Visit and tour of the Ixom Laverton Site with the Minister for the Environment and Energy, the Hon Josh Frydenberg MP

PRIME MINISTER:

Well, thank you very much for the tour of the Ixom plant here and thank you to Adam Voigt very much for refreshing us on our chemistry.

This is a great example of an Australian company employing 640 people in its Australian operations- 1200 worldwide is that right? Just over 1,000 worldwide.

Now, right here at this plant which makes the chemicals that are vital for industry, for mining, for keeping our water safe to drink – these are vital essential chemicals made here – the biggest overhead is energy and electricity costs have trebled in recent years. That is putting enormous pressure on this business.

Now we've had a fantastic record in job creation over the last 12 months; 371,500 jobs created, 85 per cent of them full time, around Australia. It's been the longest continuous run of monthly job increases in 23 years.

But we need to ensure we protect Australian industry, jobs in Australian industry. The biggest threat to the jobs here and in so many other industrial plants and manufacturing businesses around Australia is Labor's reckless policy on energy. It is all about ideology, it's got nothing to do with engineering and economics.

We need to have a clear-eyed, hard-headed business plan for energy and that's what we have from the Energy Security Board, presented by the experts to us, the people that know more about the industry than anyone else.

Again we call on Labor to get off their reckless job-destroying agenda to push renewables into the market without any regard to the consequences. Get on-board with the right plan, recommended by the smartest people in the room.

Now, the Energy Security Board have said that their plan, the national electricity guarantee, would be expected to reduce wholesale generation costs by 20 to 25 per cent. That will have, they've said, an impact of between $110 and $115 on the average household electricity bill. But you can imagine that Dean buys a lot more electricity than the average household. In fact this plant alone Dean was saying, consumes as much electricity as Geelong. Is that right? The whole city of Geelong.

There are hundreds of jobs that depend on the energy here.

Now, if wholesale generation costs are reduced by 20 to 25 per cent, as the Energy Security Board has forecast, by adopting the plan they've recommended, that will save this business millions of dollars a year. That means they've got greater security for the workers here and they've got the money to continue to invest in this plant and grow this plant and have more opportunities for the chemists, the engineers, the scientists, the tradesmen. All of the workers here depend upon affordable and reliable energy. That's what our plan will deliver.

So this is all about jobs. This is all about jobs, protecting Australian jobs, affordable, reliable energy and meeting our environmental commitments under the Paris Agreement. That is what we need to achieve to secure the jobs here and at hundreds of other manufacturing and industrial plants around Australia.

So, Dean thank you very much, and thank Adam for the really great tour. I can see his passion and all your team. You've got the passion, you've got the experience and talent, you've got the customers. But what you need is affordable and reliable energy and that's what our National Energy Guarantee will deliver.

So I'll ask Josh to say a few words and Dean you may be able to add a little bit after we've spoken. Thanks Josh.

MINISTER FOR THE ENVIRONMENT AND ENERGY, THE HON. JOSH FRYDENBERG MP:

Thank you, Prime Minister, and thank youDean for the tour of this plant.

Lower energy prices mean more jobs. More jobs for the fitter and turners. More jobs for the scientists, for the engineers, for the electricians that are employed in this plant and in thousands of manufacturing plants right across our country.

So we call upon our political opponents to accept the National Energy Guarantee as recommended by the Energy Security Board.

It is a credible, workable, pro-market policy that delivers lower power prices and a more reliable system.

No more subsidies, no taxes, no emission trading schemes, but a policy that is designed to build on the existing market mechanisms to produce lower power bills for millions of Australian families and for major manufacturers like this plant, which produces hundreds of millions of dollars for export and domestic use in vital chemical products.

PRIME MINISTER:

Thanks Josh. Dean, do you want to say a bit more about the importance of energy in your business?

MR DEAN DRAPER – MANAGING DIRECTOR AND CHIEF EXECUTIVE OFFICER, IXOM:

Certainly. First, I'd like to thank you both for joining us today. I think

the colleagues really enjoyed your engagement and your questions.

Clearly, this is one of our most important sites in Australia. It produces products which is used in the mining industry for food and beverage and plays a really important role in securing water supply.

When I come to work every day, I'm really focused on the competitiveness of our production assets and a key part of that, is our energy costs and those energy costs have increased threefold over the past two years.

We need to address this, because that enables us to then consider future investment, protect jobs and look for new opportunities to grow this business.

So we welcome the policy which supports and addresses those issues, so we're in a better position as a company to be more competitive and to support further job growth

PRIME MINISTER:

Thank you very much Dean, thank you. So, do we have some questions?

JOURNALIST:

Mr Turnbull Labor regards your energy guarantee as cleverly disguised carbon trading scheme. If that's what they need to support it, I mean would you support that interpretation?

PRIME MINISTER:

We certainly encourage the Labor Party to support it, in particular the state and territory governments.

But as John Pierce, the Chairman of the Energy Markets Commission said yesterday, it is not a carbon trading scheme, it's not a renewable energy target. It's a market-based mechanism that allows the retailers to compete, to have their portfolio of generation assets as they choose, consistent with meeting two requirements. One, to ensure there's enough reliable power to keep the lights on – always vitally important, particularly for a plant like this – and also that we meet our Paris commitments.

So I think John Pierce and others have dealt with this, but the important thing is that Labor delivers the bipartisanship they've talked about so much.

This is not a plan written by Josh and me. This has been presented to government by the Energy Security Board and you've seen them all. These are the experts in the field, this is the Energy Market Operator, the rule maker, the regulator an independent chairman in Kerry Schott with vast experience in this field.

They've presented this plant to us and they've said, this will deliver lower wholesale generation costs. It will mean millions of dollars a year in savings to this business and it will mean savings to every consumer of

electricity around Australia.

JOURNALIST:

What happens if the state and territory government don't support this energy plan?

PRIME MINISTER:

Well we're focused on ensuring that they do. The state and territories you know are part of COAG, of course, and they appointed these people.

The Energy Security Board was recommended by Alan Finkel, and then appointed by COAG. Josh was part of that but so were the energy ministers from the states and territories. So they chose these experts and they set up this board for the purpose of seeking advice and that's what we've done.

Now I think what Labor should do, is rather than having pot-shots and reeling from one sort of political line after another, they've been all over the shop this week, what they should be doing is saying to the Energy Security Board, "thank you very much, that is a great recommendation it's a real breakthrough. Let's sit down and go through the detail and make sure we implement it".

JOURNALIST:

Labor says that the NEG will mean renewables have a cap of 38 per cent but isn't it true that there is no cap, so if solar and batteries get cheaper it's conceivable and permissible for the renewable mix to hit 50 per cent by 2030?

PRIME MINISTER:

It's going to be up to the market to determine, there's a level playing field.

What the constraints are, the rules are, that there's got to be an adequate percentage of reliable energy, of dispatchable battle energy – baseload power if you like – energy that can be delivered on demand.

You can see what happens when you lack that in South Australia. You get like blackouts, you get enormous volatility, much higher prices. These are all factors that have worked into putting up the price of Dean's electricity here. The electricity system has been made less reliable and more expensive by misguided, ill-considered Labor Party policies, to push wind and solar into the market without putting in the backup to support it.

Now let me just reassure everybody, we are absolutely committed to every technology playing its role and as far as renewables are concerned what makes renewables reliable is storage. We are in the process of building the largest renewable project ever built in Australia since Snowy Hydro One – its Snowy Hydro 2.0. It's going to be the biggest battery if you like, in the southern hemisphere.

That is a mark of our commitment. But we understand the importance of doing this on the basis of economics and engineering. Remember what Audrey Zibelman, the Chief Executive of the Energy Market Operator said yesterday, talking about grid reliability. She said “you have to respect that physics. At the end of the day, you need dispatchable power to keep the network running and to keep the lights on”.

Now that can come from coal, that can come from gas, it can come from hydro. But whatever way you look at it’s got to be there. So all of these technologies will compete and if reliable renewables are cheaper than coal and gas there will be more reliable renewables. If they’re not, there won’t be.

The important thing is we’re getting out of the subsidy business. We’re getting out of the picking winners business. The only winners we want to have here are Australian families and Australian jobs. That means having the most affordable and the most reliable energy.

So no more subsidies, a level playing field, have the right level of reliable power, the right level of emissions abatement and then let the market and technologies competing sort it out.

JOURNALIST:

Do you risk I guess hindering investment in renewables by some of the strong statements that have been made?

PRIME MINISTER:

Absolutely not.

Can I just say to you that investment in renewables is increasing all the time, but the importance is to make sure that there is that reliability.

If you look at what the Federal Government is doing through Arena and the CEFC, we are providing support to a lot of really innovative renewable projects. In fact, going to South Australia, which you know has had a dreadful problem with unreliable electricity, because the State Government allowed a huge amount of wind to go in.

