Government Senators' Dissenting Report

Introduction

This report is the latest in a long line of reports by parliamentary committees into carbon pricing and climate change policy. It is another in which we see the Coalition display yet again that it is their intention to do nothing about climate change by reducing Australia's greenhouse gas emissions.

The Coalition's frame of thinking outlined in the Coalition senators report is not one we share. It is one with which we fundamentally disagree.

This dissenting report comprises eight chapters.

Chapter one sets a very brief scientific basis for acting on climate change by reducing greenhouse gas emissions. To be frank, this is the Rubicon that many Coalition members won't cross. Their rejection of the science is fundamental to their opposition to a carbon price.

Chapter two sets out a brief description of the economic basis for a carbon price mechanism.

Chapter three deals with the myth that Australia is acting alone in reducing greenhouse gas emissions.

Chapter four considers the economic modelling carried out by Treasury which informs the policy design and of the carbon price mechanism.

Chapter five considers the tenor of the evidence received concerning the small and medium sized businesses under the carbon price mechanism.

Chapter six considers some of the long-term opportunities the carbon price mechanism will generate for employment, innovation and business diversification.

Chapter seven considers how the carbon price mechanism will deliver long term investment certainty and the contradictions between what some businesses tell politicians and the media and what they tell investors.

Chapter eight considers the analyses done of the Coalition's “Direct Action” policy and concludes that it is a sham.

Appendix A sets out the details of the carbon price mechanism architecture agreed to by the Multi-Party Climate Change Committee.

Summary of findings:

- There is a strong foundation of scientific fact underpinning the imperative to act on climate change. The Coalition majority report rejects science – it is a recipe to do nothing.

- There is a sound economic basis for the implementation of a carbon price mechanism.

- Australia is not acting alone - the rest of the world is moving on carbon pricing;

- The Commonwealth Treasury's economic modelling of the carbon price mechanism is robust, comprehensive and provides a considerable degree of certainty about the likely outcomes of the introduction of a carbon price mechanism;

- Small business will not be directly liable for a carbon price under the carbon price mechanism;

- The effects of a carbon price mechanism on small and medium sized businesses will be modest and should be able to be passed through to consumers who will be adequately compensated under the household assistance package;

- The volume and intensity of disinformation in the public debate around carbon pricing has created a level of confusion, particularly among small and medium sized businesses, that threatens their ability to make sound business and investment decisions;

- Small and medium sized businesses will benefit from the assistance with assessing the impact of the carbon price mechanism on their operations and to assist with practical measures that they can take to reduce their energy costs.

- Carbon pricing will generate for businesses prepared to look beyond the short-term, long term investment, employment and diversification opportunities that will far outweigh any modest short-term costs;

- The carbon price mechanism will bring long-term investment certainty – and some emissions intensive businesses have been crying wolf. Sections of the business community are exaggerating the impacts of carbon pricing for political purposes while presenting a bright future to investors.

- The Coalition's 'Direct Action' policy should not be taken seriously by anyone. It is a policy designed to fail. If it meets the Coalition's emissions reduction target, it will have torn the Commonwealth budget to shreds. It is a policy designed to be disposed of as soon as it is convenient for the Coalition to do so.

Chapter 1 - The Scientific Basis for Acting on Climate Change

It is not government senators' intention to traverse in detail the science of climate change in this report. However, it has become clear during the course of this inquiry and elsewhere, that there is belief among some of the participants in this inquiry and in the wider community that there is no compelling scientific reason to act on climate change. To such people, if there is no climate change, there is no need for a carbon price. Unfortunately, it isn't that simple.

Government Senators wish to make their position clear. There is absolutely no doubt. The science is irrefutable. The world's climate is changing in ways that will have a negative impact on the environment, ecosystems and human systems including our economy, our cities, our food production systems and much else. This climate change is largely human induced and is occurring at a far more rapid rate than any naturally occurring climate change in the geological past.[1]

The work of the Australian Academy of Science clearly points to greenhouse gas emissions from human activity causing recent changes in the earth's climate and anticipates global temperatures continuing to rise significantly over the next century and beyond.[2]

The Bureau of Meteorology has clearly presented the scientific basis for greenhouse-gas-induced climate change within the context of a complex, highly interactive, naturally-variable and human-influenced global climate system.[3]

While a lot of the science of climate change is complex, much of it is high school textbook material that is over a century old.

Our scientific understanding of the physics of radiation, combined with our understanding of climate change from the geological record clearly demonstrates that increasing greenhouse gas concentrations will inevitably drive global warming. It is a scientific fact first described by Joseph Tyndall in 1861, that in the absence of the small fraction of the atmosphere comprised of naturally occurring greenhouse gases the surface of the planet would be 30 degrees Celsius cooler than it is today. The natural greenhouse effect created by this small fraction of the atmosphere stops us freezing. To suggest that if we double the concentration of greenhouse gases in the atmosphere and there will be no effect, much less a warming of the planet; defies

1 Cleugh, H. Stafford Smith, M. Battaglia, M. and Graham, P. (eds); “Climate Change – Science and solutions for Australia”, CSIRO Publishing, Collingwood, 2011. p.x

2 “The Science of Climate Change: Questions and Answers”, Australian Academy of Science, Canberra; www.science.org.au/policy/climatechange.html

3 “The Greenhouse Effect and Climate Change”, Bureau of Meteorology, Canberra; http://www.bom.gov.au/info/GreenhouseEffectAndClimateChange.pdf

century old science, which ironically includes the science that is behind most of the technological advances of the past century or two.

As far as we know - which is a lot - what we have on Earth is not replicated anywhere in the known universe; which is a very, very big place. Earth is a freak of nature and cosmology. It would be a tragedy that for reasons of indolence or greed or ignorance or negligence, humans were to do irreparable damage to the natural systems that support our civilisation having had the opportunity and the means to avoid it.

Despite this, the science underpinning our knowledge of climate change has been challenged by a mendacious, well organised and well funded "climate change sceptic" movement whose goal has been to cast doubt and discredit climate change science on behalf of interests who for commercial and ideological reasons are opposed to reducing greenhouse gas emissions.

The Authors of *Merchants of Doubt*, Naomi Oreskes and Erik Conway, supported by extensive documentary evidence, show that not only is climate change denial using the same misinformation techniques as the tobacco industry used to sow doubt about the link between smoking and cancer, that industry used to sow doubt about the effects of acid rain on northern hemisphere forests and that the chemical industry used to deny the link between CFCs and ozone depletion; but that it is often the same groups and the same people. These anti-science activists often hide behind names as unlikely as “Friends of Science”.[4]

In Australia we see a similar phenomenon, with front organisations often using names that aim to capture the cachet of a well-known “martyr”. They present themselves as oppressed outsiders being ignored by an elite establishment, when in reality they are ignoring or distorting accumulated scientific knowledge.

We acknowledge that people are free to believe whatever they wish. On the subject of climate science, we prefer the scientific conclusions of scientific institutions including the Australian Academy of Science, the CSIRO, the Bureau of Meteorology, the Royal Society, NASA and the university-based research academies around the world who provide the evidence on which governments must base their policy responses to climate change.

4 Oreskes, N. and Conway, E. “Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues From Tobacco Smoke to Global Warming”; Bloomsbury Press, New York, 2010.

Chapter 2 - The Economic Basis for a Carbon Price Mechanism

Climate change needs to be understood in the context of economic history. Since industrialisation, the global economy has been based on an energy and production system that fails to recognise carbon dioxide and other greenhouse gases as pollutants. The cost of greenhouse gas pollution has not been borne by its producers, but has been externalised to be borne by the environment and society as a whole. High school business studies students understand the concept of externalised costs. They understand that a cost externalised is a cost borne elsewhere.

Currently, the price of most goods and services we consume does not include the external cost to the climate and the environment associated with greenhouse gases emitted in their production and consumption.

These costs need to be considered when governments, businesses and individuals make decisions about what to produce, what to invest in and what to consume. This means that the true cost of greenhouse gas pollution needs to be internalised to its production and use, or put another way; greenhouse gas emissions need to have a price.

It is price that changes behaviour. Price influences production and consumption decisions, capital allocation and investment flows. In the case of a carbon price; towards production, consumption and investment in goods and services with lower embedded emissions.

A carbon price will create the incentive for large emitters to reduce pollution, and stimulate investment in low emissions technologies and processes. It will provide greater certainty for business investment. A carbon price will enhance Australia's long-term economic competitiveness.

It will also enhance our ability to influence the direction of international climate change negotiations and provide encouragement for an agreement including all major emitters.
Once a carbon price has been established and the incentives have been put in place to move to a low carbon pollution economy, we will decouple the historically close relationship between greenhouse gas pollution and economic growth. A relationship which has our nation’s carbon pollution heading to be 24 percent above 2000 levels by 2020 and 44 percent above those levels by 2030 if we do nothing to curb emissions.

A carbon price is an essential component of any credible plan to reduce greenhouse gas emissions cost-effectively. A carbon price gets to the heart of the issue: it makes activities that cause the problem more expensive, and activities that address the problem less expensive. This is a conclusion shared by the OECD, the IMF, the World Bank, the Stern Review, the work undertaken for the Howard Government by

Professor Peter Shergold, the Garnaut Review, and the recent work by the Productivity Commission.

It is worth noting that this view has been the outcome of 37 inquiries regarding action on climate change. Each inquiry recommending that Parliament take action to price carbon and that the most effective measure for taking action on climate change is through a market based mechanism.

This view is shared by the many of the witnesses who gave evidence to the Committee including;

> **Mr McAuliffe:** We agree that a market based approach can be a very efficient economic instrument to deal with it. That is not the only instrument. We have said elsewhere in debates in Canberra, and I do not know if you know about these discussions, that it needs to be a comprehensive and broad ranging approach, not just a single instrument.[5]

> **Ms Magarey:** We believe it is important to have a measured policy response to the issue of climate change. Putting a price on carbon emissions, in our view, represents an economically effective way to reduce carbon emissions... One of the most compelling reasons why we support a price on carbon is that it will provide business and investors with the certainty and confidence that they require to make long-term decisions about the future allocation of their capital. [6]

Carbon pricing works because it sends a clear signal across the economy. It creates an incentive to uncover the cheapest ways of reducing emissions. It allocates capital to improve efficiency and reduce emissions intensity. Over time, the most efficient, least polluting firms will have an advantage over less efficient, higher polluting firms. Pricing carbon will break the link between economic growth and emissions growth.

Treasury modelling concludes that the Australian economy will continue to prosper while cutting carbon pollution. Real gross national income per person is expected to increase from today's levels by around $9,000 per person to 2020 and more than $30,000 per person by 2050. Employment is projected to grow strongly with a carbon price. Around 1.6 million jobs are projected to be created to 2020 and a further 4.4 million to 2050.

At the sectoral level, a carbon price will change the way we produce electricity. Over time it will dramatically reduce our reliance on emissions-intensive coal-fired generation, and increase our use of renewable energy, gas and other low emissions technologies.

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5 Mr. Tim McAuliffe, Alcoa Australia Ltd, Proof Committee Hansard, 29th April 2011, p.28

6 Ms Geraldine Magarey, Institute of Chartered Accountants in Australia, Proof Committee Hansard, 17th May 2011, p. 10

As noted by Nicholas Stern, “Greenhouse gas emissions are externalities and represent the biggest market failure the world has seen.”[7]

In dealing with this market failure, we face a choice about how to reduce greenhouse gas emissions.

On the one hand, a market based price on emissions that reflects the costs they impose on society and the environment signals to market participants that they need to adapt and create solutions that incorporate the cost of their emissions into the price of their goods and services. This is the price incentive to reduce emissions.

On the other hand, there is another, non-market, subsidy approach to reducing emissions; that is by regulation through which government intervenes in decisions about investment and capital allocation. The price for the right to intervene directly in these decisions is a subsidy paid off the government's balance sheet to the emitter. Under this approach, the government seeks to control and direct production and consumption decisions by individuals and firms by provision of a subsidy allocated through a process which involves no market transaction for a good or service.

The former market based price is what characterises the government's approach through the carbon price mechanism in its Clean Energy Future legislation. The latter non-market regulatory approach is what characterises the Coalition's Direct Action policy.

A carbon price will encourage the largest emitters to reduce the greenhouse gases they put into the atmosphere. A carbon price will give economic impetus to the efforts of scientists, researchers, investors and entrepreneurs to find less-polluting ways of doing the things we take for granted in a modern economy. It will use the fundamental economics of markets to kick-start this transformation and to ensure the transformation unfolds in the lowest cost way.

Carbon pricing is an economic reform that will put a price tag on activities that have significant negative spill over effects on the rest of society. In this way, the costs of carbon pollution will be factored into our behaviour and our decisions in the future. The end result will be lower carbon pollution, reduced risks of dangerous climate change and better outcomes for society as a whole.

7 Stern, N. “The Economics of Climate Change” Richard T. Ely Lecture, American Economic Review: Papers & Proceedings May 2008, 98:2, 1–37, p.1

Chapter 3 - International Action: The Rest of the World is Acting

During the course of this inquiry, many submitters and witnesses expressed a view that while they accept the science of climate change and that there ought to be carbon price mechanism of some sort to provide a price incentive to reduce emissions, Australia is acting alone on pricing carbon and will be at a disadvantage to our trading partners and competitors until the rest of the world acts. Essentially, the position being put by these submitters and witnesses is that Australia should continue to wait-and-see.

The Queensland Chamber of Commerce and Industry, at a public hearing Brisbane told the Committee:

> "Queensland business acknowledges that it has a social responsibility to minimise the impacts that its activities have on the environment. It is also aware that it needs to work cooperatively with all levels of government and the wider community to address important environmental issues such as climate change. However, overwhelmingly, the majority of Queensland businesses do not support the introduction of a carbon price mechanism, especially in the absence of international agreement and unilateral (sic) action to address climate change."[8]

The Australian Petroleum Production and Exploration Association put it this way:

> "APPEA supports a national climate change policy that delivers abatement at least cost and facilitates investment decisions that are consistent with there being an international price on carbon."[9]

The Minerals Council of Australia told the Committee that they "accept the concept of global warming" and are "not interested in a debate about the science". Furthermore, "We accept the concept of the precautionary principle." However, they placed a caveat on actually doing something about it, saying before a carbon price mechanism could be implemented, three "platforms" need to be "aligned"; one of which is "global action that is concerted and comparable by all major emitters." Or in other words, "A global agreement that covers all major emitters."[10]

The Australian Coal Association, representing the black coal industry, told the Committee:

> "The black coal industry supports introduction of a carbon price as part of the efforts to reduce Australia's greenhouse gas emissions, provided this is consistent with sound policy principles and the national interest. But

8 Mr. Nick Behrens, Queensland Chamber of Commerce and Industry; Proof Committee Hansard, 25th July 2011, p.1

9 Ms. Belinda Robinson, Australian Petroleum Production and Exploration Association; Proof Committee Hansard, 9th June 2011, p.10

10 Mr. Mitch Hooke, Minerals Council of Australia; Proof Committee Hansard, 9th June 2011, p.30

> Australia must act in step with, not ahead of, our major trade competitors and partners."[11]

The problem with a wait-and-see approach is that it delays reform that is inevitable and the delay increases the cost. Delay now can only add to business and investment uncertainty. For firms to be able to make long-term investment decisions, we need a credible, coherent, long-term, market price signal that is efficient, least-cost and provides a certain policy framework.

On the question of international action, the Productivity Commission, in its recent report, *Carbon Emission Policies in Key Economies*[12] found that in the nine countries it studied: China, Germany, India, Japan, New Zealand, South Korea, the United Kingdom and the United States who between them account for a substantial portion of global GDP:

> "More than 1000 carbon policy measures were identified in the nine countries studied, ranging from (limited) emissions trading schemes to policies that support particular types of abatement technology."[13]

These measures focus to varying degrees on emissions from electricity generation and transport sectors, other sectors are commonly targeted as well. For example, most countries were found to have policies encouraging reafforestation or curbing deforestation.

Beyond the countries studied by the Productivity Commission, 89 countries, accounting for over 80 per cent of global emissions and over 90 per cent of global GDP, have pledged to reduce or limit their carbon pollution by 2020 consistent with their commitment made at Copenhagen to take steps to limit global warming to an upper limit of two degrees Celsius.

Scores of countries have already started the transformation to a low pollution economy: thirty two countries and a number of sub-national economies including US states whose economies are bigger than Australia's already have emissions trading schemes.

Australia's top five trading partners — China, Japan, the United States, Korea and others (New Zealand, the United Kingdom, Germany, Italy, France and the Netherlands) have implemented or are piloting emissions trading schemes or carbon taxes at national, state or city level.

