. They're on the books in New South Wales and the South Australian Liberals in Opposition would have it on their policy books as well. So how do you reconcile this fundamental contradiction between the strong Renewable Energy Target that's trying to build wind at a Federal level and these roadblocks at the state level of planning laws?

GREG HUNT: We do have bipartisan support on the Renewable Energy Target. The next thing though is there's a very interesting community debate around Australia. In just the same way that concern was expressed about coal seam gas and a lot of communities say "Hey, we're worried about the impact on us" I can tell you that there are many people who, whether they're right or whether they're wrong, are deeply concerned about the wind farms in their area. I am public enemy number one on one of those websites because I haven't denounced, derided, rejected all wind farms and the most aggressive emails, which have called into account my parenting, have in fact been in relation to the refusal to suddenly denounce it. But it is a hugely real issue for those people involved and in the same way that you should never be contemptuous of people who have concerns about coal seam gas in their region, we shouldn't be contemptuous about those for whom this is a legitimate and real concern.

What do I say then? I think that local communities should have some say, should have a real say in what happens in their area. So having some sort of planning laws in relation to the wind farms is important. What we've proposed is let's have a genuine national inquiry. So what are the health effects? I don't know what the real answer is, I'm not going to predict, but no, if you're concerned about coal seam gas there are people who are even more, even more concerned. I've met them, I've had the tears, I've had the anger, I've had the frustration. I've had all of those raw emotions where people's lives, to them, are just as torn apart and if not more because they are concerned. And so just to dismiss them I think is not the right thing at all. They have a right to a review and we have a duty to make sure they have it. I might have my suspicions about the way in which the science will come down on that, but my duty, the same precautionary principle is to say well, if there are a very significant number of people who are concerned they have a right to have their precautionary principle played out.

So yes, support for the target, but they have a right to have their day in court. They have a right to test the concerns; anything less than that would be a failure of me to actually give due concern to the real issues of some communities. But do we support the target? Yeah. Is there actually renewable energy being developed? Yeah, there is a lot. Not as much as you would like, that's true, but a whole lot more than there would be without the target.

AUDIENCE: I was going to ask a question before which was asked by the gentleman over there just in relation to that most recent issue. I suggest you familiarise yourself with the work of the University of Auckland which did a study and it was published in an American psychology journal about wind turbine syndrome and infrasound. And they took half the people and they primed them with a video scaring them of all of the negative health effects of wind turbine syndrome, and the other half of the people – I can't remember if they just didn't prime them with it or they primed them with the opposite priming, and then they subjected them to both real and fake infrasound. The people who had been primed experienced all of the symptoms and the people who had not been primed did not experience them. So there is some science that has been done and I suspect more will be done, but there is already a fair bit of evidence that there's nothing to it.

GREG HUNT: Okay. I would invite you to come to a community meeting in Young, in New South Wales, in some of the towns. There are some differing views. But I'm the only one I suspect in the room that's on the anti-wind farm websites that's being demonised - if they knew more about Erwin they'd have him too, and I've been trying to get him on them as well – because I have actually said no, I'm not going to shut these down. I'm not going to take unilateral steps to do this. I think the fair thing to do is to have a genuinely independent inquiry, but I've faced those same communities – sorry?

AUDIENCE: What about an inquiry on coal seam gas?

GREG HUNT: We're actually doing that. There's $140million of funds that are being spent on a deep national inquiry into coal seam gas, its safety and its aquifer treatment. There was tri-partisan support for those funds.

TONY WOOD: Okay, we've gone well over time and Greg's been generous with that time. I know there are a lot of questions here. I have some which people have forwarded to us. I will submit them further onto Greg, he may answer them or not. I certainly encourage you all to maintain the conversation with the Opposition during these next few months and we'll see when the election's going to be. But finally can I ask you to not only thank Erwin and Michael, but particularly thank the Opposition Shadow Minister Greg Hunt. Thank you.

End of recording