I mean, Josh made the point the other day that recently in a 3-day period, just three days, wind was producing nearly 100 per cent of the state’s demand one day and 3 per cent the next. You can imagine what that does to costs, to prices, to reliability, to volatility. So you need storage.

One of the projects we’ve provided support for, for a feasibility study, and it’s looking very good, is pumped hydro projects on the Spencer Gulf. It is smaller than Snowy 2, but of course it is in South Australia, its an example of innovation that we’re supporting.

So renewables, reliable renewables, are critically important.

Now jus before we wrap up, I just want to say something about a really

historic day today, the end of Holden making cars in Australia.

Now it's a very sad day for the workers there and everyone, every Australian feels for them and of course for the end of an era. But the important thing is that while there may be an end to making cars, there's not an end to employment. There's not an end to manufacturing.

84 per cent of the workers affected by the closure have either – are either transitioning to a new job or a full-time study or are retiring.

What you can see is with the strong economic leadership we're delivering, strong jobs growth. So there are other businesses setting up, employing people, providing new jobs and new opportunities.

And of course in South Australia in particular our massive investment in naval shipbuilding is going to deliver thousands of jobs, manufacturing jobs, at the very cutting edge of technology in every respect.

But you know, what is the biggest threat to jobs and industry? Dean's testament to that here today. It is unaffordable electricity and gas.

Affordable, reliable energy is the foundation upon which jobs are built.

And if we want to maintain a strong manufacturing base in Australia, if we want to have more businesses, more innovation, more investment, we've got to have affordable energy and that's what our National Energy Guarantee will deliver.

Thank you very much.

[ENDS]

Speech and Q&A at the Ai Group Energy Breakfast

PRIME MINISTER:

Well thank you very much Innes and it's great to back here at the Press Club with so many of my Parliamentary colleagues, and in particular fellow members of the Energy Committee of Cabinet – the Deputy Prime Minister, Barnaby Joyce, the Treasurer, Scott Morrison and the Energy Minister, the very energetic Energy Minister Josh Frydenberg.

And it is also great to be here with the members of the Energy Security Board whose expertise, insight over so many years has brought the economics and the engineering into this National Energy Guarantee.

And I also acknowledge Chris Jenkins, the Ai Group National President and CEO of Thales Australia and, of course, Noel Cornish, the Immediate Past President, and Chairman of Snowy Hydro who takes a keen interest in matters of this kind.

Now in March this year I stood on the red dust plain near Barcaldine in Queensland looking at 78,000 solar panels in a new 25-megawatt solar farm.

The owners talked enthusiastically about how the costs of solar panels had fallen dramatically since they first planned their project. We know that those panels cost $100 a watt 30 years ago and 61 cents a watt two years ago – they are now heading below 30 cent a watt with prediction of 16 cents a watt over the coming decade.

The owners are closely watching all of those trends.

Improvements in battery technology which are still at the beginning of those cost-curve reductions, meant that it made sense for them to have a 10 megawatt battery to extend the afternoon performance of the farm.

Construction costs were also plummeting. Solar farms arrive essentially in a kit. It's probably an exaggeration to say that you don't need much more than an allen key to assemble once – there's a bit more complexity to that but it's certainly a very straightforward process nowadays. And so they were contemplating tripling their capacity.

And right behind the field, was a gas peaking plant ready to fill the demand gap on call.

You can see how the technologies are developing – crossroads, solar, batteries, gas – connected to the grid, in the heart of Queensland.

Fast-forward to September and I am in Cabramurra, in years past the home to many a Snowy Mountain Hydro Scheme worker building that iconic, great, national enterprise. And gearing up to be so once more.

A bright electric panel illuminated all of the turbine activity across the mountains network. Turbines were coming online, why was that? Well, the wind had dropped in South Australia and Snowy was firing up to meet the gap.

Nothing stands still. Everything must be renewed.

Across in South Australia, the Liberty House Group has ambitious plans to revitalise the 70-year-old Whyalla steelworks, with plans for gas and heat co-generation from the smelters, solar and pumped hydro for back-up.

And manufacturers of thermal turbines, coal fired turbines are now breathing new life into the baseload generators that still underpin our electricity system, improving efficiency and flexibility while cutting emissions.

As one manufacturer from New South Wales said to me in April, an industrial plant is like grandfather's axe – three new handles and two new heads and it's still going strong.

So our electricity system is undergoing massive changes, massive technological disruption.

And what we need to do is ensure that we use engineering and economics, creating a level playing field for all of those technologies to compete.

There is no technology that is good or bad, they actually have no moral characteristics at all.

They are inanimate objects, machines and what they have is different characteristics.

And so what we need to do is ensure that we deliver energy policy that provides the certainty for investment and delivers affordability, reliability, and responsibility in meeting our international emissions reduction commitments.

That is the triple bottom line. The trifecta of energy policy.

And it has been undermined and corrupted by ideology and idiocy for too long.

When I say ideology and idiocy, I'm not exaggerating. As far as I'm aware, I was the first Australian leader to put the importance of storage and pumped hydro back on the map. It was on the map by the way in the 1960's, when the plans for Snowy – what is now called Snowy Hydro 2, first started to be drawn up. But it seemed to have been forgotten.

You know future generations will say to us, what were you thinking?

What were you thinking to have so much wind in South Australia – that as Josh explained the other day, in one three day period South Australia's windfarms generated 91 per cent of the state's demand and then 3 per cent – extraordinary. Baseload power was closed down, one coal fired power station was literally blown up. It was an extraordinary, idiotic absence of mind. A failure to recognise that you have to keep the lights on, you have to have energy that is affordable, that's reliable and of course meet your international obligations.

As Alan Finkel said: 'All electrons are not created equal'. A very important point and that is where we have been focusing our attention on the engineering and the economics.

But before I come to the National Energy Guarantee I want to talk about the other things that we're going because as Rod Sims reminded us, the other day, there are many different factors at work in the energy market.

The National Energy Guarantee is not going to bring down the price of gas. The price of gas is determined and again I repeat it for those who doubt it, is determined by supply and demand – like the price of everything else.

And what we faced on the east coast of Australia was a shortage of gas – Innes spoke about it a moment ago. We had to take strong action, brought in regulations which would enable the government to restrict exports. You might

say that’s an unlikely course of action for a Liberal Prime Minister and a Liberal National Government to undertake but we put Australian families and Australian businesses first, as we always will.

The exporters came to the table, we had some very constructive discussions and as you know they have committed to providing enough gas for the east coast market and as Innes acknowledged, wholesale prices have stated to come down. They’ve come down substantially.

There is more work to do particularly on transparency in the gas market and on pipelines. Good work has been done already, the ACCC is doing more.

And it was clear too however that the electricity market was not working properly.

Consumers were confused or felt powerless. Millions, literally millions were on the wrong deal, meaning they were paying too much for their electricity.

As Scott Morrison said: ‘Complexity and complacency are the retailers best friends’.

You know, we’re all too busy, plans are too complex, you leave it where it is, you might be paying a lot, much more for your electricity than you should and millions of people are.

Now we’ve got the retailers in, we persuaded them, they were pleased to do it – I have no doubt – to remind their customers that they should be on different plans and thousands of Australian families are now paying hundreds of dollars a year less for their electricity.

The government’s website Energy Made Easy of course, makes that type of price comparison much easier.

So the challenge then became, ‘how do we break out of these climate wars? Of this dreadful cycle of ideological argument and frankly stupidity or idiocy?’ There is no other way you can describe that. I mean it is, I think it will honestly, I honestly believe it will be a subject of great discussion and debate for many years as to how South Australia got into the position where the Energy Market Operator, Audrey Zibelman – who will no doubt talk further about it today – is regularly intervening, forcing gas generators to come online just to keep the lights on in that state. An extraordinary absence of mind.

So, this week we have set out a very significant game changing development in energy policy. The significance of this cannot be understated.

No more subsidies.

A level playing field.

Clean energy, intermittent renewables are so their proponents say cheaper than new coal and gas. Terrific. That’s great, congratulations. But why do you need a subsidy?

You know we had the rather extraordinary position of Bill Shorten yesterday standing in front of a solar farm saying how cheap solar power was but then switching gears and saying we needed to continue subsidising it.

We've got to have a level playing field, where all the technologies compete.

Now the proposal that we have, the recommendation that we have, the National Energy Guarantee, is a triumph of economics and engineering over ideology and idiocy.

And when we commissioned Alan Finkel, the Chief Scientist to examine the security of the National Electricity Market in the wake of the blackouts in South Australia and the load-shedding in New South Wales and Queensland, we wanted to sweep away the clutter that had accumulated around our energy policy.

Alan and his panel identified four key outcomes – increased security, future reliability, greater involvement for consumers and lower emissions.

Almost all of the 50 recommendations designed to deliver a more secure, dependable and adaptable system, were endorsed quickly.