New Zealand introduced a trading scheme in 2008 initially covering only forestry but in 2010 expanded it significantly to cover liquid fossil fuels, stationary energy and industrial processes.

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11 Mr. Ralph Hillman, Australian Coal Association; Proof Committee Hansard, 9th June 2011, p.39

12 Productivity Commission, "Carbon Emission Policies in Key Economies", Productivity Commission, Canberra, June 2011

13 Ibid, xiv

China has indicated in its current five-year-plan that it will introduce emissions trading pilot schemes in a number of provinces, including the industrial centres of Beijing, Shanghai and Guangdong. The World Bank recently reported that these regional schemes may be expanded to a national scheme by 2015. China has the world's largest installed renewable energy electricity generation capacity - in 2009, China added 37 gigawatts of renewable power capacity, more than any other country in the world.

India has a tax on coal which is expected to generate over half a billion dollars annually and will be directed to funding research into clean energy technologies.

The US is committed to achieving its target to reduce its emissions by 17 per cent by 2020 (on 2005 levels). The US EPA is regulating large stationary sources of carbon pollution to reduce emissions and incentivise the uptake of clean technologies, and is increasing fuel efficiency standards for cars and light trucks. President Obama has committed to establishing a clean-energy standard to double the share of clean energy (renewables; nuclear; coal with carbon capture and storage; and "efficient" natural gas) in the electricity supply mix from 40 per cent to 80 per cent by 2035.

The Productivity Commission analysed all of the policy approaches and the various complementary assistance measures that have accompanied them in the countries where they apply. They concluded:

> "In summary, while the overall impacts of the policy measures analysed appears to be relatively small for most countries, the consistent finding from this study is that much lower-cost abatement could be achieved through broad, explicit carbon pricing approaches, irrespective of the policy settings in competitor economies."[14]

Government Senators are of the view that claims that other countries are not acting are of the same character as the claims made by climate change "sceptics" about climate science. They are wrong, ill-informed and in our view merely intended to sow doubt in order to discredit Australian policies to reduce greenhouse gas emissions.

14 Ibid, p.155

Chapter 4 - Treasury Modelling: Robust and Provides Certainty

One of the perennials of parliamentary inquiries into economic policy is the length and vigour of discussions about economic modelling. This inquiry has been no exception.

In July 2011, the Treasurer and the Minister for Climate Change and Energy Efficiency released the details of economic modelling prepared by Treasury to inform the policy design and public discussion of the carbon price mechanism.[15]

The economy-wide modelling contained in the report did not include all the elements of the final policy architecture agreed to by the MPCCC, including a slightly higher start price. An update to the modelling was published in September 2011 taking into account the finalised policy details.[16]

The modelling prepared by Treasury strongly indicates that the cost to Australia of reducing greenhouse gas emissions through a carbon price mechanism will be very modest.

The Australian economy will continue to grow, incomes continue to grow and the carbon price mechanism will decouple growth from greenhouse gas pollution and achieve the bipartisan target of reducing emissions to 5 per cent below 2000 levels by 2020 and 80 per cent below 2000 levels by 2050.

The carbon price mechanism is expected to slow Australia's average income growth by around 0.1 of a percentage point per year. In practice, this means that if average incomes were to grow by say, 3.4 per cent per year instead of 3.5 per cent per year; it will take 21 years and two months instead of 20 years and seven months for average incomes to double – a difference of a mere seven months.

Gross National Income (GNI) per person will grow from $55,800 in 2010 to $64,800 in 2020 and $86,900 in 2050.

Gross Domestic Product will increase from $1.24 trillion in 2010 to $1.72 trillion in 2020 and $3.56 trillion in 2050.

Total employment will grow from 11.4 million in 2010 to 13.0 million in 2020 and 17.4 million in 2050.

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15 "Strong Growth, Low Pollution – Modelling a Carbon Price"*;* Commonwealth of Australia, July 2011

16 "Strong Growth, Low Pollution – Modelling a Carbon Price Update"*;* Commonwealth of Australia, September 2011

Real wages will continue to grow.

Average annual growth in Gross State Product for each of the States will continue to grow in line with recent trends. Under all policy scenarios modelled, all state economies grow strongly and greenhouse emissions are reduced significantly from what they otherwise would be.

Under the carbon price mechanism every sector in the Australian economy continues to grow up to 2020 and beyond.

- Gross output of agriculture increases 12% to 2020;
- Gross output of mining increases on average 77% to 2020, with output of sub-sectors such as gas, iron-ore and non-ferrous ores doubling to 2020;
- Manufacturing output will grow by 5% to 2020, with output in sub-sectors including alumina, cement and steel expected to enjoy growth of 53%, 34% and 10% respectively;
- Construction output will grow by 51%;
- Road freight transport output will grow by 38% to 2020;

By 2050:

- Gross output of agriculture increases 131%;
- Gross output of mining increases on average 201%, with output of sub-sectors such as gas, iron-ore and non-ferrous ores doubling to quadrupling by 2050;
- Manufacturing output will grow by 69%, with output in sub-sectors including alumina, cement and steel expected to enjoy growth of 70%, 130% and 79% respectively;
- Construction output will grow by 195%;
- Road freight transport output will grow by 225% to 2050.

A great deal of effort was made by a number of contributors and participants in the inquiry to cast doubt and create uncertainty over the modelling prepared by Treasury. Treasury officials were questioned repeatedly and at length by Senators on issues going to the robustness of their modelling.

Treasury was repeatedly questioned on whether or not it would, to paraphrase, “release all the information in the modelling?” Presumably the purpose of the questioning was to imply that the modelling and its results have not been open and transparent. It has ranged over whether the modelled scenarios have been accurately reported, whether the modelled scenarios actually reflect the final policy and whether the modelling software used could be made publicly available. Significantly, Treasury was pressed by the Coalition on why it had not modelled an Australian carbon price under a “do-nothing” scenario on the part of the rest of the world; the Coalition's preferred excuse to do nothing.

Professor Henry Ergas gave evidence to the Committee and has written op-ed pieces in the press claiming that Treasury has not been open and transparent in relation to the modelling of the carbon price mechanism.

His cause was later taken up by Senator Boswell:

> **Senator BOSWELL:** My question is: will you allow people access to your modelling to understand the assumptions and parameters?
> **Ms Quinn:** We have provided information about assumptions. That is in the public domain and people can draw their own conclusions from the assumptions.
> **Senator BOSWELL:** I know that. There are very prominent and experienced people, Treasury modellers and accountants, that have gone on record as saying that your modelling has not been released. Certainly you could say that it is pointless putting 10,000 pages or 14,000 pages or 1,000 pages—whatever it is—of modelling in front of me. I would accept that. I do not want it; I could not read it. But there are people who can. Henry Ergas is one of Australia's most prominent people who investigate things like this. He writes for the *Australian*. He has said that the Treasury modelling has not been released publicly. He has asked, in order that taxpayers can scrutinise all the data, which is financed by them, for you to fully release the modelling. Those are not his exact words; I do not want to suggest that that is what he said. He is an economist. He will be coming to this committee after lunch. He is a professor at the University of Wollongong. He has made the statement, and I have seen it made by other prominent economists, that the modelling has not been sufficiently released and they cannot come to conclusion because of that. My question is: would you allow people like Professor Ergas to have a look at your modelling?
> **Ms Quinn:** You have raised Henry Ergas's statements in terms of the economic modelling.
> **Senator BOSWELL:** No, I have not raised his statements. I raised the point that he has made about the modelling having not been released. I have not used any quotes.
> **Ms Quinn:** Sure. I take issue with that statement that the modelling has not been released. There are hundreds of pages of details about the modelling that are in the public domain.
> **Senator BOSWELL:** Absolutely.
> **Ms Quinn:** So the results of the modelling have been released in a comprehensive and transparent way.
> **Senator BOSWELL:** Would you—
> **Dr Gruen:** Senator, could you let Ms Quinn answer the question without interruption?
> **Senator BOSWELL:** I will let Ms Quinn answer the question but she obfuscates the question all the time. She is good at it, and good on her. That is what she is supposed to do. She is supposed to protect the government and she is doing it brilliantly. But, sitting on this side of the table, it does get a bit wearing. Proceed, Ms Quinn.
> **Ms Quinn:** In relation to key assumptions that we have put in the public domain around various elements such as the marginal abatement cost curves, it does appear, despite putting transparent information in the public domain, that it is not always accurately interpreted. For example, Henry Ergas has made the statement that the marginal abatement cost curves are not costed, when in fact they are. He has also made statements about banking and borrowing and international assumptions and how that is going to significantly alter the assumptions. Those statements are also completely inaccurate representations of the modelling. He has also made statements that the restrictions on international permits as the government has announced are

significantly at odds with the Treasury modelling, which is also an incorrect statement. There are many incorrect statements in Henry Ergas's articles relating to publicly available information.

The models that Treasury has used are available publicly for people to use, so there is nothing to prevent people from picking up those models—as Frontier Economics has done—and making their own assumptions, drawing on the information available, to come up with different results. In that sense, Treasury is using publicly available information. We then draw on the expertise within Treasury and other organisations to come up with a comprehensive analysis about what we expect the impact of carbon pricing will be on the Australian economy.

Senator BOSWELL: I take from that that you would be willing to provide any information that Professor Ergas wanted. Is that your statement? You would make available to him—

Ms Quinn: We are more than happy to engage with people about the information that has been made public—

Senator BOSWELL: I know what 'engagement' means.

Ms Quinn: to clarify inaccuracies. We would be very happy for people to ask us questions to prevent inaccuracies being perpetrated, and that would be good for public debate. We are very open to answering questions that are put to us, as has been demonstrated through the many appearances before the Senate and other engagements with stakeholders. In terms of providing detailed information about the modelling, we have provided—

Senator BOSWELL: Please do not try to wind the clock down. I am trying to ask questions. You are trying to wind the clock down.

Ms Quinn: I am trying to answer your question. In providing information to the public domain, we have provided a comprehensive amount of information. Treasury does not own these models, so it is not possible for us to hand over someone else's model. These models are publicly available. They are purchased and available from organisations within Australia. There is nothing preventing people picking up these models and doing modelling if they have a desire to do so.

Senator BOSWELL: So, if Professor Ergas were to go with a cheque in his hand and say, 'I want the modelling and I am prepared to pay for it,' it would be available to him? Is that what you are saying?

Ms Quinn: He would be able to pay for the models used by Treasury and, yes, he would be able to receive those models.

Senator BOSWELL: Comprehensive models?

Ms Quinn: Yes, he would be able to obtain them from the providers of those models.

The theme was reprised later in the hearing:

CHAIR: I do not want to waste much time on it here. You have taken it on notice. The *Hansard* record will show that, from the beginning of our conversation, you said that some modelling was reflected in the government's report and that some other modelling results were not picked up in the government's report.

Dr Gruen: No, I did not say that.

CHAIR: Well, you did. You said: 'If all of the modelling results were reflected in the report, it would go to thousands of pages.' That is what you said.

Dr Gruen: Let me be completely clear. In the process of running these models, one runs them many, many times to get to a stage where one is comfortable with the

outcome, and the process of writing this up into a coherent report involves putting down the models and the results that make sense—

CHAIR: Make sense to whom?

Dr Gruen: To anyone. There isn't a modeller in the world who would, in the process of doing a 12-month modelling exercise—

…...

Ms Quinn: Just to clarify, modelling that we do for the government is advice that we provide to the government, whether that advice is a spreadsheet with a number or a table with some words in it. It is not the case that Treasury is able to provide all advice provided to the government to either the Senate or private individuals through the Freedom of Information Act.

CHAIR: The context of the question was about political—

Ms Quinn: To clarify, we work for the government. We provide a large amount of analysis for the government that they use as part of the cabinet process, as part of their deliberations and as part of policy processes. We have published information about the impact of the carbon price on the Australian economy reflecting the government's policies. We are updating that analysis to reflect elements we did not have time to complete, and that information has been made public. So it is not possible for us in the context to provide all the advice we provide to governments to this committee, and that will likely be the answer.

….

CHAIR: But not all the numbers were included in the report, and I want to know whether on notice you can provide us with all the numbers.

Ms Quinn: I am happy to take this on notice and be corrected, but my professional assessment would be that, as part of the drafting process, there was no reduction in the quantity of information in terms of the numbers in the report. The drafting suggestions were around changing words here and there and clarifying things. If you get a bunch of modellers writing a report, other people read it and ask questions and you clarify it.

CHAIR: Were all the Treasury modelling results included in the draft report or not?

Ms Quinn: The draft report put together a comprehensive story, so, no, not all the results that were done were in the draft.

CHAIR: Indeed. I am asking you to consider whether you can provide to us on notice that which was not included so that we can have the full picture. You may say no and you may say yes. I want to know whether you can assess that and provide it to us on notice.

Senator THISTLETHWAITE: Is the approach that has been taken in preparing this published report the same approach that Treasury has taken with previous governments of any political persuasion? When the *Intergenerational report* was compiled and when the published reports associated with the GST were compiled, was the process of Treasury's interaction with the government the same approach as has been taken on this occasion?

Dr Gruen: Yes, absolutely, and there is a—

CHAIR: The answer was yes; that is great.

Dr Gruen: Can I finish the answer, please?

CHAIR: You answered the question.

Dr Gruen: I will decide whether I have answered the question.

CHAIR: No, you will not decide whether you have answered the question.

Dr Gruen: Excuse me, I would like to give an answer which is the truth and is not misleading. Can I do that?

CHAIR: Dr Gruen, we now have 25 minutes left. You have answered the question.

Dr Gruen: You interrupted my answer. I would like to—

> **Senator THISTLETHWAITE:** I would like to hear the answer, Chair, if I can.
> **CHAIR:** It is now up to Senator Madigan to ask some questions.
> **Dr Gruen:** Excuse me, I have not finished my answer. May I finish my answer or not?
> **CHAIR:** Are you going to spend another 25 minutes providing us an answer?
> **Dr Gruen:** No, I am not.
> **CHAIR:** How long are you going to be?
> **Dr Gruen:** I am going to be relatively quick, but it is not a single-word answer.
> **CHAIR:** Okay then, go quickly.
> **Dr Gruen:** Thank you. It is a little hard for me to keep my train of thought when I am being told that I am not allowed to answer the questions.
> **CHAIR:** I think that you are bordering on—
> **Dr Gruen:** The question was: is the approach we have used to writing a report and interacting with the government the same as it was in previous reports. The answer to that is: absolutely it is the same and the process involves trying things out and making judgments. There is a lot of toing and froing, not just with the government but with other experts. It is not a simple process where you know exactly where you are going. It is a process that takes time and, at the end, you try and write a coherent report that explains to the best of your professional ability what useful results you have found. At no time could you possibly put down everything."[17]

The issue was taken up with Treasury again at the hearing on 23rd September 2011:

> **Senator CAMERON:** So has any of the modelling that has been done or any of the questions that you have had in the numerous parliamentary inquiries that you have been involved in caused you to think that Treasury has got it wrong, that there is a problem with what we have done and that we need to reassess our fundamental analysis?
> **Ms Quinn:** We certainly take on board the issues raised in the committees, particularly from stakeholders and individual companies who raise concerns and provide additional information in the public domain. We have certainly over the years taken on board that information and we have, in fact, between 2008 and 2011 had quite detailed conversations with various industries who had concerns about the analysis in 2008. We have worked through those concerns and taken on board the additional information that has been made available to us and have incorporated that information. We have taken on board changes in the economy, changes in technology options and different concerns people have raised about their particular industry that we may not have looked at in as much detail as they had. We have been very open to taking on board information that people have provided to us. We are very keen, if people have concerns, for them to raise them with us so that we can talk through those. Sometimes it is a matter of talking through what we have done so that people understand both sides of the issue and often there is no disagreement. There might appear to be disagreement at the start but often, through communication and discussion, things are clarified. We have not ignored any information that has been brought to us. We have always looked at it clearly, analysed it, asked questions and incorporated it where we can and where we think it is important.[18]

17 Proof Committee Hansard; 10th August 2011, pp35-36

18 Proof Committee Hansard; 23rd September 2011, p.13

Government Senators have listened carefully to these exchanges during the inquiry and considered carefully the responses provided by Treasury during some robust, but nonetheless legitimate testing of the modelling. We are satisfied that none of the at times robust attacks on Treasury's modelling have in any way cast doubt on its results. We are satisfied that the modelling exercise has been robust, has taken into account all relevant and necessary considerations and parameters and provides with a considerable degree of certainty the likely outcomes of the introduction of the carbon price mechanism adopted as policy by the government.