What remained was the best way to deliver what Dr Finkel described as: "An orderly transition to a cleaner energy future – a trajectory and a mechanism for emissions reduction and notice of closure for ageing generators".

We didn't want anymore Hazelwoods where you've got 5 months notice of a massive generator being closed down. That created, as we all know, a real shock in the energy market. We can't have that happening again.

Now, Alan began to draw together in the most direct way the need for renewables to be reliable as much as thermal generation needed lower emissions. An energy system that did not do that would fail and failure meant higher prices and an unreliable grid.

And so that generator reliability obligation and the Clean Energy Target addressed those issues. But the questions that I and my Ministers including Josh and Scott and Barnaby, kept asking were, 'do they achieve their aims in the most affordable and efficient manner?'

Do they ensure there is enough dispatchable power in the grid to keep the lights on?

And given solar and wind are becoming so much cheaper and competitive with traditional sources of power, why do we need a certificate scheme to subsidise them? Why do we need subsidies any longer?

Now at that point, we sought advice from the Energy Security Board as Dr Finkel had recommended we should.

The Energy Security Board – whose members all of whom are here apart from the Deputy Chair Clare Savage – that was created by COAG on Alan Finkel's recommendation.

What they have done is an outstanding job, to deliver a proposal which will guarantee reliability, restore stability and confidence to the energy market and they have stated, as you know, that we can expect lower prices than under any other approaches.

We have adopted that recommendation, the National Energy Guarantee, and we commend it to state governments and territory governments and COAG and indeed to the Opposition in the Federal Parliament.

This is – as so many of you have said this week – the best chance we have of ending the climate wars and with the investment certainty that brings, putting downward pressure on the cost of energy.

This plan will make electricity cheaper by creating a level playing field that ensures coal, gas, hydro, wind, solar and batteries are all part of Australia's energy mix.

It reduces volatility in energy prices.

It ends subsidies for particular types of generation, which of course are paid for by consumers.

Most importantly, by providing that certainty for investors in new and existing power plants to unlock more energy supply.

This creates incentives for new generation. Whether it is renewables, intermittent renewables backed by storage. Whether it is thermal – a high-efficiency, low-emission coal-fired power plant. Whether it is taking an existing coal-fired power plant and using the latest technology to improve its thermal efficiency.

Every single technology is given an incentive to perform within those two constraints, of meeting our Paris targets and maintaining reliability – keeping the lights on.

As Kerry Schott, the Energy Security Board's Chair said: "Since retailers will need to contract with new low emissions and dispatchable generators, the increased supply will place downward pressure on wholesale prices".

To be precise, the Board has told us to expect wholesale prices, which make up about one quarter of retail household power bills, to be 20-25 per cent below current forecasts, in the period from 2020 to 2030.

Now, that is 8-10 per cent below what was expected under the Clean Energy Target and translates, as you have no doubt heard, into an average $100-115 fall in residential power bills a year in the same period.

And, of course, the AEMC and the Energy Security Board will be doing the further detailed modelling that will be considered at COAG.

But I want to be very clear – and with all due respect to our critics – the reason this integration of climate and energy policy will deliver lower costs is because it gives market participants the greatest flexibility or freedom

to operate consistent with those two constraints – reliability and emissions abatement.

If you give market participants the greatest freedom to operate within certain constraints, they will find the lowest cost options because that will enable them to be competitive and be more profitable.

So that is what this mechanism is designed to do.

Now I want to take this opportunity to applaud the positive response we've had to the guarantee and the commitment of the industry to work with us on the details.

The reliability guarantee will reflect the level of dispatchable energy needed in a region, an individual state, for example, to keep the lights on.

It will be independently set by the energy market bodies, AEMO in particular based on systems engineering – the ability of the system to meet peak demand load.

The emissions guarantee will reflect an emissions reduction target described in millions of tonnes of CO2 equivalent set out in Commonwealth legislation to meet our Paris Agreement.

Retailers will make sure their portfolio of contracts meets the emissions intensity implied in the reduction target and the Energy Security Board will advise on the least-cost path to deliver that over the period to 2030.

There is plainly the opportunity to back-end more of that as costs come down.

Now, if they don't have enough reliable energy sources or lower-emission energy sources to meet their obligations under the guarantee, retailers have many options. They can invest in generation themselves or enter contracts with other energy companies.

They'll will manage this as part of the electricity generation they already buy and sell. They will not be creating another certificate or other trading system.

It will be entirely up to the retailers how they meet their obligations. They will have a smorgasbord of energy sources to choose from, each source valued for its contribution to either reliability or to lowering emissions.

So you have the long list – coal, gas, pumped hydro, batteries, wind, solar, hydro, even cleaner-coal technologies.

And there are two reasons why we believe this is an improvement on Dr Finkel's very, very fine and very valuable work. It has been built on the foundation that Alan established.

First, the reliability of the existing system.

As I have said before, Alan recognised the importance of reliability as the

intermittent energy sources continue to represent a bigger part of the energy mix but his generator reliability obligation only applied to new builds.

Now, the proposed reliability guarantee will bolster the reliability of the entire existing electricity system. That's vital for removing volatility in wholesale prices – spikes caused when wind and solar power are suddenly unavailable.

And, again as Josh has pointed out, the increase, the massive exponential increase in the number of days where the energy price is spiking, particularly in South Australia, has been a function of the volatility caused by an increased unreliability or volatility itself of energy supply.

So dispatchability and reliability is critical.

Secondly, the second reason we did not proceed with the CET as recommended, is the outlook for technology.

As I noted at the outset and as even our opponents admit – although they do have to do a gear shift because their position currently is quite illogical – technology costs for renewable energy have dropped dramatically and are expected to continue falling.

Only last year, Bloomberg New Energy Finance estimated that between now and 2030, the costs for wind would fall 23 per cent. The estimate is now 36 per cent. For solar, last year the estimated decline in costs was 51 per cent to 2030. Now it is 60 per cent. For batteries, the cost per kilowatt hour of storage have fallen 73 per since 2010 and expected to fall another 70 per cent by 2030.

If anyone doubts the progress in battery technology, check what had been regarded as a 1990 supercomputer that is sitting in your pocket, your smartphone. You can see. You know, we're living with this extraordinary technology advance.

What this means is that we don't need to continue these subsidies.

You get this, sort of, line from some of our critics, saying: "You don't believe in renewables."

Well you know something? It's not a question of belief, they're a fact.

A windmill – there it is – inanimate object, has no moral qualities whatsoever, certain characteristics, one of which is it doesn't generate electricity when the wind stops.

A solar panel – same characteristics, it's intermittent.

A coal-fired power station can keep running all the time, has higher emissions, et cetera.

So we've got to stop this ideological, theological nonsense about energy.

This is a time for clear-eyed, hard-headed, business-like leadership and that’s what we’re delivering.

We’ve had too much ideology and idiocy.

When I last spoke here on energy in February, I set out the framework for our policy. Engineering and economics, not ideology. Designed to deliver the trifecta of affordability, reliability and responsibility, meeting our international commitments.

Every technology has a role to play.

We recognise as Rod Sims said: “There’s no one silver bullet”.

The National Energy Guarantee will not bring down the price of gas, that has required other action.

It won’t reduce the cost of the poles and wires, abolishing Limited Merits Reviews as the Parliament has just done, and again I credit the Energy Minister for his hard work there – that will address that and there is a lot more work underway.

Paula Conboy could talk about that as the Energy Regulator.

So the problems we are grappling with have been a long time in the making, but now, clear-eyed, hard-headed, we are dealing with them and at every stage, we have relied on the smartest minds in the industry – the energy market operators and regulators, and the ACCC, to guide us.

What they have helped us develop is a package of changes that deliver an energy market for the 21st century. One that keeps the lights on, reduces prices, allows us to meet our international commitments.

It will deliver a market that values our existing energy resources but also provides us with the flexibility to adapt and respond to new technologies and the vast changes that are certain to come and that will no doubt continue to disrupt the production, storage and delivery of energy in coming decades.

The level playing field is what we need. We need real competition and a hard-headed, clear-eyed approach to energy policy.

So I am delighted with the open and receptive response to the National Energy Guarantee from industry this week.

A lot of detail to work through and we’ll be working closely with you and through the COAG process, our state and territory colleagues to implement it as soon as possible.

And we look to the Opposition to embrace this opportunity to end the destructive and costly climate wars and guarantee an affordable, reliable and cleaner energy system for all Australians.

Thank you very much.

[Applause]

INNES WILLOX – CEO, AUSTRALIAN INDUSTRY GROUP:

Thank you Prime Minister.

I'm going to moderate a Q&A session here. I'm going to ask each of the panelists a question and then I'm going to throw it open to questions from the floor and from the media and we'll work this through until about 9.15am.

PM, I'll start with you. Thank you very much for that. You talked several times in your presentation about ideology and idiocy. This brings me to the states. This plan relies enormously on cooperation from the states. What happens if they simply say no?

PRIME MINISTER:

Well, look, Innes, let's focus on getting them to say yes.

I think this is a very compelling plan.

The Energy Security Board was established by the states and the Commonwealth, of course – it is a COAG creation.

The man and women sitting with me here today represent the most experienced, the most knowledged, the most insight into the energy market and the principles it set out in the energy guarantee that they've recommended to us are something they've been arguing for, a number have been arguing for for many years.

John Pierce has been talking about the problems of having the renewable energy target operating outside the energy market for a very long time. And those of you that carefully read the AEMC annual reports and some of his other speeches know that he's been arguing for the integration of climate and energy policy for a very, very long time.

One of the reasons, that integration is one of the reasons Josh Frydenberg is the first Minister for Energy and for Environment. So we integrated it at the federal policy level and now what we have thanks to this very powerful recommendation is the opportunity to do it in the market.

But I think this is a compelling proposal and it is one that we should, that with strong support from industry I believe we'll get strong support across the political divide.

INNES WILLOX:

Thank you. I'd just like to ask Kerry Schott who is the independent Chair of the Energy Security Board a question which sort of revolves around the fact that industry utilises about 70 per cent of electricity use in Australia and energy more generally has for a very long time, perhaps right through our industrial history been a significant competitive advantage for Australia. Can you foresee the time or the day where Australia does regain some

competitive advantage in energy, something akin to what we had before or what does that look like?

DR KERRY SCHOTT AO – CHAIR, ENERGY SECURITY BOARD:

Innes, I think it will take us a while to get there but I can see paths that we can take to get there.

And I think one of the things that the Finkel Review brought out and I think that the work that we've done shows is one pathway of getting there.

There are other things that need to be done that Rod Sims has been drawing attention to.

And it will take a while but I think what we need to do is pretty clear and that is a first step.

INNES WILLOX:

Thank you.

Audrey Zibelman – you're Chair of the Australian Energy Market Operator. On the reliability guarantee, what factors, what are the factors at play that will affect how it is set? And what are retailers obliged by under this process? Do they get energy from dispatchable sources or from backup capacity coverage?

AUDREY ZIBELMAN – CEO, AUSTRALIAN ENERGY MARKET OPERATOR:

The way I think about this is that, as the Prime Minister said, that the industry is going under a massive transformation. Resources that we couldn't even imagine 5 years ago like batteries are starting to play a very significant part in the taxonomy of the grid.

But the one thing that is not changing is physics and that law is going to stay no matter what we do in terms of how we supply it and then for us, as the grid operator, that means that we always have to keep supply and demand in balance.

So the question is how are we going to do that?

And the way we think about this is that we will be able to tell the industry on a continuous basis what we're going to need. And they're going to be able to say how do I assemble my portfolio in the most cost-effective way to meet that need?

So that's why I think this program is going to work and because of its simplicity. It's a fact that we know that you can't have an economically efficient power system if you don't have a reliable power system.

The industry doesn't really know how to get reliability, unless we tell them as the market operator what things they're going to have to do to achieve and then they're going to be able to say: 'Well I'm going to do that with some

gas. I'm going to do it with some coal. I'm going to do it with some batteries. I'll even do it with some load response and they'll put together that portfolio and through the competition measures that we have in our market, they'll have the incentive to do it in the most cost-effective way.

So it is sort of when you think about it just common sense.

If you tell people this is what you need to deliver, the markets then have an opportunity to respond and what AEMO will do is set the standards and say basically based on what is happening in this region, this is how much dispatchable power we have and the retailers then have full choice as to figure out how to get there.

INNES WILLOX:

Thank you.

John Pierce – John is the Chairman of the Australian Energy Market Commission.

John, sort of a two-part question – you spent, as the Prime Minister alerted to, a large part of your career working on the development of the National Electricity Market. So the first question is how much of a departure from the previous work is this work that is being done or is there a departure at all from the original vision?

And the second question is you've been tasked to do a lot of the modelling around this measure. What should people, in your view, what should people actually focus on in the modelling analysis of this policy?

JOHN PIERCE – CHAIR, AUSTRALIAN ENERGY MARKET COMMISSION:

Thanks Innes.

No, I don't see this as a departure from, if you like, the principles of the National Electricity Market are established on.

I mean, for instance, one of the market participants sent me a message after thinking about how this mechanism might work and apply in their business for probably 12-14 hours, he then sent me a message saying: 'Ah, now I get it – the business that can produce the lowest cost reliable supply that meets the emissions target wins'. And it is really harnessing that notion of, if you like, competition within this sector that is, I think has been said, on a level playing field both in sort of economic terms but technological choice terms as well. That is one of the underpinnings of this market.

The key thing that makes it a market is the nature of the financial relationships, the contracting between generators and retailers. We have a market, and it deserves that title, because you've got multiple generators and multiple retailers. And this mechanism preserves those relationships.

And the key, I suppose, characteristic is those contracts create a direct link – because of the form of those contracts we have in the market – they

create a direct link between the financial incentives on the market participants and particularly the generators to be available when the system needs it, and the physical needs of the system.

So it is actually quite consistent with the history of the NEM and that we're using the same market mechanisms to achieve these objectives as the NEM has had from day one.

The question about what you should expect from modelling – models don't give you truth, right? Good models give you a set of conclusions that are consistent with the assumptions you should put into them but more importantly, I think they teach us something about the relationships within what you're looking at.

And one of the things that I would hope would come from this further work is the deeper understanding about how the mechanics of these mechanisms will operate, you know, in the future.

If I can have a bit of a personal vent and be indulged a bit – one of the things that does frustrate me, has frustrated me about this debate in this sector for a long time, is people forming views and judgments about the virtues or otherwise of different policy mechanisms based on what some model says will be the technology that will be on the ground in 5 years time, 7 years time, 10 years time rather than will this policy mechanism deliver the policy objectives and are those objectives clear.

One of the things that, without getting into the details of the modelling, but you'll get the technology mix come out of a model depending on what sort of assumptions you feed into it.

And as the Prime Minister indicated, views today about the relative costs of different technologies, one of the things that you can be sure of is that the views around those technology costs in 12 months, in 18 months time, in 2-years time will be completely different and that will give you a different result when you chuck it through these models.

So my appeal is to people is to focus on the mechanism and how it works and whether it achieves the policy objectives because that's really the test, irrespective of whatever the future may bring in terms of technology costs or gas prices or coal prices or any of the other myriad of things that drive out those outcomes.

INNES WILLOX:

Thanks John.

Paula Conboy is the Chair of the Australian Energy Regulator. Paula, you are, as a regulator, you know all about carrots and sticks to get impacts, so what sort of enforcement stick do you need to make these guarantees effective and is the threat of deregistering a retailer a step too far?

PAULA CONBOY – CHAIR, AUSTRALIAN ENERGY REGULATOR:

Thank you very much Innes.

As the Prime Minister mentioned and as Audrey did as well, what the mechanism does is that it provides retailers with that flexibility in terms of how they're going to manage their portfolio but how they're going to manage their portfolio provided that they meet the percentage and the obligation that's been put on them with respect to reliability and emission intensity.

What we'll do as the compliance regulator, I mean we monitor compliance participants in the market already, and what we would do in this scenario is to ensure that retailers are meeting those obligations. They have their contract books audited already. The mechanism for the reporting requirements we'll work on with industry and with stakeholders to make sure those compliance costs are as low as possible.

And you mentioned the threat of deregistration, I mean, I think that's the ultimate threat. What we need to make sure that we have a mechanism in place that first of all inserts a culture of compliance so that we're not using those enforcement technologies or those enforcement mechanism but then have enforcement mechanisms that if that culture of compliance is starting to wane, if you will, we have those measures.

But I've heard in reports talking about deregistration as being the threat – well, that's not the first threat. I mean, that's ultimately when you get down the line and we need to work on those mechanisms so that that really is not, it's only being used if it has to be used.

INNES WILLOX:

Last recourse.

Okay, ladies and gentleman, I'm just going to throw it now to questions from the floor. I have a list of media to ask questions and I have some from industry to ask questions. I'll alternate between the two for a little while at least. Being the National President of Ai Group gives Chris Jenkins, the CEO MD of Thales Australia the opportunity to ask the first question. Chris.

CHRIS JENKINS – CEO, THALES AUSTRALIA:

Prime Minister, thanks very much for addressing us this morning and thank you very much for clarity on policy. As an engineer it is really, really nice to see some of the ideology and emotion taken out of the debate and a little bit more of the facts and the technology brought to bear, so I really appreciate that.

From an industry perspective, industry has been looking for a long term national plan and the key to this is, great it's a national plan, all of us have state-by-state operations and having different environments on energy supply, cost and reliability is devastatingly difficult to manage. It is devastatingly difficult to make long-term investment plans and industry are the ones creating the jobs for the future – current generation but future generation. Having that confidence to invest for the long-term investment cycles, 10 years, 20 years is key for us. So bipartisan support is going to

be everything to this policy.