This stands in contrast to modelling released by the New South Wales Premier which was intended to cast doubt on the Commonwealth Treasury's modelling.

The modelling was conducted on behalf of the NSW government by Frontier Economics and stands as a case study in how modelling shouldn't be done if it is to withstand more scrutiny than the news cycle will normally allow. It and the subject of electricity prices generally was the subject of questions asked of Treasury at the public hearing held in Canberra on 10th August 2011.[19]

Frontier Economics completed modelling for the NSW Treasury on the impact of the carbon price, focusing on state, regional and sectoral effects. The modelling uses the Monash Multi-Regional Forecasting model (MMRF), one of the models used by the Treasury in the Strong Growth, Low Pollution: Modelling a Carbon Price (SGLP) report, adopting similar assumptions.

At an aggregate level, the Frontier Economics modelling endorses the Commonwealth Treasury report that shows carbon pricing will achieve deep cuts in emissions with only a modest effect on economic growth.

The NSW Treasury notes that the SGLP modelling is ‘considered, rigorous and complex’. Frontier Economics notes that ‘[a]t an aggregate level, the modelling results in this report are broadly consistent with the Commonwealth Treasury modelling’.

Consistent with the findings in the SGLP report, the Frontier Economics modelling finds that carbon pricing will have a modest impact on Gross National Income with a reduction of around 0.5 percentage points in 2020 against business as usual.

The central claim of the modelling, that the economic impact to 2030 of carbon pricing will be larger on the NSW economy than on any other mainland state, is at odds with previous modelling that Frontier Economics has undertaken.

Previous analysis undertaken by Frontier Economics projected the impact of carbon pricing on NSW to be closer to the national average.

19 Proof Committee Hansard; 10th August 2011, pp11-12

Similarly, the new Frontier Economics modelling suggests that the largest negative impacts will be on the Tasmanian economy, when previous Frontier Economics modelling showed a positive impact from carbon pricing.

Frontier Economics suggests that the reduction in NSW gross state product due to carbon pricing will be 1.5 per cent in 2030, the greatest of any mainland state, while the SGLP modelling found a reduction of 1.0 per cent in 2030. The Frontier Economics analysis also includes sub-state regional results. However, the Australian Treasury does not consider this analysis sufficiently robust to provide insight into the effects of carbon pricing. Rigorously modelling the interplay between carbon pricing, industry growth, wages and employment growth at a regional level is not possible with the tools available.

Some of the regional results in the Frontier Economics report are difficult to reconcile, for example, the analysis finds that output in the Hunter Valley will grow by roughly 30 per cent over the decade to 2020 with carbon pricing, while finding at the same time employment declines. Frontier Economics say this is because productivity improvements outweigh output growth.

The Frontier Economics report shows that slower employment growth for some states and regions will be largely offset by faster employment growth in other states and regions.

The NSW Treasury report, which accompanies the release of the Frontier Economics report, claims that retail electricity prices will rise by around 15 per cent in 2012-13. NSW Treasury estimates are not based on electricity market modelling, but partial analysis of the impact of a carbon price on residential electricity prices. Further NSW Treasury estimates of the impact of carbon pricing on electricity prices in the range of 14 to 20 per cent are based on outdated analysis of the Carbon Pollution Reduction Scheme, and higher pass through rates of carbon prices into retail electricity prices than estimated in the latest Treasury modelling.

The high pass through rate used in the NSW Treasury analysis appears to indicate that electricity generators will be able to pass on between $40 to $60 for every $23 tonne of carbon emitted. This very high rate of pass through appears inconsistent with NSW Treasury arguments around extremely low pass through rates impacting the asset values of NSW Government owned coal-fired electricity generators.

The SGLP modelling showed that electricity prices will rise with carbon pricing, but by around 10 per cent in the first year of the scheme with a $23 carbon price, and that household assistance package will help households with the increase in the cost living. Attachment A contains further details of comparison between the modelling.

Government senators do not accept the results of the modelling undertaken by Frontier Economics. The Commonwealth Treasury modelling for the *Strong Growth, Low Pollution: Modelling a Carbon Price* (SGLP) report shows gross state product of

just 1.0 per cent below the base case in 2030, while Frontier Economics shows 1.5 per cent.

The Government has recognised that some industries and communities may be disproportionately affected in the transition to the carbon price. The Latrobe Valley was identified by the Garnaut Review as a region severely affected by national emissions reductions. Brown coal electricity generation is one of the most emissions-intensive industries in Australia and there may be limited opportunities for the employment of people who may be made redundant in the event of industry decline.

While the Hunter Valley is identified by some as being adversely affected, it is likely to face less severe impacts due to the ongoing strength of coal exports and other employment options.

The Government is implementing a range of measures to assist sectors and regions with the transition to a low pollution economy:

- providing free permits to emissions-intensive trade-exposed industries to guard against the risk of carbon leakage and to support jobs;
- providing direct assistance to the electricity generation industry of around $5.5 billion in free permits;
- providing assistance worth over $1.3 billion to the coal mining sector to support their transition to a carbon price; and
- the Government has also set aside $200 million to provide support for communities and regions that experience acute impacts from the carbon price.

Modelling by the Commonwealth Treasury shows that NSW coal-fired generators will continue to supply electricity and operate profitably. This modelling also shows that some low emissions NSW Government owned generators benefit from the introduction of a carbon price through increased output and profitability.

Under the Clean Energy Package's Energy Security Fund, NSW Government generators will be eligible to apply for assistance to refinance existing debt and purchase future vintage carbon permits. The NSW Treasury's claim that NSW generators would not be eligible for this assistance is incorrect.

The NSW Treasury's claim that the carbon price will increase household electricity prices in NSW by around 15 per cent is based on partial analysis.

The Commonwealth Treasury's modelling estimates the carbon price will contribute to a 9 per cent increase in household electricity prices in NSW over 2013-17. This analysis is based on three different approaches - two specialist electricity sector consultants and an Australian Treasury model - all of which give consistent results.

The carbon price will be accompanied by an ongoing household assistance package worth $14.9 billion over four years. Household assistance will be targeted to those

who need it the most and for millions of households; this assistance will outweigh the price impact of a carbon price, including its impact on electricity prices.

Chapter 5 - Treatment of small and medium enterprises

A common theme among small and medium sized enterprises (SMEs) providing evidence to the inquiry was their perceived inability to pass on, through increased prices, their increased costs due to higher energy bills in circumstances where the business is neither trade exposed nor emissions intensive.

For example, Geelong Galvanising, who gave evidence at a public hearing in Geelong, came to the inquiry with grave concerns about the future of its business under a carbon price mechanism.

The company expressed concerns about increased energy costs on its viability, citing imports of pre-galvanised steel items from China as its principal competition. The company indicated that galvanising and its associated processes is an energy-intensive business.

In an email sent to the Committee secretariat prior to the public hearing in Geelong, the company outlined its current annual energy costs, which were confirmed during the course of the hearing as follows:

Electricity:	$100,000
Gas:	$75,000
Diesel:	$8,000

The company indicated it has an annual turnover of approximately $11 million.

Treasury has modelled energy cost increases for electricity, gas and diesel at 10 per cent, 9 per cent and six cents per litre respectively.

This exchange during the hearing illustrates the issue and the confusion about whether increased energy costs of small and medium enterprises can be passed through.

> **Senator CAMERON:** Let me come to this wealth destruction and the massive job losses. How much is the carbon tax going to increase the cost of you doing business? Have you done any analysis on that?
> **Mr Chaston:** Do you want to break it down to gas or electricity or—
> **Senator CAMERON:** Yes. I have done the breakdown on the figures.
> **Mr Chaston:** Two cents a megawatt hour on electricity, so 25 per cent. I think it is $1.18 a gigajoule in gas, which is another 20 to 25 per cent. It is 6c a litre for diesel. Online suppliers of chemicals is an unknown factor. We do not know how they are going to be affected. The paint and blast side of the business is of course going to go up because of the energy intensive way of—
> **Senator CAMERON:** Just before you go on—I am happy for you to go through some more—let's come back to the big ones. In your submission you say that your annual turnover is $11 million.
>
> **Mr Chaston:** That is our plant alone, yes.

Senator CAMERON: Your electricity costs are $100,000.
Mr Chaston: Yes.
Senator CAMERON: You have had significant increases in electricity over the last few years in Victoria, haven't you?
Mr Chaston: Yes.
Senator CAMERON: Not associated with the carbon price?
Mr Chaston: That is correct.
Senator CAMERON: According to Treasury, the carbon price would increase electricity costs by 10 per cent. Are you aware of that?
Mr Chaston: I have only got the figures that we put at a bit more than 20 to 25 per cent.
Senator CAMERON: Where do you get 20 to 25 per cent? Nobody else has got that figure.
Mr Chaston: It is based on 2c a kilowatt hour.
Senator CAMERON: Where do you get the 2c a kilowatt hour? Where does that come from?
Mr Chaston: There was a report put out by Ernst & Young dealing with the carbon tax for the next four years. I am sure you have read that.
Senator CAMERON: The Treasury say that the increase to electricity would be 10 per cent, so that is $10,000.
CHAIR: In year one.
Senator CAMERON: $10,000 per annum. Gas would go up nine per cent. That takes you from $75,000 to $81,000. If you use about 5½ thousand litres of diesel, which is about average for the $8,000 that you say, it would be up 6c a litre. We agree with that. So the overall cost to you in terms of energy costs is about $17,000 on a turnover of $11 million. Is that correct?
Mr Chaston: There are other costs.
Senator CAMERON: That is 0.155 per cent of your turnover. Are you saying that, by increasing your costs by 0.155 per cent, that is destroying your wealth and there will be massive job losses at your company because of that?
Mr Chaston: Am I saying that?
Senator CAMERON: Yes. That was your submission.
Mr Chaston: That is what possibly could happen. I am hoping it won't.
Senator CAMERON: That could possibly happen by an increase of 0.155 percent. What agreements do you have with your employees in terms of wage increases?
Mr Chaston: They are on a workplace agreement.
Senator CAMERON: Yes, but what percentage increase is factored into that workplace agreement per annum?
Mr Chaston: The last one?
Senator CAMERON: Yes.
Mr Chaston: Over three years it was 10 per cent.

Senator CAMERON: So you have managed to deal with a three per cent per annum increase in wages, but you cannot deal with a 0.155 per cent increase in power. Why aren't these wage increases destroying jobs?
Mr Chaston: They are creating jobs because we are negotiating with that and we are increasing our competitiveness by up-skilling. Senator, you of all people know about productivity gains through wage negotiation and what you can do in the workplace—
Senator CAMERON: Yes, I know what some companies can do. I have to wind up here—the chair is winding me up—but the point that I just cannot understand is that

> you have considered that you have to pass through an amount of 0.155 per cent to your customers. That is not going to destroy jobs in your company, is it?
> **Mr Chaston:** I disagree with your percentage points and the increase in costs. [20]

Government senators are of the view that a 0.155% increase in costs relative to turnover can be easily passed through to consumers. Indeed, it is the entire point of the household assistance package that these cost increases incurred by business that are neither emissions intensive nor trade exposed are passed through. It is not part of the design of the policy that they be absorbed by businesses concerned.

The Committee heard evidence from Inverell Freighters, a road transport company with a fleet of 25 prime movers based in northern New South Wales.

The company told the inquiry:

> "I will now turn specifically to the carbon tax. As a company, we are very thankful that the tax on diesel has been deferred for three years. That is the proposal at this stage, as I understand it. In the current economic climate, three years is long-term planning for us, and that in itself is a problem. My concern in regard to the carbon tax is that, by its very nature, it is designed to inflict pain on us in order to make us change our ways and our patterns of use. This is the nub of the problem, and it is why I have a real problem with it. What can we as a company do? Absolutely nothing. If a carbon tax is imposed on us, we can do nothing. We are a sitting duck. We just pay the tax and try and pass it on."[21]

The company told the inquiry that its diesel consumption is in the order of 400,000 litres per month and its annual turnover is approximately $12 million. As the carbon price impact on diesel fuel will be six cents per litre, it will represent an increased cost of approximately $288,000 per year from 2014-15 when the reduction in the fuel tax credit – an effective carbon price – is introduced. This represents 2.4% of the company's current turnover.

While this cost increase is higher than the energy cost increases to the galvanising business described above, government senators do not believe that a combination of passing through cost increases, fuel efficiency measures and greater use of fuels such as ethanol, biodiesel and renewable diesel, which will not incur an effective carbon price, will negatively affect the viability of businesses like Inverell Freighters and the employment they provide in regional areas.

What these examples point to is a need for SMEs to have access to information they require in order to make informed decisions about the future of their businesses. There is no doubt that the sheer volume of disinformation and misinformation about carbon pricing put into the public realm in recent times has had an impact on business' perceptions of their future. Hardly a day goes by without the Leader of the Opposition

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20 Proof Committee Hansard, 1st September 2011, pp. 33-34

21 Mr. Keri Brown, Managing Director Inverell Freighters, Proof Committee Hansard, 3rd August 2011, p.1

appearing in a safety vest to proclaim the imminent demise of a business, industry, town or region somewhere around Australia.

The problem is that the disinformation and distortions have almost become internalised, self-evident truths among sections of the community, including some small and medium sized businesses. It would be unfortunate if, based on incorrect information such as the Ernst and Young report referred to by the Managing Director of Geelong Galvanising, businesses made business and investment decisions that prove to be adverse to their own interests.

This is borne out by part of the evidence provided to the inquiry by Namoi Bricks:

> **Senator THISTLETHWAITE:** So in terms of the point you made earlier that you would be okay with everyone paying a little bit more on a level playing field—that is the way the scheme will operate, is it not? All your competitors will have increases in costs, but they will all pass them through. Consumers will have a bit of extra money in the hip pocket to spend to compensate for that. That is the best way to approach it, is it not?
> **Mr Broekman:** It may seem to be but, at the end of the day, if we are still here today arguing about whether it is right or wrong or whether it is easy to understand or not, that still means it is too complex and it is too hard for us to make that assessment. If we had a system where the tax were just on, say, electricity, then it would be easier for businesses to manage, because then you would know exactly how much you are going to have to pay. You would be able to make those adjustments now and set your business model up. When we do not know what effects that carbon tax is going to have on all our inputs, we have to sit and wait until the bills start rolling in after 1 July 2012 before we can start making those assessments. We can only work on models and hope that those models are right.
> **Senator THISTLETHWAITE:** I am hearing that you are not opposed to the scheme per se but that you would like a little more information about how it is going to operate and how it is going to affect your business.
> **Mr Broekman:** Yes, I would like more information. No, I am not in favour of the scheme. Looking at the scheme and assessing the information that we are getting you can see that, especially once we move to a carbon trading scheme, there will be people in the middle who will be making money out of what should be going to the environment. That is what concerns many of us: the waste factor relating to the money that has been collected. What I am trying to say is that if we are going to collect a fund for the environment we want to see 95 per cent of that fund being directed to initiatives that are going to affect our carbon footprint.[22]

For these reasons, government senators welcome the $40 million program the government has announced to provide information to small business and community organisations that require assistance with assessing the impact of the carbon price mechanism on their operations and to assist with practical measures that they can take to reduce their energy costs.

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22 Mr. Michael Broekman, Proprietor, Namoi Bricks; Proof Committee Hansard, 3rd August 2011, p.45

Grants will be provided to industry associations and non-government organisations that have established relationships with small business and community organisations. These organisations will develop and deliver relevant, tailored information that may be sector-specific information and recommendations on energy efficient processes and equipment, workshops and training courses on energy efficiency issues and provision of on-site energy efficiency advice.

Chapter 6 - Carbon pricing will generate long-term opportunities

Mackay Sugar is a 140 year old grower-owned raw sugar processor supplying approximately 20 per cent of Australia's raw sugar. It employs over 800 people during the crushing season and about 550 in the non-crushing season.

Mackay Sugar gave evidence to the inquiry at a public hearing in Mackay on 5th August.