Can you talk perhaps a little beyond the state-by-state aspect, but a little bit to the national bipartisan support actions that you might be taking to help secure this good policy? Thank you.

PRIME MINISTER:

Thank you very much and we certainly would welcome, you know we've invited the Opposition to support this proposal. They don't have to have the indignity of supporting a proposal prepared by me and Josh and Scott and Barnaby – this is a proposal that has come from the Energy Security Board. Established with outstanding leaders on it by COAG. More Labor jurisdictions were part of that decision than Liberal ones. The membership was applauded by the Federal Opposition. These are people of extraordinary expertise. They are without peer in our, in the electricity sector.

Now, you know, I think this is a real opportunity for Labor to say: 'Well, we've always said we wanted to have a bipartisan approach. We got the recommendation from the Board that was set up on the recommendation of Alan Finkel. It was established by COAG. Let's take their advice'.

I think it is pretty straightforward and it is about time for some common sense to break through all the politics.

INNES WILLOX:

We'll go to the media – Katharine Murphy from The Guardian.

KATHARINE MURPHY – THE GUARDIAN:

Thanks Innes, and thanks for putting on this function and thanks to everyone on the stage for being here. I need to stick with politics and bipartisanship reading the mood in this room. Now Prime Minister there are-

PRIME MINISTER:

If there was an outbreak of consistent bipartisanship, Katharine, you'd have nothing to write about.

[Laughter]

KATHARINE MURPHY:

Well no – that's true.

PRIME MINISTER:

I think you're only partially in favour of bipartisanship.

[Laughter]

KATHARINE MURPHY:

That’s true, obviously.

[Laughter]

Fair cop Prime Minister, but not being deflected by your charming deflection.

[Laughter]

We need to focus on this, obviously. There are people in your government who think that having a stoush with Labor at the next election on energy policy is a desirable outcome. Some of them have even said that publically.

Now we’ve been through a process where the states were involved in Alan Finkel’s process which came up with a number of recommendations including the Clean Energy Target, they were part of that process. They were not part of this process that has landed this particular policy proposal. So they’re outside the tent and they’re obviously feeling angry about that.

Now today, just this morning, Innes opened this event with essentially a call for cooperation and bipartisanship.

In the process of your presentation you called South Australia idiotic at least twice in the process of your presentation.

Now you called for hard-headed, clear-eyed business-like leadership, so what are you going to do Prime Minister? Are you going to stow the rhetoric, get people around the table and actually cut a deal on this stuff? Or are you going to basically comply with the wishes of some in the Coalition who just want another zero-sum pathetic round of blame shifting with Labor at the next election? What’s it to be?

PRIME MINISTER:

Well Katharine, I think it’s very important to tell the truth. Now I don’t know what adjective you would like to apply to a jurisdiction that systematically removes its baseload power and systematically increases its dependence on intermittent sources of energy – principally wind – without providing any alternative backup.

Now, perhaps, you don’t like me calling it idiotic. Perhaps you could say it was foolish, thoughtless, uninformed, reckless, putting a lot of faith into a long extension cord to the La Trobe Valley, you could also say it was.

But, look, you’ve got to call out the mistakes that have been made in the past so that you learn from them and don’t repeat them. And you can see in South Australia, and I mean I don’t want to stoke up any excitement there, Josh Frydenberg of course is safely here in and not in Adelaide so there’s no risk to him, but the reality is that the South Australian Government, you’ve seen, are in, you know have said they’ve bought a battery, they’re going to build a gas fired powered station. I mean why would they be doing that if their previous policy had been well considered and well planned?

So, my simple point is let’s recognise mistakes have been made in the past.

Let’s recognise as Audrey says the physics of the electricity grid that you do need reliable power, you do need security, and we need to have it operating in a way that enables the competition, John Pierce spoke about to deliver the lowest costs.

So affordability, reliability, responsibility – but you’ve got to be very realistic about it.

I mean why was it that until I spoke about it here in February – I’m not aware of anyone, in senior leadership position in governments, maybe there were I haven’t noticed it, talking about the vital need for storage and in particular pumped hydro. Which of course, Snowy Hydro 2.0, this will be the single largest investment in renewable power since Snowy Hydro 1.0, all those years ago and that is plainly, vitally necessary to make intermittent renewables reliable.

Now the good news is that we’re getting on with the job, we recognise what the problems and failures were in the past, and lets work together to remedy them.

INNES WILLOX:

The next questions from former Ai Group National President, but also Chairman of Snowy Hydro, Noel Cornish.

NOEL CORNISH AM – CHAIR, SNOWY HYDRO:

A question for the Prime Minister if I could thanks, Innes. Prime Minister, thanks for your leadership first of all on providing some certainty in this very fraught area of our industry.

Could you describe how your reliability and emissions guarantees help to build a business case for projects such as pumped hydro?

PRIME MINISTER:

Okay, well Noel, thank you.

Of course Hydro is both low emissions or zero emissions and it is dispatchable.

The problem is I suppose in Australia – a big dry relatively flat continent – we don’t have enough mountains, we don’t have enough mountains as perhaps you would like and or as much water.

But pumped hydro is a very, it’s an old technology, as you know. Pumped hydro’s part of the original Snowy Scheme, and of course what we’re now talking about is Snowy Hydro 2.0 which was originally dreamt up in the 60s. And I think the last drawings, the last engineering drawings for Snowy Hydro 2.0 were completed in I think 1990 or ’91 and then it was literally sitting in the back of a filing cabinet for the best part of 30 years.

Now it’s time has come, and the reason its come is that it is able to provide

the storage that delivers dispatchability. So if you have intermittent renewables like wind and solar, and you have storage particularly on the extraordinary scale pumped hydro in the Snowy Mountains can deliver, then that packaged together delivers both the emissions objective and the reliability objective.

So I think it's a – that's why I called it out as a key priority at the beginning of the year in February and I'm glad to see that the work on the feasibility study is progressing very well.

INNES WILLOX:

Malcolm Farr from News.com

MALCOLM FARR – NEWS.COM:

Thanks Innes and thanks to you and Ai for this opportunity this morning.

Prime Minister, I bow to the wisdom in this room but I've never experienced a major economic or industry overhaul that hasn't created losers. Why would this be the exception?

And secondly on the subject of winners, some 70 per cent as I understand it of electricity is used by business, do you foresee a flow on to the customers of those businesses of any savings?

PRIME MINISTER:

Well the answer to the second question is plainly yes.

I mean in a competitive market if the costs of businesses are reduced than that enables them to compete and those savings in the normal course of events would be passed on to customers just like increased costs are also passed onto customers.

But getting back to the first one about losers. Look, an end to subisiding wind and solar I suppose you could say after the RET is completed in 2020 – an end to those subsidies I suppose you could say wind and solar would be losers but you are really talking about an end to subsidies to businesses that don't require subsidies.

It is not a question, again, it is not a question of whether they deserve them or not. We now have technologies competing on a level playing field. Let the best projects win.

It is not for any of us sitting up here, or any of the Ministers in the room, to be saying you should use that form of generation rather than another.

If you can deliver reliability and lower emissions by upgrading an older coal fired power station – go for it.

If you can do it by having wind and pumped hydro – go for it.

Let them compete.

We have a great range of technologies, more than we've ever had before. As Audrey said the scale of these technologies were barely imagined 5 years ago let alone a decade ago. So let's have real competition.

And I tell you the winners will be the consumers, the businesses. Because you will get lower wholesale prices because of more investment, more supply, more competition. And that's why the Energy Security Board has said we can expect 20 to 25 per cent reductions in wholesale prices over that period.

But of course, Malcolm, that's only part of your electricity bill, particularly if you're a household. So you know there are a lot of other costs. The poles and wires that Paula has touched on earlier – that's a big part of it. Retail margins, obviously fuel costs, price of gas has been a huge factor in recent hikes in energy prices. And that's why we've had to take the action we did to get more gas into the market.

INNES WILLOX:

If you have any questions from the floor, please put your hand up and I'll come to them. David Crowe, from The Australian.

DAVID CROWE – THE AUSTRALIAN:

Thanks very much Innes.

David Crowe from The Australian newspaper.

I have a question for the panel and in fact I'd really like to put this one to you John because it follows up on some of the things that emerged in the press conference on Tuesday when the policy was outlined. We have seen some discussion since Tuesday on whether this is a carbon price. You've emphasised the role of the commercial contracts in setting the emissions or getting the emissions outcome. Would you say that there is a carbon price that is going to be included in those contracts and can you talk about whether that then leads to an increase in cost for customers?

And there is another aspect to the issue that I want to also ask about which is the international units that's mentioned in the eight page document that came from the Energy Security Board on Tuesday. Are we looking at a scenario where companies that have to meet the emissions intensity level can buy international permits and is that some kind of international market in emissions permits that we're looking at?

Happy to get answers on that from anybody on the board and the PM of course.

JOHN PIERCE:

Look I'll start with the second question.

The issue about what the size of the target is and what gets recognised in the specification of that target, that's really a policy choice for

government rather than something I'd imagine that we'd be making rules about, that would be something from the energy institution framework we'd be taking as a given.

The mechanisms for how, you know, if it was decided that that sort of permits and things were to be taken into account, the mechanism for how that would be done is precisely the sort of, you know, thinking and work that we have to start from this point on.

One of the things all the Board has been emphasising essentially is here is a design of a mechanism, we need to engage deeply both with the jurisdictions, all the jurisdictions, and with industry to work out the most effective way of implementing it.

So that sort of question – well first of all, there's a policy choice for government but secondly when that's made that's one of the key things that I'd hope to be sitting down with the sector to work through.

You'll have to remind me I'm afraid what the first part of your question was. Double barrel questions I find hard to remember.

DAVID CROWE:

The cost on carbon-

JOHN PIERCE:

Oh yeah, carbon price, carbon price. Yeah, no, look – the short answer is no.

And the reason being that – this is real difference with this mechanism with other things – whilst the emissions target and the reliability target are both separately specified through different processes, once they're specified internally within the business, they're jointly managed. And they're jointly managed through effectively the same sort of contracts that operate within the sector at the moment.

So what you'll get is a contract which says electricity of a particular, from a particular source, a particular volume, particular time as is priced. And one of the things about this mechanism is essentially that if you, for a business in let's say South Australia, just by the nature of the generation fleet that exists in South Australia, the people they're contracted with and hence the people they are contracted with, they will be, there's a good chance that they'll meet that emissions target without having to do anything different, at least for quite some time – i.e. it is a constraint that doesn't bind them. But it may on the dispatchability or the reliability criteria so that's where the investment would be driven.

In a different jurisdiction, the reverse might apply.

So you can't really separate out and say this is the carbon price. We're not pricing carbon.

What we're pricing is reliability. What we're pricing is the ability for the

mechanism to be dispatched and that'll be effectively reflected in the contract prices and those prices will vary in each jurisdiction according to what sort of plant they have on the ground and they'll vary over time.

So I think it'd be very hard to actually identify and say this is a carbon price. There isn't one.

INNES WILLOX:

Does anyone want to add anything to that?

PRIME MINISTER:

Well answered.

INNES WILLOX:

To show how ecumenical we are, Cassandra Goldie, head of ACOSS.

CASSANDRA GOLDIE – CEO, AUSTRALIAN COUNCIL OF SOCIAL SERVICE:

Thanks Innes and also just to acknowledge I think, this is a really hard area of policy and for us of course, front and centre of our mind is the impact of the current market environment and pricing on people on very low incomes in Australia. So, yes, certainty is really key.

I think though, there's a couple of questions we've got – one is what will both the Board and the government be focusing on to deal with the issue about, for, different kinds of households? We've got households already who own their own home, who have a high level of control, who are increasingly participating in the market in energy generation. Also, have a great capacity to address energy efficiency. And then we've got a whole group of households and some small businesses, that are really being left behind in this environment and risk paying a lot more both because they're unable to benefit from those technologies and they're not getting the value out of the energy generation.

Will the Board be looking at the non-market measures we think are needed, to deal with the energy stress associated with people on very low incomes? Thanks.

AUDREY ZIBELMAN:

I'll take that. One of the other things that actually Alan recommended in his blueprint, which we've actually begun acting on, is the concept of how we use resources that really sit behind the meter in customer's homes, better on the system. Because if you think about this, the thing that we worry about is that we have hours of the year where the system hits its peak and we don't want to necessarily have to build generation and transmission and distribution just to meet a few hours of the year, because that's very expensive.

What we're looking at is how do we use these resources that sit behind the

meter? Could be solar, could be storage, could even be smart thermostats – you know, we talk about people circulating pool pumps, but aggregating it in such a way so that if you have all the customers get a signal and we simplify this, because it's what the retailers will do for you, you have what we call essentially a 'virtual generation plan' that allows us to really meet demand in a much more cost effective way.

So that does three things.

For the individual customer, it saves on their energy bill, because that's one of the biggest costs of energy is when you're hitting it at those super peaks.

For the system, it makes it more reliable, because what we're doing is we're taking off the stress on the system.

Then for, actually, the entire community, it makes the costs lower, because when we can reduce demand, costs go down.

This is something that again, technology is unleashing a possibility and what we're doing in Australia is we're harnessing that to the benefit of customers and that's how all this needs to work together.

But again it gets back to, if you don't have the outcomes that you want to achieve and it's not really certain in the market, people won't know. So by combining these things together, is the way you create these market opportunities, that in the end are going to benefit consumers.

The other piece I would say is that some of the largest beneficiaries of these types of programs are commercial industrial because often they have the backup systems and they have the ability to ship-load.

But to make it really clear, we're not talking about turning off lights, keeping people warm. We're talking about taking the waste out of the energy system and using it to the benefit of the grid and that as a result, it results in benefits to the consumer.

PAULA CONBOY:

Just to add on that, as we know, the network, the poles and the wires both transmission and distribution, make up the largest part of the bill. For the last decade there was quite a significant increase in that component of the bill. That's flattened off.

We want to make sure that going forward, when we are setting that revenue for those poles and wires companies, that it's only to recover efficient costs, lowest possible costs but safely and reliably. We're also looking at the rate of return these companies will be able to recover and make sure those are reflective of market rates.

To Audrey's point as well, in terms of looking at the demand side, you want to encourage the poles and wires companies to be looking at those non-network alternatives, not continually be looking to build their asset base and their

rate base.

So we're making sure that pressure on the networks, we're considering.

Then to your other point with respect to hardship customers, with respect to having those choices if you will, we are working hard in terms of making sure that consumers know the options that are available to them, they understand the options that are available to them and they can actually act on the options that are available to them.

Then there are appropriate safeguards for consumers that don't want to engage or can't engage. Making sure we've got the hardship programs that are in place for those consumers and that you are in that position to make those choices and you're also well protected.

INNES WILLOX:

Thank you, Tim Colebatch from Inside Story.

TIM COLEBATCH – INSIDE STORY:

Prime Minister I guess this question is to you. In Paris in 2015 you committed Australia to reduce its greenhouse gas emissions by 2030 from 26-28 per cent from 2005 levels, which is about 160-170 million tonnes a year. About half of that has come from stopping land clearing but the other half continues to grow. And I want to, in presenting this scheme on Tuesday, you and Kerry Schott both made an assumption that electricity would be doing its share if it reduced its emissions by 26-28 per cent. Treasury, when it looked at the Emissions Trading Scheme, assumed that electricity would bear about 60 per cent of the emissions reductions because that was where it was cheapest to do so. Is it important to you that emissions be reduced across Australia in the cheapest way, and if so, how do you get electricity, what would be an appropriate share for electricity? And if not are you really going to ask agriculture, mining, industrial use direct transport, to reduce their emissions by the same level? Because that would be vastly more expensive for the nation.

PRIME MINISTER:

Well, Tim, that's your assertion.

The assumption that we're working on is that electricity will bear its pro rata share.

We don't back away from the fact that the commitment at Paris is a significant one. But we are on track, we will meet and beat our 2020 target. We're on track to meet our 2030 target. The climate that we're going through at the moment, a review of climate policy which was foreshadowed some years ago. The real, you've underlined, you've basically said this is actually going to be quite a challenge to meet it but I think the question that really has to be asked again, Katharine – without wanting to inject an unduly partisan note here – but I think the real question has to be asked of the Labor Party who say that our commitment at Paris is too low, 26-28 per cent

is too low. They want to have a 45 per cent cut but 2030.

Now you can imagine what that would do. I mean the estimate we have is that would involve through to 2050, another $66 billion subsidies. I mean these are massive imposts on businesses, on households.

So we take your note that Josh has got a lot of hard work carved out for him to deliver but he's more than equal to the task.

What we have here, is the means of ensuring that the electricity sector delivers its part of the commitment and does so in a least-cost manner.

INNES WILLOX:

We have time for two more questions. To show how bipartisan we are at AI Group, James Pearson CEO of ACCI.

JAMES PEARSON – CEO, AUSTRALIAN CHAMBER OF COMMERCE AND INDUSTRY:

Thank you Innes and can I congratulate you and Ai Group for putting together at short notice this event. Can I express the appreciation of our members to the Prime Minister and the members of the Energy Security Board for submitting yourselves to trial by Press Club.

Prime Minister the Australian Chamber of Commerce and Industry wants to see lower power prices, we want to see increased reliability and we want to see our international obligations met in away that maintains the international competitiveness of Australian business.