Mackay Sugar told the inquiry they have done a preliminary analysis of the effects of a carbon pricing mechanism on their business. It is as well to set out the company's statement to the inquiry at some length as it sheds considerable light on the opportunities that a carbon price mechanism provides in the field of renewable energy and business diversification:

> "Mackay Sugar has completed a preliminary assessment of the impact of the carbon price on our direct and indirect input costs. In particular, we have looked at emission permit liabilities, road freight costs, electricity and chemical costs. In the long run, the proposed carbon tax policy provides opportunities to Mackay Sugar. However, there will be a short-term cost impost flowing through our supply chain that we will not be able to pass on to our customers given that a large percentage of our product is exported. This impost will possibly be around 0.5 per cent of our annual revenue stream. Our business is unlikely to qualify for concessions available to emissions-intensive trade-exposed industries so we will be looking at the details of the clean energy fund for possible assistance as an eligible food processor. However, in the longer term, a carbon price is likely to promote diversification projects for our business. As a large sugar manufacturer, Mackay Sugar generates considerable quantities of renewable energy using by-products of the annual cane crop.
>
> "The 20 petajoules of renewable energy produced and consumed each year in our three factories is equivalent to the energy contained in about 700,000 tonnes of coal. If Mackay Sugar derived its energy from fossil based fuels, like most businesses do, we would generate an extra 1.7 million tonnes of CO2 each year. We receive no recognition for this effective carbon abatement. However, under the proposed carbon tax Mackay Sugar will be largely exempt from direct greenhouse gas emission liabilities. Also, a carbon price will drive our business to improve overall energy efficiencies and reduce the use of supplementary coal fuel at our factories.
>
> "Mackay Sugar is currently constructing a $120 million renewable cogeneration plant, which will supply about one-third of Mackay's electricity. The viability of this project was founded on the introduction of the Commonwealth government's 20 per cent renewable electricity target, the RET scheme. Our business future will be built around further renewable energy diversification projects, such as more cogeneration, molasses based fuel ethanol and second generation fuel ethanol. We have already invested in the Racecourse biocommodities research facility and we are part of the Queensland Sustainable Aviation Fuel Initiative, supported by the Queensland

government. Along with Virgin Airlines, Boeing and Qantas, we are looking at converting sugar into aviation fuel.

"While these projects will benefit from a well structured and firm carbon pricing policy that differentiates between renewable and fossil fuel based products, investment and renewable projects will also require the support of supplementary energy policies similar to the RET scheme. A carbon tax alone will not be sufficient to underpin further renewable energy projects within Mackay Sugar. In contrast to most businesses opposing any policy that would increase energy prices, the Australian sugar milling industry has been indirectly disadvantaged by low domestic energy prices. It might seem a bit bizarre but that is the case. Our main international competitors, such as Brazil, Thailand and India, which were mentioned this morning by cane growers, have very high domestic energy prices and they have invested heavily in renewable electricity generation and ethanol production to supplement their sugar revenue. This has not been possible in Australia, leading to a gradual erosion of our international competitiveness.

"The sugar industry has a large potential to contribute to Australia's renewable energy market. However, this will not materialise unless there are robust policies implemented. In qualifying Mackay Sugar's support for the carbon tax, we would like to highlight a few points. The exemption of primary producers—that is, our cane growers, who spoke to you this morning—from the carbon scheme will be critical to contain our whole-of-industry supply chain costs and therefore protect the viability of cane based renewable energy projects such as cogeneration and ethanol. Domestic sugar refiners provide a key value adding stream to the Australian sugar industry, and they typically do not have access to renewable fuels for their production purposes. Like raw sugar producers, it is recommended that these businesses receive concessions as food processors under the proposed clean technology fund.

"The sugar industry has significant potential to contribute to Australia's renewable energy targets by providing baseload electricity that does not go on and off as with wind and the sun—it is there 24/7—and access to funding under the proposed Clean Energy Finance Corporation would assist in underpinning these projects. The low domestic energy prices have eroded the national competitiveness of the Australian sugar milling industry by limiting diversification opportunities in Australia. While compensation has never been sought, this should be acknowledged and energy policy should be developed to promote the baseload renewable potential of the sugar industry.

"Finally, talking about fuel, the exclusion of fuel in some forms of transport in the proposed carbon tax scheme dilutes the benefits of the scheme and will be cumbersome to administer and police. Mackay Sugar welcomes the announced review of the fuel excise arrangements by the Productivity Commission and strongly supports an excise regime based explicitly on the carbon and energy contents of fuels. This is a structured and equitable way to effectively tax fuels and promote renewable fuel use while removing the complexity of rebates available to different fuel users.[23]

Mackay Sugar's perspective is perhaps summed up in this exchange:

23 Mr. John Hodgson, Business Development Manager, Mackay Sugar; Proof Committee Hansard, 5th August 2011, p.45-46

> **Senator CAMERON:** You indicated that the carbon price gives you a long-term opportunity. It seems to me that many of the submissions we have had here today are really looking at the short term and saying that it is all a big problem. They are not looking at the long term. Is short-termism a problem in this debate?
> **Mr Hodgson:** Longer term we would certainly see a higher price on energy in Australia as being good for us in developing ethanol, biodiesel and electricity. That is going to take some time to happen. In the short term we will obviously wear an impost with the higher cost of fuels in particular and the emission liability that we will have at Racecourse mill with the refinery. We do see a short-term cost impost but a longer term benefit coming to us.
> **Senator CAMERON:** You indicated that you will be largely exempt from any costs of the new tax, is that correct?
> **Mr Hodgson:** Two of our mills will be exempt from permit liabilities, having to purchase and surrender permits every year. They will fall below the 25 kilotonne threshold for CO2 emissions. Racecourse, where the refinery is located, will be above the threshold. That is where we will have the liability. But, as was mentioned before, most of that liability will be passed on to our joint venture partner.
> **Senator CAMERON:** So a carbon tax is not a job destroyer for your industry, is it?
> **Mr Hodgson:** No. We are currently building a $120 million cogen plant. That was based on the 20 per cent renewable scheme. The carbon tax should enhance our revenue from cogeneration. We are hoping it will allow us to go ahead with another cogen project within another couple of years. Those projects typically employ about 250 people during the construction period and a dozen or so under operations.
> **Senator CAMERON:** And you are in discussions about diversifying into aviation fuel as well?
> **Mr Hodgson:** It is early days but we have joined a consortium, under the support of the Queensland government, with the University of Queensland to develop aviation biofuels from sugar. That will be another revenue stream. Again, the production of aviation biofuels from sugar will be more expensive than fuels from a fossil fuel base or from oil, so there will need to be incentives for those projects to happen.[24]

Apart from representing Geelong Galvanising at the hearing in Geelong, Mr. Chaston appeared in his capacity as Vice-Chairman of the Galvanisers Association of Australia. Mr Chaston told the inquiry that a carbon price may provide opportunities in renewable energy construction projects:

> **Senator THISTLETHWAITE:** Have you got projections for growth in the future?
> **Mr Chaston:** I have never projected growth. I have always projected a status quo and if I get some growth, that is great.
> **Senator THISTLETHWAITE:** Where do you sell most of your product? Which industries do you sell to?
> **Mr Chaston:** The galvanising industry are involved with clean energy. We galvanise all the wind towers that are currently being put up around Port Campbell, Warrnambool and that area. Unfortunately, the government has just said that 80 per cent of Victoria now cannot have wind farms put on it, so that curtails any growth in that industry. We galvanise in the transport industry, the agriculture industry, the marine industry. If it is steel and you want it to last, we will galvanise it.

24 Ibid p.48

> **Senator THISTLETHWAITE:** So you have had a substantial advantage for your firm from increased manufacturing of wind turbines?
> **Mr Chaston:** Absolutely.
> **Senator THISTLETHWAITE:** Under a carbon price, wind power becomes more competitive. We would like to think that there will be greater opportunities for production of wind turbines in Australia as a result of that. Won't that be an advantage for your company?
> **Mr Chaston:** It would be an advantage for the galvanising industry not specifically for my company.[25]

The approach of Mackay Sugar in taking a long term view of carbon pricing stands in contrast to what we would characterise as a particularly short-term view taken by many who made submissions to this inquiry. We endorse this view, which is not confined to businesses like Mackay Sugar, but is held among institutional investors whose views expressed to the inquiry we outline below.

We are firmly of the view that innovative businesses with a track record of capital investment such as Geelong Galvanising and many other businesses involved in the engineering and fabrication industries will be able to pursue opportunities such as those arising with western Victorian wind farm developments.

We note that the tenor of Mr. Chaston's evidence in relation to immediate threats to his business and other members of his association are cheap imports of fabricated, galvanised steel work – not a carbon price mechanism.

25 Mr. David Chaston, Proof Committee Hansard; 1st September 2011, p.17

Chapter 7 - Carbon price mechanism will bring long-term investment certainty and emissions intensive businesses cry wolf

Australian investors know that a carbon price mechanism is inevitable. But uncertainty about what form the price will take, though less now than in the past two to three years, is imposing real costs today. Uncertainty is the enemy of investment and job creation. Electricity generation investments are not being made because the future price of greenhouse emissions cannot be factored in. Jobs in emerging low emissions technologies and industries are not being created today because businesses and investors cannot be certain about the carbon price mechanism until legislation is passed. Delay is holding back the inevitable transformation of critical sectors of our economy and the cost of delay will only make it harder to make change later.

The Investor Group on Climate Change (IGCC) represents Australian institutional investors with funds under management of over $600 billion. This amount is equivalent to about half of Australia's annual GDP.

Its members include AMP Capital Investors, Australian Super, BT Investment Management, Deutsche Bank Equity Research, Colonial First State, Perpetual, Goldman Sachs and UBS Investment Bank.

IGCC members invest in all sectors of the economy and have substantial ownership shares in many Australian companies; emissions-intensive and low-emissions alike.

In it's submission to the inquiry[26] IGCC said:

> "...we believe that addressing the risks of climate change and making adjustments to emissions intensive industry are long term economic issues that and policy action should not be delayed because of short-term volatility."[27]

The IGCC fleshed out this submission by making it clear that the greater cost of climate change is in delaying the introduction of a carbon price mechanism. They presented research conducted for IGCC by economic modelling firm SKM/MMA that found that delaying the start of a carbon price mechanism by just four years would lock in additional costs to the electricity sector of $2.5 billion in the period to 2030. These costs would arise from:

- delaying the switch from coal to gas for base load generating capacity;
- less efficient electricity plant build, locking in additional economic costs of around $500 million to 2030 and $1 billion to 2050;
- additional emission costs of $2 billion to the economy to 2030 ($2.8 billion to 2050);

26 Investor Group on Climate Change, Submission No. 88

27 Ibid, p.1

- wholesale electricity price increases 19% ($13/MWh) higher than would arise from early introduction of a carbon price.[28]

Mr. Nathan Fabian, Chief Executive of the Investor Group on Climate Change gave evidence to the inquiry at a public hearing held in Canberra.

His opening statement to the inquiry, based on the long-term view of the investors his organisation represents, presents what government senators believe is a proper perspective on the impacts of the carbon price mechanism proposed by the government. We therefore set it out in full:

> "IGCC is a group of investors of over $600 billion of retirement savings and private investments on behalf of millions of Australians. We are wholesale and retail funds managers, super funds, investment researchers and advisers. We accept the mainstream science of climate change and, as prudent investment managers, must seek ways to prepare for the financial risks and economic shifts that responses to climate change will cause. We are deeply invested in the Australian economy, including in most of the companies that will pay the carbon price.
>
> "We have closely examined the financial impact of the proposed carbon price on companies that we own, on the beneficiaries whose money we manage and on the economy generally. Our research indicates to us that there is only a modest financial impact on most Australian companies that will pay the carbon price; that there is a marginal impact associated with the carbon price on super fund balances; that there are in fact higher costs associated with delaying the introduction of a carbon price in Australia for both investors and electricity users, regardless of the policy actions chosen by other nations; and that there are clear investment signals that flow from a certain emissions reduction policy framework such as the proposed carbon price package.
>
> "The first point, researched by analysts within our membership including Citi, Deutsche Bank and others and used by us to make investment decisions, indicates that there is no material short- to medium-term financial impact on any but a handful of ASX 200 companies. In fact, for 188 out of 200 companies the impact is less than one per cent of earnings in the early years. For investors who invest billions of dollars this is a marginal number and would not make us change our investment decisions in and of itself.
>
> "On the second point, recent research on true cost by the Australian Institute of Superannuation Trustees indicated that the average financial impact of the carbon price on super fund balances was 0.8 per cent. Again, this is a relatively marginal cost—although, of course, when you are managing the money of others any cost needs to be managed. The prospect of this cost continuing to grow over time is enough to make super funds start to evaluate where their capital is flowing. Of course, we understand that reallocation of capital to less emissions-intensive activities is one of the objectives of the scheme.

28 Ibid, p.3

> "On the third point, research conducted for IGCC and Catholic Super by SKM MMA examined the costs of meeting the bipartisan target of minus five per cent by 2020. The research found that delaying only four years, to 2016, would in fact add costs for both electricity users and investors—and here it is important to make the point that this is assuming a target of minus five per cent. We accept that there is no cost-free way to reduce emissions. As such, the objective is to find ways to reduce that cost or keep it relatively low.
>
> "Finally, it is our view that uncertainty over carbon pricing policy is materially impacting investment decisions in Australia, most obviously in electricity markets. A long-term carbon pricing framework that is transparent and certain in its design is the most appropriate way to address the uncertainty and get investment flowing again. While there are clear limitations on the efficiency of the proposed framework—for example, in the form of price ceilings and floors—there is sufficient certainty in the timing of transitions in the price arrangements for these to be transparent to the market. It is our view that delaying the introduction of a substantive framework to address emissions will perpetuate risk to the investment environment and discourage investment. Thank you, senators. I am happy to take your questions."[29]

Another of the perennials of debate about climate change and carbon pricing is the disconnect between what individual companies tell politicians and journalists about their financial prospects under a carbon price and what the tell markets and investors.

One of the things that have puzzled government senators during the course of this and earlier inquiries, has been the lack of continuous disclosure by companies in accordance with their obligations under the Corporations Act and ASX listing rules that mirrors the doom-laden predictions of the future they disclose to politicians and journalists.

A couple of examples arose during the course of this inquiry.

Rex Airlines is a regional airline operator formed in 2002 out of the collapse of Ansett and its subsidiaries Kendall and Hazleton. Rex gave evidence to the inquiry on 22nd July that its increased fuel costs would add a cost of about $2 per passenger and expressed a view that this would be difficult to pass on through a moderate increase in ticket prices. Through the operation of various state government regulations, Rex enjoys a monopoly on about 60% of the routes it services.[30] The overall tenor of Rex's evidence was that the viability of a number of routes would be threatened and the airline may withdraw from some.

Regional Express Holdings released it full year results on 24th August 2011. In an accompanying media release that stated, "...Rex has solid fundamentals and outstanding financial performance even in the midst of these extremely challenging

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29 Mr. Nathan Fabian, Chief Executive, Investor Group on Climate Change; Proof Committee Hansard, 23rd September 2011, p.25

30 Regional Express Holdings Ltd. market report, 24th November 2005; http://www.rex.com.au/AboutRex/InvestorRelations/Rex%20report.pdf, viewed 31st September 2011.

times. While the economic turmoil in the USA and Europe is as threatening as ever, at Rex we approach the new FY with a certain amount of confidence, serenity and excitement."[31]

While we acknowledge Rex's concerns about fuel prices, we are of the view that volatile and rising world oil prices are more to be concerned about than the effects of a carbon price mechanism. This much is actually spelled out by the company in its 2011 results lodged with the ASX.[32]

The Australian Coal Association, representing the black coal industry and some of the biggest mining companies on the planet has taken a typically bleak view of the future not only in this inquiry, but in the many inquiries to which it has made submissions. As described above, its approach has been a delay action, wait-and-see approach that the weight of evidence tells us is the wrong thing to do.

What is puzzling is the lack of any disclosure of this bleak future to be brought on by carbon pricing by the coal companies to investors or markets.

Anglo-American Metallurgical Coal gave evidence to the inquiry that:

> "In summary, the government's proposed carbon-pricing mechanism has the potential to put the future of the Australian coal industry at risk. From Anglo American alone, Australians may lose $4 billion worth of investment and forgo more than 3,200 jobs. It simply does not make sense to implement the proposed carbon-pricing mechanism and forgo the benefits of the coal industry for little or no environmental gain. This is especially the case when a better way in the form of a phased-in auctioning of permits could be implemented at a much lower cost and ensure both the future of the coal industry and the intended environmental outcome."[33]

Questioned by Senator Cameron, Mr. Barlow was unable to say whether Anglo American had made any disclosures to caution investors against the looming carbon price mechanism that would place at risk, not only investment and jobs, but presumably investors' money.[34]

The company later responded to questions taken on notice that:

> "Anglo American has not released any notices to investors. We have, however, responded to questions in line with our public statements to date. Anglo American has not lodged any stock exchange releases. Disclosure to date is responding to questions, and is entirely consistent with our public statements to date."[35]

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31 Regional Express media release - "Rex Announces FY2011 Full year results", 24th August 2011.

32 Rex Investor Briefing - Full Year Results FY2011, viewed at http://www.asx.com.au/asxpdf/20110824/pdf/420lg7nqv1pns3.pdf on 31st September 2011

33 Mr. Nicholas Barlow, Head of Resource Development and Operational Excellence, Anglo American Metallurgical Coal Pty. Ltd.; Proof Committee Hansard, 1st September 2011, p. 41

34 Ibid, pp 43-44.

35 Anglo American; Answer to question on notice received 13th September 2011.

While we understand perfectly the sensitivities of these things, in our view, this is a less than convincing answer to the question asked of it; essentially do the company's gloomy view of the effects of the carbon price expressed to politicians correspond with what they are telling the actual people whose money might be at risk. Frankly, the answer appears to be an equivocal 'no'.

Fortunately, the Investor Group on Climate Change was able to shed some light on this perennial inconsistency; in evidence given at the Canberra public hearing on 23rd September 2011.

Mr. Fabian was asked about it in the following questions:

> **Senator CAMERON:** The discussion I had with Anglo American was on the basis of their opening statement, where they argued that the proposed carbon pricing mechanism would reduce the value of four new mines they were planning to open. They also indicated that the carbon price would mean that they would lose market share and the viability of their operations would be put at risk. They also indicated that it may mean that they would look to make investments in Mozambique, Mongolia and Indonesia instead of investing in Australia—basically, that the company was at risk in Australia. I asked whether they had made any statements to the stock exchange in relation to such a dreadful scenario for the company. Would you expect a company that was in such a bad position as they claim under the carbon tax to advise investors?
> **Mr Fabian:** All companies have obligations to disclose to the market any material factors that would impact their earnings or position. So, as a matter of course, all companies should disclose anything that is material. So, yes.
> **Senator CAMERON:** Are you aware of any mining company making disclosures either to the Australian Stock Exchange, the Johannesburg Stock Exchange or the London Stock Exchange about their companies being in severe difficulties because of the implementation of the carbon price?
> **Mr Fabian:** No. We have studied announcements to the Australian Stock Exchange of emission-intensive companies specifically. Although a range of language is used to describe the impact on the company, I can say that none have indicated that there will be a severe financial impact on their operations, although some do specify a financial impact.
> **Senator CAMERON:** So how then can we as parliamentarians balance the message they are sending to the Australian public and Senate inquiries when that message is not being replicated to investors anywhere in the world?
> **Mr Fabian:** I think that is probably a difficult job for you. The information we get as investors is based on the sound financial projections of the company, and that is how we make our decisions. What companies do in the public domain is probably more related to how they want to be treated by governments in periods of policy transition with assistance than the underlying financial position of the company at that time.
> **Senator CAMERON:** You are being diplomatic. Is that rent seeking?
> **Mr Fabian:** As an owner of companies, it would be inappropriate for me to say that a company should not try to obtain good conditions for itself. That is in effect what we pay them to do as investors, but the information we get day to day reflects the actual financial position. We have observed differences I guess between some of the advocacy positions and some of the numbers that are flowing to us.

Senator CAMERON: So there is a difference in terms of the public perception about the impact on the mining industry and what the resource industry is saying publicly and what it is saying to investment analysts; is that correct?
Mr Fabian: I will give you an example. Our analysis based on company projections and our own calculations is that the Australian coal industry will grow roughly 20 per cent in terms of metallurgical coal exports over the next decade and roughly 27 per cent in terms of thermal coal. That is pretty attractive growth in the coal export sector. As a consequence of those projections, we do not have any concerns about the financial opportunity or stability of the companies we invest in that market.
Senator CAMERON: With the greatest respect, Mr Fabian, either you have got it wrong or Mr Nicholas Barlow, the Head of Resource Development and Operational Excellence at Anglo American Metallurgical Coal Pty Ltd, has got it wrong. I am trying to find out who has got it wrong. Mr Barlow said on 1 September to this committee:

> "In summary, the government's proposed carbon-pricing mechanism has the potential to put the future of the Australian coal industry at risk."

He has made a jump from Anglo American to the Australian coal industry. Why would an executive of Anglo American put that to a Senate committee if they are not putting that to investors? Is it true, or have you just got it wrong, that the coal industry is at risk?
Mr Fabian: We certainly hope and believe that we do not have it wrong. Our people are highly trained and exceptionally good at reading company fundamentals and financial performance, so we believe we have it right. I really cannot comment for the company specifically, but there is nothing from any of our analysis or any of the disclosures to the stock market that would indicate to us that any companies operating in the Australian coal market are under any stress or duress.
Senator CAMERON: So you would not be saying to any of your clients who you are giving investor advice to: 'Sell Australian mineral shares. Get out of gas. Get out of coal. Get out of minerals. It is a disaster there because of this carbon price'?
Mr Fabian: No, quite the opposite. We think there is good opportunity in the sector in this decade. Clearly, the export demand or the demand for our coal in regional markets is substantial and it will grow through the decade. I should say that one would assume that, if emissions are going to be reduced, eventually, possibly next decade, maybe some of the coal markets will change depending on the technology that is available to abate emissions; but, at the moment, it is a good growth story for Australia. Our investors are invested in it and, frankly, that is precisely the outcome we want in terms of policy arrangements.

Government senators think this evidence speaks for itself and requires no elaboration.

Chapter 8 - The Coalition's “direct action” is a policy for inaction or will blow the budget

While both the government and the opposition share a common target to reduce greenhouse gas emissions by 5% on 2000 levels by 2020 that is where any policy similarity ends. The Coalition released its “direct action” plan to reduce greenhouse gas emissions on 2nd February 2010. It proposes an Emissions Reduction Fund to support 140 Mt of abatement by 2020.

While the government's policy is for the introduction of a market-based carbon price mechanism with an explicit price and multiple buyers and sellers of abatement; “direct action” involves a off-market, implied price for abatement set by the government, only one seller of abatement – the government – and a non-market tender process where the executive government will determine where abatement will occur.

During the course of the inquiry, a number of witnesses were asked for their views on the efficacy of the Coalition's “direct action” policy. Most of the small to medium sized businesses who provided evidence to the inquiry were either unaware of the detail of “direct action” of felt that it was irrelevant to them because they would not be in a position to purchase abatement through the tender process.

Soil carbon is at the heart of the Coalition's policy target of a 5% reduction in CO2 emissions by 2020. This is the same as the government's target. Soil carbon, including use of unproven biochar methods accounts for 60% of the Coalition's reduction target.

The policy mechanism is an Emissions Reduction Fund, from which a Coalition government will pay farmers to abate “up to” 85 million tonnes of emissions a year by 2020 to meet their emissions reduction target. The overall annual abatement to be paid for from the fund is 140 million tonnes by 2020. Soil carbon abatement represents 60% of the total.

According to the policy document, under The Coalition's direct action plan:

- The ERF will buy 'up to' 85 million tonnes of abatement per annum through soil carbon schemes.
- Farmers will be entitled to tender for all verified new additions in soil carbon beyond the commencement of the Fund.
- A Coalition government would commence this work by offering to purchase 10 million tonnes of CO2 abatement through soil carbons for 2012-13.
- Submissions to the Coalition from farm groups support the potential for a minimum 150 million tonnes of CO2 equivalent per annum to be captured in soil carbons by 2020 and beyond, with a payment to farmers of approximately $10 per tonne of abatement.

Over the period to 2020, this means a Coalition government would pay farmers and others for "up to" 85 million tonnes of abatement through soil carbon, representing expenditure from the ERF over the period of the program of a little over $850 million.

A 2010 CSIRO report, *Soil Carbon Sequestration Potential: A review for Australian agriculture* concluded:

> "Nearly 90% of Australia's agricultural land is devoted to low-to-medium intensity grazing of natural vegetation (Table 1). These lands are generally comprised of soil and/or climate conditions that are not suitable for more intensive agricultural practices and given these constraints are not likely to be able to store large quantities of SOC.
>
> "Accurate monitoring and verification of soil C stock changes, due to the large and heterogeneous background levels are difficult and often prohibitively expensive (see Section 4). A large-scale monitoring and verification system for estimating SOC stock changes will depend on the level of stringency that a particular government or emissions trading scheme finds acceptable and this level may likely be based on the financial trade-off between the value of the C credits and the cost of the monitoring program (Smith 2004b). At the national scale, this system may take the form of robust modelling informed by detailed measurements in representative systems combined with verification of management practices and yields via reporting and remote sensing with some economic discounting to factor in verification uncertainty. (p.48)
>
> "Overall, this review suggests that stemming the loss of SOC from current agricultural practices and at a minimum recapturing some fraction of the carbon lost from soils since initial land clearing is possible from a biophysical perspective. However, due to the complex web of factors that governs the C balance of any particular soil; quantitative predictions of SOC sequestration rates will likely always entail a large degree of uncertainty. Given that many mitigation options in the agricultural sector have numerous co-benefits in terms of food security, environmental sustainability and farm profitability, we believe that governmental policies that promote adoption of these best management practices should be pursued regardless of the final status of agricultural soils in any carbon pollution reduction scheme. (p.50)[36]

The essential point the CSIRO makes is that here is a great deal of uncertainty over the effectiveness of soil carbon abatement. Based on the highly conditioned support the CSIRO gives to soil carbon as an effective abatement measure, the government buying abatement through soil carbon measures could well end up just being a case of throwing good money after bad.

In February 2010, Bloomberg New Energy Finance, a UK-based financial analyst outfit specialising in nuclear energy, CCS and renewable energy investment released

36 Jonathan Sanderman, Ryan Farquharson and Jeffrey Baldock, "Soil Carbon Sequestration Potential: A review for Australian agriculture"; CSIRO Land and Water, 2010: http://www.csiro.au/resources/Soil-Carbon-Sequestration-Potential-Report.html

an analysis of the relative merits of Direct Action and the then CPRS.[37] Its analysis was scathing about "direct action", saying:

- the CPRS would cost less than the Coalition plan;
- the CPRS increased the number of low-cost abatement options by linking to international markets;
- the Coalition plan may not exploit some low-cost abatement options;
- the Coalition plan couldn't be scaled up even for relatively modest targets above 5%; and
- the Coalition plan relies too heavily on soil carbon, especially given it is not currently included in greenhouse accounting. Worse, "by earmarking more than half of the ERF to farmers to increase soil carbon sequestration, the government has arguably already created a market distortion. While there is no doubt that carbon sequestration is an important and potentially low-cost abatement option, there are other low-cost options particularly in energy efficiency which would be excluded under this scheme."

Bloomberg homed in on the voluntary mechanism by which the Coalition plan would operate, saying it would only drive the exploitation of "low-hanging fruit" when it came to abatement options:

> "The semi-market approach suffers from being reliant on the subjective decisions of an expert body: with only the information submitted by applicants to go on, such a body can only hope to replicate the efficiency of decisions taken internally within companies."

Bloomberg was particularly critical of "direct action" over the issue of scalability, dismissing the Coalition's claims that the program will be flexible enough to accommodate higher targets:

> "While there is some flexibility to scale up direct financing of abatement activity in the short term, it is probably unrealistic to expect that the government will continue to purchase emissions reductions after the majority of low-hanging fruit is exhausted and more costly abatement is required to achieve deep cuts in emissions through 2020 and beyond. A direct-action policy may thus be a 10-year policy at best."

Bloomberg's analysis was reflected in the view expressed by Treasury in relation to "direct action":

> **Senator CAMERON**—Dr Parkinson, again I want to come to this comparison that I started on carbon price and direct action. The theory I have heard about investments is that the carbon price gives long-term investment certainty, but direct action means that there is no investment certainty. Would that be a fair analysis?
> **Dr Parkinson**—Yes, that is a fair analysis. Putting in place a carbon price mechanism, and in particular ultimately putting in place an emissions trading scheme,

37 Bloomberg New Energy Finance, "The Coalition offers its alternative to the CPRS, but it needs to come up with something better and get the numbers right"; Carbon Markets – Australia – Research Note, 8th February 2010

> you have a framework, people can make investment decisions and they have the capacity to have instruments that hedge their risk. In the event of a direct action program, essentially they are being subsidised on particular activities by the government. Ultimately there will be a question of whether or not the government is able to identify the cheapest abatement and is able or willing to subsidise to the extent necessary to reach the target. As a result, if you really believe that ultimately we are going to go for deeper cuts than the direct action program could deliver at the moment, you would have to address the question of could the direct action program be scaled up sufficiently. As soon as you are into that space, you are back into the material that was released that we had provided last year, which was that we did not believe the direct action program could be scaled. Ultimately those subsidies have to be paid for by someone, which means that either we have to raise taxes or we have to cut expenditure.[38]

One of the most serious flaws in "direct action" is that while it has the potential to lead to increased taxes to fund it, or alternatively higher interest rates as the government borrows to fund its ballooning cost, it offers no compensation to households for the increased costs they would face under either of these scenarios. Treasury offered this view of the compensation issue:

> **Senator CAMERON**—..... A carbon price leaves the potential to assist households in relation to dealing with global warming, but Direct Action does not provide household assistance, does it?
> **Dr Parkinson**—No, it does not. Ultimately, it depends on the form Direct Action might take. For example, let's say we replaced a brown coal fired electricity generator with a gas one. If Direct Action simply provided a capital subsidy to make the investment cost—the capital cost— the same and did not address any differential in operating costs, then you could not be sure that you had not imposed a cost on the end consumer. The Direct Action scheme does not raise money to be used for compensation, but of course it is up to the government of the day if it wanted to pursue that. It is an option to pay for that out of consolidated revenue.[39]

The Investor Group on Climate Change, representing Australian investors with $600 billion in funds under management was asked during the inquiry about its view of "direct action", particularly whether it could achieve its abatement targets and whether it provided a sufficiently long-lived policy framework to provide investment certainty. They told the inquiry:

> **Senator CAMERON:**.....There is an alternative out there and that is the so-called direct action policy. What is your group's analysis of direct action versus the market approach?
> **Mr Fabian:** We have concerns. Our preference for any policy framework in this area is that it is transparent, long-term and relatively certain. We are concerned that a policy that relies on governments primarily to either regulate or make payments to industry is vulnerable. For the long-term it is not sustainable simply because of the cost that is likely to be incurred in that scheme and also because the environmental outcome in terms of reducing emissions to any target is unlikely to be met. If that

38 Dr. Martin Parkinson, Secretary, Treasury; Proof Committee Hansard, 24th March 2011, p.26

39 Dr. Martin Parkinson, Secretary, Treasury; Proof Committee Hansard, 24th March 2011, p.27

uncertainty exists around the policy, it is probably going to change and it is probably going to change in the not-too-distant future. That creates investment risk and uncertainty for us and so we are not generally favourable on these kinds of policy frameworks in the absence of carbon pricing.

Senator CAMERON: Do you agree with Malcolm Turnbull's analysis that the best thing about direct action is that you can wrap it up pretty quickly?

Mr Fabian: An interesting question. My view is that you cannot meet substantial emissions reductions on governments' balance sheets, especially in this phase of the global economy. So whether or not it is intended to be wrapped up early, we think it is not sustainable.

Senator CAMERON: You have had a close look at it, I suppose.

Mr Fabian: Yes.

Senator CAMERON: We have had company after company give us evidence and I have asked the specific question to them: what is the impact of the direct action policy on the individual company? I will not put words in their mouths but they have all said: 'We haven't paid much attention to it'. We don't think it is the way to go.' Or they have dodged the question. If you use direct action to try to reach the shared reduction that both the government and the coalition have in terms of a five per cent reduction on 2000 emissions by 2020, do you think that is achievable under direct action?

Mr Fabian: No, we do not, Senator. The issue we see is that, if you pay some companies in the economy to reduce emissions, you are not necessarily impacting the emissions of other companies and so it is possible that emissions will grow enormously from sectors that are not touched by the direct action scheme, and that of course is the benefit, alternatively, of a pricing scheme that includes most sectors of the economy that they are covered. So, frankly, we are talking about a decade in which targets at some point are going to get steeper and deeper. It may not be steeper and deeper for 2020 but they are going to be in the next decade. The UK experience gives us an example of that, and so we need a framework that can adjust to the reality of having to reduce emissions substantially. As I have said, we do not believe a policy based on governments paying for abatement is a sensible long-term framework.

Senator CAMERON: The other argument that has been put to the committee is that the direct action scheme is market based. Given that you are operating in the market, what is your analysis of that statement?