On the face of it, the plan that your government announced earlier this week aims to do those things, but we also need to see bipartisan political support and crucially we need to see the support of COAG. That matters because our members are telling us that right now there's the real prospect of business closures and job losses. So my question Prime Minister is what is your timetable for negotiation with the states and what is your timetable for delivery of the plan? Thank you.

PRIME MINISTER:

Well the plan will be discussed at COAG in November, so that's next month. That is the first step.

I think that what your members can do, very usefully, is encourage state and territory governments to support it.

You know, there will always be arguments about past policies and their effect but this is a time to plain and blunt about these matters. We know policy has failed. Different politicians can argue about who was most to blame, but whether it was the – you look at the gas situation, I mean, what an extraordinary thing that my government had to get to the point of threatening to restrict exports of gas just to ensure that your members had enough gas to keep their plants going and keep their employees employed. But you know, political errors were made in the past. There was no attempt, no effort to

ring-fence Australian domestic demand on the east coast. That is clearly a mistake. But let's not make those mistakes again, ditto with pushing in so much intermittent renewables without the backup or the storage to make them reliable.

So the critical thing I think, is we can look back and say plenty of mistakes have been made. Too much ideology, too much idiocy or absence of mind, whatever you want to call it. Let's now use economics and engineering our guides. We've got some great advice from an independent expert board. Not appointed by the Federal Government – appointed by COAG, so by all governments. We put them there to seek advice, from whom to seek advice. Let's now take it.

So, I'd encourage everyone here to talk to your local members and local premiers and chief ministers and encourage them to be part of this.

Again, I want to emphasise this is the Energy Security Board's recommendation which we are adopting and we are taking and supporting at COAG.

INNES WILLOX:

We have time for one last question, about one minute left. I'd just like to ask the member and manufacturer Rod Scott, the CEO of Selectronic who is a Melbourne-based manufacturer, heavily involved in the energy space to ask the last question.

ROD SCOTT – CEO, SELECTRONIC:

Thanks Innes and well done for a great morning and thank you to the Board, and Prime Minister.

Just I guess the whole balance thing is not just about saving the planet but of course having jobs for our jobs that can enjoy the planet later on as well. Nevertheless we are still losing jobs in Australia and manufacturing is going overseas and we're seeing Toyota and Holden losing a lot of jobs there.

So I guess my question is given the opportunity that we have, because Australia has a jump on the rest of the world, we are the centre of the world when it comes to energy storage right now. The whole focus of the world is on what we're doing with renewables and energy storage.

So how do we capitalize on that and not just be consumers of these new energy products and opportunities and technologies, but how do we become producers of them, so we can actually not just use them ourselves but actually end them to the rest of the world and reverse this whole jobs loss and manufacturing decline in Australia and take it a step forward from not just being-

INNES WILLOX:

Ten seconds Rod.

ROD SCOTT:

Yes, not just being jobs, best ideas but actually making those jobs and those jobs work?

PRIME MINISTER:

Audrey?

AUDREY ZIBELMAN:

Sure, so first of all, I absolutely agree. Coming back here from overseas, the eyes of the world are on Australia and looking at how our energy system is changing and we really are leading in many ways.

So I think what we're going to be able to do to show how we can use storage better, both pumped hydro and battery storage as a resource to include more renewable resources, or intermittent energy is critical and that the solutions you're going to be seeing developing and you know, we all have experiences of these incredible companies in Australia, who are creating the most innovative products, that I think are not only going to help us here, but become the leaders. And a lot of them, a lot of these companies are actually in the US today because they have markets there. What we want to do is actually bring them home too and then show, really, the rest of the world how we're going to move this energy economy into the 21st century.

So I'm actually incredibly optimistic that we're going to see job creation in the energy sector, both the traditional sector and the new sector and actually show the rest of the world how it gets done.

INNES WILLOX:

Always great to end on an optimistic and positive note. Everyone, on behalf of the Australian Industry Group, I thank you all for being here. I particularly like to thank the Prime Minister.

[ENDS]

Keynote address at the 2017 Prime Minister's Prizes for Science

PRIME MINISTER:

Thank you very much Jonica.

And the interesting story about innovation in birds' nests is something to reflect on but I don't think any of us are going to give smoking a tick.

[Laughter]

Yanggu gulanyin ngalawiri, dhunayi, Ngunawal dhawra. Wanggarralijinyin mariny bulan bugarabang

We are here gathered together on the lands of the Ngunawal people and we honour their elders, today, in the past and emerging.

It's great to be here to celebrate the outstanding achievements of some of our greatest minds – our scientists and science teachers, researchers and innovators. You are the unsung heroes of our nation. Not entirely unsung but not sung enough.

Few of you have the public profile of our leading sports stars, yet your work has shaped our nation, enriched our lives, saved our lives. Your contribution to Australia and to our nation, is utterly remarkable.

There isn't an Australian alive today who hasn't benefited, directly or indirectly, from your remarkable contributions.

Much of this credit, of course, should go to the science teachers in the room.

[Applause]

And to the science teachers, the many of them that can't be with us here tonight.

In an age when the pace and scale of change is utterly without precedent, all of us need to be constantly curious, always learning – pushing boundaries, questioning assumptions – those are the skills for success in this century whether you are contending for a Nobel Prize or staying ahead in a small business.

This is the age when innovation is an absolute necessity and that characteristic, that is what sets so many scientists and researchers apart from other professions. Inquisitive and questioning – you are trained to push those boundaries, and you do so to build on the great body of human knowledge that has done so much to enhance our lives.

And might I add, your inquisitive and challenging approach has pushed a few politicians out of their comfort zone over the years – and our current Chief Scientist, Alan Finkel, is continuing this great tradition.

[Laughter]

We are honouring and celebrating your remarkable achievements through these, the Prime Minister's Prizes for Science.

And as your Prime Minister it is a great privilege to present these awards. I want to thank you for your passion, your perseverance that I know underlines your work and for the part you make in ensuring Australia is a leading nation in science.

Your work has never been more important to the resilience and progress of

Australia than it is today.

Because every test, every experiment, every failure, every breakthrough deepens our understanding of who we are.

Your discoveries go to the very heart of our origins and extend outward to our future possibilities.

Earlier this year, for example, Australian scientists proved that our First Peoples came here at least 65,000 years ago.

Ancient objects unearthed by archaeologists from the University of Queensland, matched with new dating methods developed at the University of Wollongong, tell us that Australia's First Peoples arrived from Africa—almost 20,000 years earlier than previously thought.

This new fact has expansive repercussions for understanding not just Australia, but the development of modern humanity.

It casts new light on just how much the eastern hemisphere has shaped the modern forms of technology and artistic expression we know today.

At the other end of the spectrum, Australian scientists have contributed to the Nobel Prize-winning detection of gravitational waves – ripples in space-time from events like exploding stars or merging black holes, proving, at long last, the existence of a phenomenon predicted by Albert Einstein in 1916.

Now as a lawyer, I'll leave the more detailed explanation to the many experts in the room, but I will pay tribute to Australia's contribution to this extraordinary breakthrough.

And the discovery would not have been possible without the precision optics used in the instrumentation, and the optical coatings developed at CSIRO. And the University of Sydney and the ARC Centre of Excellence for All-sky Astrophysics used CSIRO's Compact Array to confirm the event.

That shows not only the calibre of our scientists and research institutions, but also the importance of collaboration, of what we can achieve as a nation when our scientific organisations work together.

I recently hosted an afternoon with Lucy at Kirribilli House with the Juvenile Diabetes Research Foundation.

I got the chance to catch up again with Tanna, a young boy who had asked me a few years ago what I could do to make Continuous Glucose Monitoring devices more accessible to kids like him.

I told him I'd see what I could do, and I'm proud to have been able to make good on my promise.

CGM devices are now subsidised for all Australians under 21 years of age.

[Applause]

Life changing. Lifesaving.

Tanna showed me how his new device has changed his life.

He showed me how the app on his phone monitors his blood glucose day and night, and he showed me how his parents can track it in real time with the swipe of a finger.

It's meant being free to go to sleepovers with his friends and more importantly, less risk of hypos and fewer trips to emergency.

Getting treatments and technologies from the development phase into the hands of patients requires an enormous investment of expertise, a huge engagement with risk, and a very long time.

But seeing that investment finally pay off – what an unbelievable feeling that must be.

Australian researchers are used to it.

Professor David Craik's discovery that synthetic derivatives from scorpion venom can be used to show up brain tumours more clearly.

Professor Scott O'Neill's work understanding how the Wolbachia bacteria can stem the spread of viruses like dengue and Zika.

Professor Barry Marshall's recent breakthrough in understanding how bacteria survives in the human stomach.

Professor Elizabeth Blackburn's Nobel Prize-winning discovery of the DNA of telomeres.

Professor Fiona Wood with spray-on skin.

Professor Graeme Clark with the cochlear implant.

Last week I announced the roll-out of the new and improved Gardasil vaccine – Gardasil 9. The new vaccine protects against a further five strains of the Human Papillomavirus and will provide young Australian men and women with increased protection against a range of cancers.