Mr Fabian: Most markets have multiple buyers and multiple sellers. In fact, that is how good markets work. Markets where there is a constraint of market power, like only one seller, do not necessarily drive the behaviours that you would expect of a market, like people competing to do things for the lowest cost. So we would not consider an arrangement where tenders were put and decided by governments behind closed doors around what abatement will be paid for to be a very transparent arrangement. It is a single buyer of abatement from multiple sellers, so we would not really consider that to be a market mechanism.[40]

In a Treasury Executive Minute released under Freedom of Information[41] on 2nd September 2011, the costs of “direct action” become clear.

40 Proof Committee Hansard, 23rd September 2011, pp 29-30

41 “Economic and Fiscal Impacts of the Coalition's Direct Action Plan”, Treasury Executive Minute, 14th July 2011; http://www.treasury.gov.au/documents/2149/PDF/TEM_coalitions_direct_action_plan.pdf

The Treasury analysis states that the economic costs of Direct Action would be higher for two reasons: first, direct domestic action would forego opportunities for cheaper, internationally sourced abatement and second, direct action programs are generally less effective at driving take up of all potential abatement opportunities.

"Direct action" does not allow for emissions reduction through sourcing abatement internationally through the Clean Development Mechanism.

Treasury's modelling for the government's carbon price mechanism shows that, "a carbon price in 2010 dollars of around $62 per tonne would be required to meet the abatement task of 159 million tonnes in 2020 using only domestic abatement, compared with $29 per tonne in the core policy scenario with international linking."[42]

The economic cost will almost certainly be larger because "direct action" will be a far less efficient abatement mechanism than a market-based carbon price mechanism.

The Treasury Minute continues:

> "Based on DCCEE analysis, the funding committed under the Direct Action plan ($1.2 billion per year on average through to 2020) could not purchase sufficient domestic abatement to meet Australia's bipartisan emissions reduction target of a 5 per cent cut in emissions compared with 2000 levels, which would require 159 Mt CO2-e of abatement in 2020.
>
> "Previous analysis from DCCEE estimates that it is unlikely that the Direct Action plan could secure more than around 40 Mt in 2020.
>
> "In particular, the Coalition policy of directly funding abatement would mean that no price signal would flow to consumers to drive demand side abatement. SGLP shows that demand side abatement accounted for half of electricity sector abetment to 2020."[43]

This analysis is entirely consistent with the advice we've seen from leading economic institutions like the IMF, OECD, Productivity Commission and others.[44]

Direct action is funded entirely on Budget, using taxpayer funds to pay polluters to lower their pollution. In contrast, a carbon price is paid by greenhouse gas emitters. It

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42 Ibid, p.1

43 Ibid, pp.3-4

44 For example - Productivity Commission, *What Role for Policies to Supplement an Emissions Trading Scheme?: Productivity Commission Submission to the Garnaut Climate Change Review*, May 2008. Centre for International Economics (CIE), *Review of the proposed CPRS*, prepared for the Menzies Research Centre, April 2009. Ross Garnaut, *Update Paper 6: Carbon Pricing and Reducing Australia's Emissions*, March 2011. Resources for the Future and the National Energy Policy Institute, *Toward a New National Energy Policy: Assessing the Options*, Washington, DC: Resources for the Future, 2010. HM Treasury, *The Economics of Climate Change: The Stern Review*, Cambridge University Press, 2007. Productivity Commission, *Carbon Emission Policies in Key Economies*, Research Report, June 2011.

raises revenue and this will be used to assist householders, support jobs and invest in climate change programs.

The Coalition's scheme will cost the Budget at least $48 billion to 2020, almost 5 times the stated cost of the Coalition policy. This would mean that the average Australian household will have to pay an extra $1,300 in taxes.

This is likely to be an underestimate, as it assumes that the cost to the Budget of each tonne of abatement would be the same as the carbon price. The Treasury explains that much of the abatement funded under Direct Action would happen anyway, resulting in a more expensive cost per tonne of real abatement. This is in addition to the inefficiency of grant-based tenders compared to the price signal generated by a market mechanism such as a carbon price.

The Treasury also dispels the argument that Direct Action could deliver abatement at a price below the carbon price by paying different prices for different abatement activities. The Treasury finds that this is impractical because businesses have more information about costs of abatement and are likely to bid strategically. This finding is backed up by detailed analysis by the Department of Climate Change and Energy Efficiency.
For example, if the Coalition were in Government, farmers would know that Mr Abbott would be paying for abatement in other sectors at $40 or $50 a tonne for example, and so would have no incentive to sell soil carbon abatement for $8 a tonne (the price assumed by the Coalition).

This is borne out in practice in multi-round environmental tenders in Australia and internationally, where bids quickly converged close to the highest expected bid from previous rounds. So the Coalition's scheme is based on ripping off farmers and would not work in any case because it is based on an unrealistic and naive market assumption.
It his hard to imagine that a Coalition government, even one led by Tony Abbott, could be so fiscally irresponsible to pursue “direct action” in the event they are elected to government. So the only prudent course of action would be to jettison the policy altogether. The only conclusion government senators can come to is that the policy is a sham. It is a fig leaf over their determined position to do nothing about climate change. The Coalition's stated commitment to a 5 per cent emissions reduction target is a fiction. Should they ever be elected to government, the target and “direct action” along with it will be dumped, and the Coalition will return to the position they have been comfortable with for years; doing nothing. The Coalition is either fiscally irresponsible or cynical.

The question is; which one is it?

SENATOR DOUG CAMERON
DEPUTY CHAIR

SENATOR MATT THISTLETHWAITE

Government Senators' Dissenting Report: Appendix A

Carbon Price Mechanism Architecture

This inquiry began its public hearings in March 2011. On July 11, 2011, the government released the details of the carbon price mechanism including the starting price, a transition to an emissions trading scheme, household and industry assistance, employment support, support for agricultural businesses and programs supporting innovation in new technology, energy efficiency and related measures.

This section sets out in detail the architecture of the carbon price mechanism agreed to by the Multi-Party Climate Change Committee.

Starting price and fixed price period

The carbon pricing mechanism will commence on 1 July 2012. There will be a three year fixed price period.

The carbon price will start at $23.00 per tonne in 2012-13 and will be $24.15 in 2013-14 and $25.40 in 2014-15. The prices in the second and third year reflect a 2.5 per cent rise in real terms allowing for 2.5 per cent inflation per year (the midpoint of the Reserve Bank of Australia’s target range).

Liable entities will be able to purchase permits from the Government at the fixed price, up to the number of their emissions for the compliance year. Any permits purchased at the fixed price will be automatically surrendered and cannot be traded or banked for future use. Permits freely allocated may be either surrendered or traded until the true-up date for the compliance year in which they were issued. They cannot be banked for use in a future compliance year.

The holders of freely allocated permits will be able to sell them to the Government from 1 September of the compliance year in which they were issued until 1 February of the following compliance year.

The price paid by the Government will be equal to the price of the fixed price permits for that year, discounted to 15 June of the compliance year by the latest available Reserve Bank of Australia index of the BBB corporate bond rate, so that the buy-back price reflects the present market value of the permit. From 15 June onwards, the price paid will be equal to the fixed-price permits for that vintage.

Transition arrangements and setting pollution caps

The carbon pricing mechanism will transition to a flexible price cap-and-trade emissions trading scheme on 1 July 2015.

The Government will announce the first five years of caps in the 2014 Budget and will be required to table regulations setting five years of pollution caps in the Parliament no later than 31 May 2014.

The pollution cap will be extended by one year every year in regulations from 2015-16 to maintain five years of known caps at any given time. For example, in 2015-16, regulations will be made setting the pollution cap for 2020-21. In 2016-17, regulations will be made setting the pollution cap for 2021-22, and so on.

When setting pollution caps, the Government must consider Australia's international climate change obligations and the recommendations on pollution caps made by the Climate Change Authority.

The Government would also have regard to:

- the medium- and long-term national emissions reduction targets;
- progress toward emissions reductions;
- estimates of the global emissions budget;
- the economic and social implications associated with various pollution caps, including implications of the carbon price;
- voluntary action to reduce Australia's greenhouse gas emissions;
- estimates of the greenhouse gas emissions that are not covered by the carbon pricing mechanism;
- any past or planned government purchases of international units;
- the extent of non-compliance under the carbon pricing mechanism; and
- other matters (if any) the responsible Minister considers relevant.

In the event that the Parliament disallows the regulations presented in 2014, the legislation will provide for a default pollution cap that will ensure that covered emissions are reduced in absolute terms each year by a specified amount, expressed in million tonnes of CO2-e, at least consistent with meeting Australia's unconditional pollution reduction target of reducing pollution by 5 per cent below 2000 levels by 2020.

Following this, each year the Government will be required to make regulations setting the next five years of pollution caps. If the Parliament disallows these regulations, then the legislation would provide for a default pollution cap for each year until regulations setting the next five years of pollution caps are made and not disallowed.

If, after the initial regulations setting five years of pollution caps have been made, the Parliament rejects the regulations setting the pollution cap for the sixth or any subsequent year of the flexible price period, the legislation will provide a default pollution cap for that year that would ensure that emissions are reduced in absolute terms each year by a specified amount, expressed in million tonnes of CO2-e at least consistent with the annual reduction in emissions implied by the 5 per cent emissions reduction target.

Flexible price architecture

A price ceiling will apply for the first three years of the flexible price period. The price ceiling will be set in regulations by 31 May 2014 at $20 above the expected international price for 2015-16 and will rise by 5 per cent in real terms each year.

If the world is on a 450 parts per million carbon dioxide equivalent (CO2-e) trajectory or higher, this will be reflected in international prices and the price ceiling will automatically be $20 above this price. The level of the international price will be examined closer to the point of transition to a flexible price period to ensure that the price ceiling reflects a $20 margin above its expected level.

A price floor will apply for the first three years of the flexible price period. The price floor will start at $15 and rise at 4 per cent in real terms each year.

Unlimited banking of permits will be allowed in the flexible price period. There will be limited borrowing of permits such that, in any particular compliance year, a liable entity can surrender permits from the following vintage year to discharge up to 5 per cent of their liability.

Permits will be allocated by auctioning, taking into account transitional assistance provisions for key sectors. The policies, procedures and rules for auctioning will be set out in a legislative instrument. The Government will advance auction future vintage permits. There will be advance auctions of flexible price permits in the fixed price period. There will be no double-sided auctions. There will be no deferred payment arrangements for auctions.

Coverage and liable entities

The carbon pricing mechanism will have broad coverage of emission sources from commencement, encompassing: stationary energy; industrial processes; fugitive emissions (other than from decommissioned coal mines); and emissions from non-legacy waste. An equivalent carbon price will be applied through separate legislation to some business transport emissions, non-transport use of liquid and gaseous fuels, and synthetic greenhouse gases.

Agricultural and land sector emissions will not be covered.

Emissions from the combustion of biofuels and biomass, including CO2-e emissions from combustion of methane from landfill facilities, will not be covered.

The carbon pricing mechanism will cover four of the six greenhouse gases counted under the Kyoto Protocol — carbon dioxide, methane, nitrous oxide and perfluorocarbons from aluminium smelting.

High global warming potential synthetic greenhouse gases (with the exception of perfluorocarbons from aluminium smelting) will not be included in the carbon pricing mechanism but will be subject to an equivalent carbon price using existing import and manufacture levies under the Ozone Protection and Synthetic Greenhouse Gas Management legislation. Levies will be adjusted annually to reflect the prevailing carbon price. From 1 July 2013, incentives will be provided for destruction of waste synthetic greenhouse gases, including ozone depleting substances, recovered at end of life.

In general, a threshold of 25,000 tonnes of CO2-e will apply for determining whether a facility will be covered by the carbon pricing mechanism. All scope 1 (direct) emissions covered by the carbon pricing mechanism, and legacy waste emissions, will count towards thresholds, but not scope 1 emissions from fuels or other sources excluded from the carbon pricing mechanism.

Landfill facilities will not be liable for emissions that arise from waste deposited prior to 1 July 2012, but those emissions will count towards facility thresholds. To avoid waste displacement from covered to non-covered landfill facilities, an additional threshold of 10,000 tonnes of CO2-e will apply to landfill facilities within a prescribed distance of large landfill facilities.

Natural gas retailers will be responsible for emissions from the use of natural gas by their customers. There will be flexibility for large facilities that purchase natural gas from a retailer to assume responsibility for emissions from their use of natural gas. Where natural gas is not supplied by a retailer, emissions from that natural gas will count towards the liability of covered facilities. Where the gas is not used at a covered facility, the owner of the gas will be the liable entity. Natural gas retailers will be responsible for emissions from the use of natural gas by their customers. There will be flexibility for large facilities that purchase natural gas from a retailer to assume responsibility for emissions from their use of natural gas. Where natural gas is not supplied by a retailer, emissions from that natural gas will count towards the liability of covered facilities. Where the gas is not used at a covered facility, the owner of the gas will be the liable entity.

An obligation transfer number (OTN) mechanism will provide for the voluntary transfer of carbon price liability from natural gas retailers to large natural gas users in prescribed circumstances. In general, large users of natural gas will be permitted to quote an OTN to their supplier to assume liability for their own emissions. Businesses that use natural gas as a feedstock will also be able to quote an OTN in order to avoid paying the carbon price on natural gas that does not result in emissions.

OTN quotation and acceptance will in general be voluntary. However, as a transitional arrangement, retailers will be required to accept an OTN quotation where natural gas is supplied under a contract entered into before the Royal Assent to the legislation and where the natural gas is to be used as a feedstock or where more than 25,000 tonnes of CO2-e per year are attributable to the natural gas supplied under those contracts.

The liable entity for direct emissions from a facility will generally be the person with operational control over that facility (that is, authority to introduce and implement any or all of the operating, health and safety, and environmental policies for that facility).

Where a facility is operated by an Unincorporated Joint Venture and no one person has operational control over the facility, the emissions liability for that facility will instead be allocated between the joint venture participants in proportion to their interest in the facility.

The operator of a facility will be able to apply for a liability transfer certificate to transfer liability for emissions from that facility to:

- another member of its corporate group;
- a person outside of its corporate group that has financial control over the facility; or
- Unincorporated Joint Venture participants in proportion to their interest in the facility where the facility is operated for the Unincorporated Joint Venture.

Treatment of Transport

Light commercial vehicles (vehicles 4.5 tonnes or less gross vehicle mass) and households will not face a carbon price on the fuel they use for transport. In addition, the agriculture, forestry and fishery industries will not pay a carbon price on their fuel use.

Other business transport emissions from liquid fuels (rail and shipping) and non-transport emissions from businesses using liquid fuels will be subject to an equivalent carbon price, generally applied by reducing business fuel tax credits by an amount equivalent to that of placing the carbon price on liquid fuel emissions. Fuel tax credit reductions will apply to fuels acquired after 1 July 2012.

On-road transport use of Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG) and Liquefied Petroleum Gas (LPG) (such as freight transport) will not face a fuel tax credit reduction due to the imposition of the Road User Charge. Off-road transport use of these fuels (such as on a mine site) will face a reduction in fuel tax credits equivalent to placing the carbon price on emissions from that fuel use.

Non-transport use of CNG, LNG and LPG currently benefit from an automatic remission of excise. This will be replaced by a partial remission to reflect the effective carbon price.

Ethanol, biodiesel and renewable diesel will not incur fuel tax credit reductions or changes to excise as these fuels are zero rated under international carbon accounting rules.

As fuel tax credits are not available for aviation fuels, domestic aviation fuel excise will be increased by an amount equivalent to the effect of placing the carbon price on

aviation fuel in order to provide an effective carbon price for aviation. Changes to aviation excise will apply to fuels acquired after 1 July 2012. The additional revenue from increasing aviation excise by an amount equivalent to the carbon price will not be appropriated to the Civil Aviation Safety Authority.

International aviation fuel use will not be covered as this is subject to international negotiations.

Changes to fuel tax credits and excise to reflect the carbon price will be based on the specific emissions intensities of CNG, LNG, LPG, aviation gasoline, aviation kerosene, petrol and diesel, with all other liquid fossil fuels based on the diesel emission rate. Adjustments to credits and excise will be annual during the fixed price phase and every 6 months (based on the average carbon price over the previous six months) during the flexible price phase.

The Productivity Commission will conduct a review of fuel excise arrangements, including an examination of the merits of a regime based explicitly and precisely on the carbon and energy content of fuels.

Compliance

The domestic unit for compliance with the carbon pricing mechanism will be the 'carbon permit'. Each carbon permit will correspond to one tonne of greenhouse gas emissions.

The creation of equitable interests in carbon permits will be permitted, as will taking security over them.

In addition, carbon permits will:

- be personal property;
- be regulated as financial products;
- be transferable (other than those issued under the fixed price or any price ceiling arrangements);
- have a unique identification number and will be marked with the first year in which they can be validly surrendered ('vintage year');
- not have an expiry date; and
- be represented by an electronic entry in Australia's National Registry of Emissions Units.

The compliance year is the Australian financial year, from 1 July to 30 June.

To discharge their emissions obligations liable entities will be able to surrender an eligible emissions unit for each tonne of emissions for which they are liable during the compliance year.

During the fixed price period, most liable entities will be required to discharge their emissions obligations in two parts:

- a ‘progressive’ surrender obligation of 75 per cent of their emissions obligation by 15 June of the relevant compliance year; and
- a ‘true up’ (surrender) for the remainder of the obligation by 1 February following the compliance year.

This approach is similar to payment arrangements used for corporate taxes and allows time for entities to finalise annual emissions reports before making a final surrender of carbon permits.

A progressive surrender obligation will not apply for direct emissions in respect of:

- a facility that reported emissions of less than 35 kilotonnes CO2-e in its previous year’s National Greenhouse Emissions Reporting System (NGERS) report, or was not required to provide an NGERS report in the previous year; or
- a facility that is expected to have emissions of less than 35 kilotonnes CO2-e in the current compliance year.

In these circumstances, there will be a single date for meeting emissions obligations, which will be the ‘true up’ date of 1 February.

During the flexible price period, emissions obligations for each compliance year must be met by 1 February following the compliance year.

Emissions obligations that are not met through the surrender of eligible emissions units will need to be met by paying an emissions charge.

During the fixed price period, the emissions charge for the progressive surrender obligation and ‘true up’ (surrender) will be 1.3 times the fixed price for permits (that is, $29.90 for 2012-13, $31.40 for 2013-14 and $33.00 for 2014-15). The emissions charge for any shortfall for a compliance year in the flexible price period will be double the average price of permits for that year. The emissions charge will apply for each tonne of greenhouse gas emissions (carbon dioxide equivalent) for which an eligible emissions unit has not been surrendered.

Eligibility of units from the Carbon Farming Initiative (CFI)

Australian carbon credit units (ACCUs) issued under the CFI will be eligible for compliance under the carbon pricing mechanism if they are:

- Kyoto compliant Australian carbon credit units (Kyoto ACCUs);
- non-Kyoto compliant Australian carbon credit units (non-Kyoto ACCUs) derived from emissions sources and sinks that would have been credited with a Kyoto ACCU if the abatement had occurred before the end of the relevant accounting period for the Kyoto Protocol first commitment period (31

December 2012 for reforestation and avoided deforestation activities, or 30 June 2012 for all other activities); or
- any other type of ACCU prescribed in regulations.

In the fixed price period, liable entities may surrender eligible ACCUs totalling no more than 5 per cent of their obligation. In the flexible price period, there will be no limit on the surrender of ACCUs.

CFI units will be bankable for future use. CFI units will be able to be exported during both the fixed price period and the flexible price period.

International linking

The use of international units to meet carbon pricing mechanism liabilities will not be permitted in the fixed price period. Export of domestic permits will not be permitted in the fixed price period (with the exception of Kyoto ACCUs).

International units can be used to meet carbon pricing mechanism liabilities in the flexible price period, subject to certain qualitative and quantitative restrictions (discussed below).

Export of domestic permits (with the exception of Kyoto ACCUs) will not be permitted in the flexible price period while a domestic price ceiling is in place, except as part of a bilateral link to another emissions trading scheme with appropriate provisions in place to maintain the environmental integrity of the linked schemes. Unrestricted export of units will be permitted when there is no longer a domestic price ceiling in place.

Until 2020, liable parties must meet at least 50 per cent of their annual liability with domestic permits or credits. This restriction will be reviewed by the Climate Change Authority in 2016.

The following international units will be included in the legislation establishing the carbon pricing mechanism:

- certified emission reductions (CERs) from Clean Development Mechanism projects under the Kyoto Protocol, other than temporary CERs, long-term CERs, and CERs from nuclear projects, the destruction of trifluoromethane, the destruction of nitrous oxide from adipic acid plants or from large-scale hydro-electric projects not consistent with criteria adopted by the EU (based on the World Commission on Dams guidelines);
- emission reduction units (ERUs) from Joint Implementation projects under the Kyoto Protocol, other than ERUs from nuclear projects, the destruction of trifluoromethane, the destruction of nitrous oxide from adipic acid plants or from large-scale hydro-electric projects not consistent with criteria adopted by the European Union (EU) (based on the World Commission on Dams guidelines);

- removal units (RMUs) issued by a Kyoto Protocol country on the basis of land use, land-use change and forestry activities under Article 3.3 or 3.4 of the Kyoto Protocol; and
- any other international units that the Government may allow by regulation.

Any restrictions placed on the acceptance of international units will be to ensure the stability and ongoing credibility of the carbon pricing mechanism, the environmental integrity and effectiveness of the carbon pricing mechanism, and consistency with Australia's international objectives and obligations. The Government may disallow the use of a given type of international unit at any time to ensure the environmental integrity of the mechanism. Liable parties holding such units in their registry accounts will be able to use those units for compliance in the compliance year in which the units were disallowed, but not subsequently.

The Government may allow other international units by regulation where:

- the addition does not compromise the environmental integrity of the carbon pricing mechanism;
- the addition is consistent with the objective of the carbon pricing mechanism and with Australia's international objectives; and
- there has been consultation with stakeholders, and analysis of the expected impact on the permit price, by the Climate Change Authority, and advance notification to the market by the Government.

The types of units accepted and qualitative restrictions on use imposed by the EU Emissions Trading Scheme and the New Zealand (NZ) Emissions Trading Scheme will be taken into account when determining what international units may be accepted for compliance under the carbon pricing mechanism. The Climate Change Authority will advise on the integrity of international units, and recommend which units should be accepted and which should be prohibited.

Linking to other credible trading schemes, including the EU Emissions Trading Scheme and the New Zealand Emissions Trading Scheme is in Australia's national interest. The Government will only consider future bilateral links with schemes that are of a suitable standard, based on a range of criteria including:

- an internationally acceptable (or, where applicable, a mutually acceptable) level of mitigation commitment;
- adequate and comparable monitoring, reporting, verification, compliance and enforcement mechanisms; and
- compatibility in design and market rules.

Treatment of Voluntary Action

The Government will take voluntary action into account when setting pollution caps. Voluntary action will be treated as additional when accounting for Australia's post-2012 targets.

In the flexible price period, permit holders may voluntarily cancel their permits. These will not be counted towards meeting Australia's national emissions targets and their cancellation will reduce the number of permits available in the market. Holders of international units and ACCUs may voluntarily cancel their units at any time, as soon as the Registry is in operation.

A Pledge Fund will be established from the commencement of the carbon pricing mechanism to help individuals access the carbon market and voluntarily cancel emissions units. The units the Pledge Fund will voluntarily cancel will include Australian carbon permits, Kyoto compliant and non-Kyoto compliant ACCUs, and eligible international units. Contributions to the Pledge Fund will be tax deductible.

Any purchases of accredited GreenPower from the date that the carbon pricing mechanism commences will be accounted for as voluntary action. In the fixed price period, the Government will measure GreenPower purchases on an annual basis and take these into account when setting the initial pollution caps. As pollution caps are to be set by 31 May 2014, only those GreenPower purchases measured at the time of making regulations will be counted in the initial caps, that is, GreenPower purchases for 2012-13. The remaining GreenPower purchases during the fixed price phase will be accounted for in later caps. In the flexible price period, the Government will measure GreenPower purchases on an annual basis and directly take these into account in setting the pollution caps five years into the future. Adjustments to the pollution cap for GreenPower will be backed by a commitment not to count those emission reductions towards meeting the national emissions reduction target.

Voluntary action in addition to GreenPower and voluntary cancellation of units could also be recognised, on advice from the Climate Change Authority on whether a robust methodology can be developed to recognise additional voluntary action by households.

Tax Treatment of Permits

The cost of a permit will be deductible, with the deduction effectively being deferred through the rolling balance method until the permit is sold or surrendered. The proceeds of selling a permit will be assessable income on revenue account in the income year the permit is sold.

Under the rolling balance method, any difference in the value of permits held at the beginning and the end of an income year will be reflected as a variation in a taxpayer's taxable income with any increase in value included in assessable income and any decrease in value allowed as a deduction.

Where a permit is surrendered for a purpose unrelated to producing assessable income (for example, voluntary cancellation by an individual), the deduction of the cost of the permit will be reversed by including an equivalent amount in assessable income.

Taxpayers will be able to elect to value permits that they hold at the end of the first income year they hold permits either at historical cost or at market value, with the default being historical cost.

Taxpayers will be able to change their valuation method once during the fixed price period, and after a method has been in use for four years during the flexible price period.

The value of a permit will be deemed to be its market value where:

- it is transferred under a non-arm's-length transaction between related parties or a transaction with an associate;
- it is issued to the taxpayer as part of an assistance arrangement; or
- it is an ACCU issued under the Carbon Farming Initiative.

For income tax purposes, a permit will be deemed to be held by the beneficial owner of the permit.

Where permits are imported or exported they will be treated as if they were sold and repurchased in the relevant registries at market value.

Expenditure incurred in becoming the holder of a permit will be deductible in the year the taxpayer starts to hold a permit, except where the permit is:

- issued as part of an assistance arrangement, in which case the deduction will be denied; or
- an ACCU issued under the Carbon Farming Initiative, in which case the existing income tax law will apply. An exception to this rule is expenditure incurred in preparing or lodging reports necessary for an ACCU to be issued.

A deduction will be denied for any penalties (including shortfall charges) imposed under the carbon pricing mechanism.

Assistance grants will be subject to the existing tax law, not special provisions.

Permits that are freely allocated to entities undertaking an eligible emissions-intensive, trade-exposed (EITE) activity will be valued at zero where:

- a taxpayer held the permit at the end of the relevant income year;
- the taxpayer held the permit at all times from when it was issued to the end of the income year; and
- the income year ends on or before the last surrender date for the compliance year for which they are issued.

Thereafter, the normal valuation rules will apply.

Specifically providing for the income tax treatment of permits will necessarily create a range of interaction issues with the rest of the tax law. The general rules include principles to manage these interactions.

Amendments will be made to the A New Tax System (Goods and Services Tax) Act 1999 to make supplies of permits under the carbon pricing mechanism GST-free. Application of the normal GST rules will apply to transactions in financial derivatives of permits and payments of grants of assistance.

The accounting treatment of permits and transactions under the carbon price mechanism will be determined in accordance with international accounting standards, as adopted in Australia. The auditing of potential emissions liabilities will continue to meet Australian auditing standards which conform with the International Standards on Auditing (issued by the International Auditing and Assurance Standards Board).

Climate Change Authority

The Climate Change Authority (the Authority) will be established by legislation as an independent body to provide expert advice on key aspects of the carbon pricing mechanism and the Government's climate change mitigation initiatives.

The Government will remain responsible for carbon pricing policy decisions with significant and far-reaching implications.

The Authority will perform a number of functions. It will:

- provide recommendations to the Government on future pollution caps. In making its recommendations the Authority will have regard to:
    - announced Government medium and long-term targets;
    - estimates of the global emissions budget;
    - progress towards emissions reductions;
    - economic, social and other relevant factors; and
    - voluntary action, including GreenPower and any approved new methodologies;
- make recommendations on the indicative national trajectories and long-term emissions budgets, having regard to the long-term target set by the Government and estimates of the global emission budget;
- provide independent advice to the Government on the progress that is being made to reduce Australia's emissions to meet national targets, any indicative national trajectory or budget. As part of this, the Authority will provide analysis of the extent to which the emissions reduction objectives are being achieved from reductions in domestic emissions and from the purchase of international units;
- conduct regular reviews of and make recommendations on the carbon pricing mechanism (household assistance and the Jobs and Competitiveness Program will be reviewed separately);

- conduct reviews of and make recommendations on the National Greenhouse and Energy Reporting system, the Renewable Energy Target and the Carbon Farming Initiative;
- make recommendations to the Government on whether a robust methodology could be developed to recognise additional voluntary action by households;
- provide advice to Government on the role of the price floor and price ceiling beyond the first three years of the flexible price phase;
- conduct reviews and make recommendations on other matters as requested by the Minister for Climate Change and Energy Efficiency or the Parliament; and
- conduct or commission its own independent research and analysis into climate change and other matters relevant to its functions.

The Authority will engage with representatives interested in climate change from across Australia in order to share research and information on climate change and gain input into its analysis.

The Authority will be made up of nine experts with a particular focus on climate science, economics, climate change mitigation, emissions trading, investment and business. The Authority will be supported by an independent staff.

The Authority will provide recommendations to Government on the pollution caps for the first five years of the flexible price period by 28 February 2014. Starting in 2016, the Authority will produce annual recommendations for the annual one-year extension of pollution caps.

The Authority will provide advice to Government on the indicative national emissions trajectory or carbon budget at the time of reporting on pollution caps. The first report on progress in meeting national emissions reduction targets and trajectories will be provided to the Government by 28 February 2014 and then reported annually.

The first review of the carbon pricing mechanism will be provided to the Government by 31 December 2016, the second review by 31 December 2018 and then each subsequent review within five years of the last.

A review of the Renewable Energy Target will take place in the second half of 2012 and every two years after that.

A review of the Carbon Farming Initiative will take place by the end of 2014 and every three years after that.

A review of the National Greenhouse and Energy Reporting System will be conducted at least every five years and may be done as part of the review of the carbon pricing mechanism.

The Authority will prepare a public report with each of its reviews.

The Authority will be required to hold public consultations as part of each of its reviews. This will include public hearings and a process of public submissions.

Following receipt of the Authority's first report by 28 February 2014, the Government will include its formal response in the 2014-15 Commonwealth Budget and a separate statement will be produced and tabled in Parliament.

The Government will introduce the first carbon budget regulations (comprising the first set of pollution caps for the next five years) into the Parliament no later than the end of May 2014. If the pollution caps presented in the regulations differ from the recommendations of the Authority, the Government will justify the difference in its response.

Clean Energy Regulator

The Clean Energy Regulator (the Regulator) will be established to administer the carbon pricing mechanism within a limited and legislatively prescribed discretion.

Responsibilities of the Regulator will include:

- providing education on the carbon pricing mechanism, particularly about the administrative arrangements of the carbon pricing mechanism;
- assessing emissions data to determine each entity's liability;
- operating the Australian National Registry of Emissions Units;
- monitoring, facilitating and enforcing compliance with the carbon pricing mechanism;
- allocating permits including freely allocated permits, fixed price permits and auctioned permits;
- applying legislative rules to determine if a particular entity is eligible for assistance in the form of permits to be allocated administratively, and the number of other permits to be allocated;
- administering the National Greenhouse and Energy Reporting system, the Renewable Energy Target and the Carbon Farming Initiative, the regulatory functions which will be brought together with the Clean Energy Regulator to form an independent regulator from July 2012; and
- accrediting auditors for the Carbon Farming Initiative and the National Greenhouse and Energy Reporting System.

Productivity Commission reviews

The Productivity Commission (PC) will be commissioned to undertake ongoing work to quantify mitigation policies in other major economies. It will start immediately to expand the number of countries, industries and policies evaluated and to build up a comprehensive, robust and up-to-date data set.

Assistance arrangements will be reviewed by the PC in the third year of the carbon pricing mechanism (2014-15) and thereafter consistent with the timing of general

scheme reviews. A review of assistance provided to a particular activity could be conducted earlier than 2014-15 if requested by the Government, and priority could be given to:

- industry sectors receiving the greatest level of assistance;
- industry sectors experiencing the fastest rates of growth in assistance; or
- industry sectors where there is strong evidence of windfall gains as a result of the assistance.

Reviews will consider:

- whether an alternative pattern and level of assistance would meet the Program's objectives particularly economic and environmental efficiency, more effectively;
- the feasibility of, and availability of data for, amending the Jobs and Competitiveness Program assessment framework to one based on an assessment of the estimated expected global uplift of prices of individual EITE products if other countries had implemented a carbon price equivalent to that applied in Australia, as proposed by the Garnaut Climate Change Review—Update 2011. This review will consider whether it is the most effective and efficient means of preventing carbon leakage and assisting the industry to transition and whether the Government should adopt this approach;
- whether EITE activities are making progress towards best practice energy and emissions efficiency for the industrial sector to which those activities relate;
- whether additional activities should be added to the Jobs and Competitiveness Program on account of commodity price movements or other relevant matters;
- whether windfall gains are being conferred on entities carrying out EITE activities;
- the effect of existing facilities having no cap on permit allocations;
- the growth in the EITE sector and implications for total free permit allocations under an emissions cap;
- the existence of broadly comparable carbon constraints applying internationally;
- the appropriateness of the LNG supplementary allocation policy;
- the impact of carbon pricing on the competitiveness of EITE industries, including an analysis of carbon cost pass-through, the level of abatement achieved and the effect of the carbon productivity contribution on EITE activities over time and whether the carbon productivity contribution should be changed for a specific industry; and
- whether less than 70 per cent of relevant competitors in each industry have introduced comparable carbon constraints, taking into account all mitigation policies and relevant assistance policies, and hence whether the application of the carbon productivity contribution rate for a specific industry should pause when assistance rates reach 90 per cent for highly emissions intensive industries, or 60 per cent for moderately emissions intensive industries.

At least two Associate Commissioners with experience in the markets and production of EITE products will be appointed to the PC to take part in these Reviews.

Once the carbon pricing mechanism has commenced, firms may make a request to the Government to have the impact of the mechanism on their sector assessed. The Government will establish guidelines which set out when such requests will be referred to the PC and the terms of reference for these reviews. These assessments will:

- take into account the industry's circumstances, including a range of factors related and unrelated to the carbon pricing mechanism that affect the competitiveness of the industry, and any assistance provided to the industry; and
- make recommendations to the Government about whether it should adjust support to the industry and the appropriate mechanism for that assistance.

The PC will conduct a review of fuel excise arrangements, including an examination of the merits of a regime based explicitly and precisely on the carbon and energy content of fuels.

Household, Pensioner, Veterans and Aged Care Assistance

The Government's commitments to households are:

- more than 50 per cent of the carbon pricing mechanism revenue will be used to assist households;
- millions of households will be better off under the carbon pricing mechanism;
- assistance will be permanent;
- low-income households (including all pensioners) will be eligible for assistance that at least offsets their average expected cost impact from carbon pricing;
- middle-income households will be eligible for assistance that helps them to meet the expected cost impact from carbon pricing; and
- households containing individual/s with a relevant concession card and who are certified by a medical practitioner as having a medical condition or disability that means they have high essential electricity costs are eligible for additional assistance through the Essential Medical Equipment Payment.

Cash assistance will be delivered through the tax and transfer system. Assistance provided through transfer payments will be permanent and increase with the cost of living.

Assistance will be delivered through a lump sum payment — the Clean Energy Advance — made to eligible recipients in May-June 2012. On-going assistance will then be provided through a new Clean Energy Supplement.

All pensioners will receive annual assistance through their pension equivalent to a 1.7 per cent increase in the maximum rate of the pension. This includes those on the Age

Pension, Service Pension, Carer Payment, Disability Support Pension. Assistance for pensioners will be:

- up to $338 per year for singles
- up to $510 per year for couples combined.

Self funded retirees who are holders of the Commonwealth Seniors Health Card (CSHC) will get $338 per year for singles and $510 per year for couples, combined, through their Seniors Supplement. Allowance recipients get annual assistance through their payments equivalent to a 1.7 per cent increase in the maximum rate of their payments.

Eligible families get assistance through a 1.7 per cent payment increase in Family Tax Benefit of:

- up to $110 for each child; and
- up to $69 per family in receipt of Family Tax Benefit Part B.

In addition, up to $300 in Single Income Family Supplement will be available for single income families with a primary earner between $68,000 and $150,000, who would receive little or no assistance through tax changes compared with dual income families with similar income.

A new Low Income Supplement of $300 will be available to those who can show they did not receive enough assistance to offset their average cost impact. People can apply for the payment from 1 July 2012.

Veterans on compensation payments made under the Veterans Entitlement Act 1986 — including disability pensions and the war widow/ers pension — and the Military Compensation and Rehabilitation Act 2004 — including permanent impairment payments and wholly dependent partner payments — will receive assistance equivalent to a 1.7 per cent increase in their payment.

The Government will deliver tax cuts to target assistance to low- and middle-income individuals by more than tripling the statutory tax-free threshold from $6,000 to $18,200 on 1 July 2012, and adjusting the first two marginal tax rates. This will replace all but $445 of the low-income tax offset (LITO), and provide current tax payers with annual incomes up to $68,000 with a tax cut of at least $300.

The statutory tax-free threshold will be further increased to $19,400 when the carbon price is replaced with an emissions trading system in 2015-16. This will reduce the LITO to $300, and bring the total value of tax cuts to people with annual incomes up to $68,000 to at least $385.

The current and new personal income tax rates and thresholds are shown in the following table:

Statutory Rates and Thresholds	**2011-12**		**2012-13**		**2015-16**
	Threshold	Marginal Rate	Threshold	Marginal Rate	Threshold
1st Rate	$6,001	15.00%	$18,201	19.00%	$19,401
2nd Rate	$37,001	30.00%	$37,001	32.50%	$37,001
3rd Rate	$80,000	37.00%	$80,001	37.00%	$80,001
4th Rate	$180,001	45.00%	$180,001	45.00%	$180,001
Effective tax free threshold	$16,000		$20,542		$20,979
LITO	$1,500	4% withdrawal rate from $30000	$445	1.5% withdrawal rate from $37000	$300

The income definitions for the household commitments are set out in the following table:

Household Income	**Single**	**Couple without children**	**Couple with children**	**Sole parent**
Low (less than)	$30,000	$45,000	$60,000	$60,000
Medium (between)	$30,000 to $80,000	$45,000 to $120,000	$60,000 to $150,000	$60,000 to $150,000
High (above)	$80,000	$120,000	$150,000	$150,000

Some of the household assistance paid to residents of aged care facilities will be distributed to their aged care facilities, which pay for most of their residents' costs of living.

Household assistance will be shared between aged care providers and their residents in an approximate 55:45 split, by increasing the percentage of the basic pension payable to the provider (from 84 per cent to 85 per cent).

'Grandfathering' arrangements will be established for around 2 per cent of existing residents not in receipt of a pension or other income support payment and not holding a CSHC, so their fees do not increase as a result of the change in fee structure outlined above.

Aged care facilities will be provided with additional funding to address the costs they incur in respect of their 'grandfathered' residents.

The Essential Medical Equipment Payment will be provided to households containing individual/s with a relevant concession card and who have very high essential electricity costs due to a medical condition or disability.

The annual cash payment of $140 will be paid through Centrelink and the Department of Veterans' Affairs (DVA) to people using pieces of equipment recognised by any state or territory medical electricity assistance scheme. People with thermoregulatory dysfunction and a relevant concession card will also be eligible for the same level of assistance.

A claimant must meet the following criteria to be eligible for the Essential Medical Equipment Payment:

- the claimant is a current Australian Government concession card holder (Pensioner Concession Card, Health Care Card, CSHC or equivalent DVA concession card excluding DVA Gold Card);
- the claimant must show that they, or the concession card holder they care for in their household, meet specified medical condition/medical appliance requirements; and
- the claimant or the person they care for is the holder of the electricity account.

The Treasurer and the Minister for Families, Housing, Community Services and Indigenous Affairs, in consultation with relevant ministers, will annually review the adequacy of household assistance in the Budget process. This review will examine the real value of the assistance provided on the introduction of the carbon pricing mechanism taking into account:

- movements in prices for a consumption basket used in calculating the assistance;
- the indexation arrangements for the assistance provided, including the adjustment for the bring forward; and
- any new information about the weights of items in the consumption basket.

In addition to these annual reviews, there will be a review of the household assistance package in parallel with the carbon pricing mechanism review in 2013-14.

Jobs and Competitiveness Program

Assistance will be provided through allocation of permits early in each compliance period to new and existing entities undertaking an eligible emissions-intensive trade-exposed (EITE) activity prescribed in regulations.

Assistance will be based on an individual entity's previous year's level of production with a true-up to account for actual production.

Upon closure, recipients must relinquish permits for production that did not occur in that year.

100 per cent of permits allocated in respect of indirect emissions and 75 per cent of permits allocated in respect of direct emissions will be provided early in each compliance period, with the remaining 25 per cent of permits relating to direct

emissions allocated early in the following financial year. This means that permits will be provided in line with progressive payment obligations.

The Government will provide a buy-back facility for firms in receipt of free permits to sell these permits back to the Government as outlined under the scheme architecture. In the flexible price period, assistance will be provided early in each compliance year.

Eligibility of activities will be based on an assessment of all entities conducting an activity during the historic baseline period consistent with the process, criteria and requirements currently used for Partial Exemption Certificate assistance under the Renewable Energy Target.

Trade-exposure is assessed through quantitative and qualitative tests:

- the quantitative test threshold would be a trade share (ratio of value of imports and exports to value of domestic production) greater than 10 per cent in any one of the years 2004-05, 2005-06, 2006-07 or 2007-08; and
- the qualitative test threshold would be a demonstrated lack of capacity to pass through costs due to the potential for international competition.

The emissions intensity assessment is based on average emissions per million dollars of revenue or emissions per million dollars of valued added.

Time period for assessment:

- emissions data: 2006-07 to 2007-08; and
- revenue or value added data: 2004-05 to the first half of 2008-09.

In situations where a given output was produced from eligible activities using either primary materials or recovered or recycled materials as inputs, the same rate of assistance will be applied to both activities. Activity assessments and activity definitions that have already taken place will remain valid.

Businesses will receive assistance for their direct emissions as well as the cost of their indirect emissions from electricity and steam use, and the cost increases for upstream emissions from natural gas and its components (for example, methane and ethane) used as feedstock and sequestered in the output of the activity.

Allocative baselines for activities will be based on the historic industry average level of emissions per unit of production for all entities conducting an activity during the assessment period. The electricity allocation factor will be set at one permit per megawatt hour. However, this may be adjusted in respect of existing large electricity supply contracts for entities consuming greater than 2,000 gigawatt hours per year, and where contractual arrangements entered into before 3 June 2007 are still in force (without having been renegotiated or reviewed) within 60 days after Royal Assent of the Act. In such a situation, these contracts will be considered by the Regulator with a

view to determine an entity-specific electricity allocation factor. The natural gas feedstock allocation factor will be set state-by-state.

Initial rates of assistance will be:

- 94.5 per cent of the industry average baseline for activities with an emissions intensity of at least 2,000t CO2-e/$million revenue or at least 6,000t CO2-e/$million value added.
- 66 per cent of the industry average baseline for activities with an emissions intensity between 1,000t CO2-e/$million and 1,999t CO2-e/$million revenue or between 3,000t CO2-e/$million and 5,999t CO2-e/$million value added.

LNG projects will receive a supplementary allocation to ensure an effective assistance rate of 50 per cent in relation to their LNG production each year.

Initial rates of assistance will be reduced by a carbon productivity contribution of 1.3 per cent per year.

No maximum cap on allocations will apply to existing facilities. Allocations to new facilities will be limited by regulations in a manner which avoids windfall gains from assistance arrangements.

New entities conducting an existing EITE activity will receive the same assistance as existing entities conducting the same activity. Activities new to Australia will be able to apply for EITE eligibility. Assessments and baselines will be made on the basis of international best practice emissions intensity. Allocations to existing entities conducting EITE activities will not be adjusted for allocations to new entrants.

Any changes to assistance arrangements that will have a negative effect on business will not occur before the sixth year of the carbon price.

Three years' notice will be provided of modifications to EITE allocations that will have a negative effect on business. The notice period may overlap with the five year minimum assistance period. Assistance arrangements will be reviewed by the Productivity Commission as outlined in the policy on Productivity Commission reviews.

The Government would implement the approach proposed by the Garnaut Climate Change Review—Update 2011 if the Productivity Commission recommends that it is the most effective and efficient means of preventing carbon leakage and assisting the industry to transition and recommends that the Government adopt this approach. This will be subject to the minimum assistance and notice period set out above.

Energy Security Measures

An Energy Security Fund will provide transitional assistance to promote the transformation of the electricity generation sector from high to low-emissions generation while addressing risks to energy security arising from the carbon price.

The Energy Security Fund will comprise:

- scope for payments for the closure of around 2,000 megawatts of very highly emissions-intensive coal-fired generation capacity by 2020, according to a publicly announced schedule. This measure will commence the process of transforming our electricity generation sector, by delivering concrete closure outcomes and providing clear signals to potential investors in low-emissions generation; and
- a limited transitional administrative allocation of permits and cash estimated at $5.5 billion over six years to assist highly emissions-intensive coal-fired generators adjust to the introduction of a carbon price and prepare for a lower emissions future.

A new Energy Security Council including energy and financial market experts will be created to advise the Government in the event that systemic risks to energy security emerge from the financial impairment of power stations arising from any source, including from the introduction of carbon pricing.

The Council will provide advice to the Treasurer on the appropriate policy instruments available to address energy security risks. This will include providing advice to the Treasurer on the provision of Government loans to generators which need to refinance their debt if finance from the market is not available.

Recognising the difficult borrowing conditions faced by coal-fired generators, transitional loans may also be offered to emissions-intensive generators to provide additional working capital for the purchase at auction of future vintage carbon permits.

In both of the above cases these loans will be priced on terms that encourage generators to seek private finance in the first instance.

To mitigate energy security risks arising from the introduction of carbon pricing and to incentivise a transformation to low-emissions generation, focusing on the most emissions-intensive coal-fired generators.

Eligibility to participate in an expression of interest process for closure contracts will be limited to coal-fired generators with emissions intensity greater than 1.2t CO2-e per MWh of electricity on an ‘as generated’ basis.

Following an expression of interest process and negotiations with selected generators the Government will contract with one or more generators for closure of agreed capacity on the basis of value for money.

Payments to close will be contingent upon power system reliability requirements, payment of workers' entitlements and arrangements for appropriate remediation of the site of the power station (and of a related coal mine where appropriate).

Administrative allocations of free carbon permits will be limited to generators with emissions intensity above 1.0t CO2-e per MWh of electricity on an 'as generated' basis.

To support energy security, generators will be eligible to receive administrative allocations only if they comply with power system reliability requirements and develop and publish Clean Energy Investment Plans (see below). Generators may exit the market and still receive their administrative allocations if they satisfy the Australian Energy Market Operator that there is alternative capacity in the market available to meet demand, or where they have invested in new lower-emissions replacement capacity themselves.

Government loans will be available for the purchase at auction of future vintage carbon permits for the first three years of carbon permit auctions. The Government will also consider making loans available where generators need to refinance their debt but finance is not available from the market. The Energy Security Council will provide advice on the provision of loans in these circumstances.

In both of the above cases, loans will be priced on terms that encourage generators to obtain private finance where possible and there will be an assessment of a potential recipient's capacity to repay the loan.

The Energy Security Council will advise the Government on systemic risks to energy security arising from the financial impairment of any market participants. Eligibility for assistance to address any systemic risks to energy security would be assessed on a case-by-case basis. The Energy Security Council will provide advice to the Government on other measures that may be required should systemic risks to energy security emerge.

Generators contracting with the Government to close will be required to forego their administrative allocations (and will not have to comply with associated conditions) but will receive value equal to that foregone assistance plus an additional payment for closure.
Administrative allocations of free carbon permits and cash payments will be provided to the value of $5.5 billion (nominal) in five separate instalments. $1 billion of assistance will be provided in 2011-12, followed by annual allocations of 41.705 million free carbon permits per year in the period 2013-14 to 2016-17.

Generators with an emissions intensity of above 1.0 tCO2-e/MWh of electricity ‘as generated’ will be eligible for administrative allocations of free carbon permits and cash. For these generators, shares of administrative allocations of free carbon permits and cash will be based on the extent to which each generator’s emissions intensity exceeds 0.86 tCO2-e/MWh ‘as generated’, multiplied by their historical energy output, calculated over the period 2008-09 and 2009-10.

To ensure that assistance is not inappropriately skewed towards the most emissions-intensive generators, for the purposes of calculating administrative allocations where an individual generator’s emissions intensity exceeds 1.3t CO2-e per MWh of electricity on an ‘as generated basis’, it will be capped at 1.3t CO2-e per Mwh.

A comprehensive structural adjustment support package will be made available to the workforce of generators which contract with the Government to close. This includes personalised advice on searching for a job; career options and employment programs; information about local job vacancies and access to job search facilities; help with a résumé and job applications; and advice on interview skills. Job Services Australia will also help job seekers access skills assessments, training and other employment support that will help them find new employment.

Generators receiving administrative allocations of free carbon permits will be required to provide Clean Energy Investment Plans, which will be made public. These Plans will identify their proposals to reduce pollution from existing facilities and to invest in research and development and new low or zero-emissions capacity. Information on possible projects identified under the Energy Efficiency Opportunities program will also be included in these Plans.