As we all know, the vaccine came about because of the work of Professor Ian Frazer and his colleagues at the University of Queensland. And of course Professor Frazer was the recipient of the Prime Minister's Prize for Science in 2008.

Now, every scientist in the room tonight understands the importance of big dreams and broad imagination.

Whether it's seeing a lightbulb moment spread across a student's face. Whether it's developing next-generation medical technologies and bringing them to market. Whether it's understanding how our genes are mapped, and how

they inform who we are – tonight's prizewinners know it too.

And so, to each of our prize winners, all of those highly commended, the nominees, and everyone here, thank you for your commitment to our scientific endeavor, and your contribution to building the skills and the knowledge that secure our nation's future.

Congratulations. Thank you for your remarkable endeavours and your service to our nation.

[ENDS]

The 2017 Prime Minister's Prizes for Science

The Prime Minister's Prizes for Science recognises the extraordinary contribution that Australia's scientists and science teachers make to our nation.

These awards celebrate excellence and innovation and offer us an opportunity to bring the entire industry together to celebrate Australia's world leading role.

For the first time Australia's most prestigious award for science, the Prime Minister's Prize for Science, was awarded to a woman, **Professor Jenny Graves AO.** Professor Graves has been recognised for her pioneering research into mammalian genome organisation and evolution which will enable us to better understand X and Y chromosomes, our immune system, and the human brain.

Professor Graves is a role model for all the young women we want to encourage to pursue education and careers in STEM.

Laureate Professor Eric Reynolds AO was awarded the Prime Minister's Prize for Innovation for his work translating research on a protein in milk that strengthens and repairs teeth into new products that improve oral health. We congratulate all award winners on their hard work and dedication, and applaud the contribution they have made to innovation and industry in Australia.

The other Prime Minister's Prizes for Science award winners announced this evening are:

- **Professor Jian Yang** from The University of Queensland was awarded the $50,000 Frank Fenner Prize for Life Scientist of the Year for creating tools to unravel the complex heritability of height, intelligence, obesity and schizophrenia.
- **Professor Dayong Jin** from the University of Technology Sydney was

awarded the $50,000 Malcolm McIntosh Prize for Physical Scientist of the Year for creating new ways to visualise the processes of life and creating low cost portable technologies for disease detection.
- **Mr Brett McKay** from Kirrawee High School in Sydney was awarded the $50,000 Prime Minister's Prize for Excellence in Science Teaching in Secondary Schools for inspiring his students with physics and science.
- **Mr Neil Bramsen** from Mount Ousley Public School in Wollongong was awarded the $50,000 Prime Minister's Prize for Excellence in Science Teaching in Primary Schools for using science to enable learning across the curriculum.

Full citations, photos, videos and overlay are available online at science.gov.au.

Radio interview with Merrick Watts – Triple M Sydney

MERRICK WATTS:

As you would know Sydney, I talk a lot about the frustrations of average Australians struggling to pay their energy bills. It's a delicate balance to increase energy production, lower energy prices and still meet emissions reduction targets. As my Dad used to say: "Cheap, fast, good. You can only two of the three. You can have cheap and fast but it won't be good. You can have good and fast but it won't be cheap". It seems like an impossible task and ultimately the man who has to find the solution for this is the Prime Minister and he joins me on the line now. Prime Minister, welcome and thank you for being on the show.

PRIME MINISTER:

Hey Merrick, it's great to be with you.

Well, you know what we've got with National Energy Guarantee is a plan that will deliver energy that is affordable, that is cheaper than it otherwise would be, we'll see wholesale prices coming down, it's going to be reliable to keep the lights on and, of course, it will enable us to meet our Paris emission reduction cuts.

So – affordability, reliability, responsibility – that's the trifecta and we've got a great plan to deliver that.

MERRICK WATTS:

It is. Look, it is definitely a juggling act, Prime Minister. Has this been one of the biggest challenges in your leadership so far?

PRIME MINISTER:

Well it is one of the biggest challenges for every government everywhere in the world. And Audrey Zibelman, the Chief Executive of the Australian Energy Market Operator who came to Australia from New York, in fact, where she'd been doing the same sort of role – she made the point that everyone's struggling with this because our energy system is in transition. We're going from big centralised, generally coal fired generators to much more of a distributed system, a lot more intermittent renewables like wind and solar, a lot more people generating power themselves with you know, solar panels in their rooves and now batteries.

It is much more complex, Merrick, and so you need to have a different approach and you've got to have one that has a level playing field, that's based on engineering and economics.

As I always, get the politics and the ideology out of it. It's been a disaster to the energy system.

This is a game-changer. This policy is backed by the smartest minds in the industry. I didn't write – it's come to us from the Energy Security Board.

I'm just saying. Look, politicians, you know, write a lot of policies – we went to the smartest people to get their advice. The Energy Security Board – these five people are the smartest brains in the industry. They're the regulators, the operators. They understand it. And they've come back and said this is the way you can meet that triple bottom-line.

MERRICK WATTS:

How do you feel, Prime Minister, about people like myself who are considering about going off the grid entirely? Who have become so frustrated by being leveraged by major power companies and it's almost extortionist. We feel as though we've had enough and we are considering going off the grid as it were. How do you feel about Australians doing that? Do you think it should be encouraged or do you think we just need to be patient?

PRIME MINISTER:

Well, Merrick, I think that you will see more people becoming more and more independent. I mean, you've got the combination of, solar energy is getting cheaper and cheaper, solar panels are becoming more efficient, batteries are getting cheaper. And so you will find people in effect providing most of their own electricity themselves behind the meter.

Now of course, the sun doesn't always shine. This is the thing. And how big is your battery? Can you really afford to be off the grid? So that's going to be the challenge.

I think we need to also recognise that not everyone can afford to have solar panels on their roof. So you've got to have an energy system that is affordable.

It’s got to be affordable for every household – whether they’ve got lots of solar panels and they’re well-off or whether they’re really battling to pay the bills.

So, I’m focused on delivering the best outcome for Australian families – affordable energy. That’s what we need.

And this is a big part of it but you know, look what we’ve done with retail bills. There are hundreds of your listeners who will have got a better deal from their energy retailer because of the initiative we took – that’s Josh Frydenberg and I, the Energy Minister and I – we took with the retailers, they went out, told people who weren’t on the right plan that they should change.

We’ve got the *Energy Made Easy* website. I encourage people to have a look at that. See if you’re on the right plan. Ask your retailer for a better deal. You might save $3-400 a year.

And then, of course, you know what we’ve done with the gas prices. We’ve brought the wholesale gas price down again because we made sure there was enough supply in the east coast market.

So there is a lot of things that effect your energy bill. You’ve got one big number in big black ink on your energy bill – there is a lot of things that go into it and we’re focusing on every avenue we can, Merrick, to ensure that people have more affordable electricity and energy and, of course, that it’s reliable and we don’t have the problems they have in South Australia with blackouts constantly.

MERRICK WATTS:

Moving into a very high usage period of the year as well, with summer a lot of people having air-conditioning on. And I know there’s been some discussion within your government about offering incentives for people to maybe reduce the amount of power that they’re using and I think one of the suggestions, Prime Minister, if I’m not mistaken was actually movie tickets. Can I ask you this – when was the last opportunity you had to go out and enjoy yourself at the movies?

PRIME MINISTER:

Well it was a long time ago.

[Laughter]

MERRICK WATTS:

It’s been a long time between Choc Tops hasn’t it!

PRIME MINISTER:

You know, the last move I recall going to actually was the last of *The Hobbit* movies with Daisy. So-

MERRICK WATTS:

Oh you are kidding me!?

PRIME MINISTER:

Yeah, yeah, it's a while ago isn't it. Yeah, a couple of years ago.

MERRICK WATTS:

Oh my God. You wouldn't have me in politics.

PRIME MINISTER:

I do, you know, watch, like everyone I watch a lot of-

MERRICK WATTS:

You like the Netflix and chill?

[Laughter]

PRIME MINISTER:

Yeah – Netflix and chill – that's right, whatever that means.

[Laughter]

MERRICK WATTS:

Yes! Yes!

PRIME MINISTER:

No, but I do, I'm a *Game of Thrones* fan and really the amount of video that streamed on the internet has completely, it's completely transformed the way people watch television, the way people watch video entertainment and it's very liberating in fact.

MERRICK WATTS:

And just finally Prime Minister, whilst I've got you here, I'm sure that you may have heard of a man called Lawrence Mooney who does an incredible impersonation of you. There is literally tens of thousands of people listening right now, Prime Minister, who believe that I'm speaking to Lawrence Mooney.

[Laughter]

PRIME MINISTER:

Is that right?

MERRICK WATTS:

Yes.

PRIME MINISTER:

Well I hope I’m doing a reasonable Lawrence Mooney impersonation.

[Laughter]

MERRICK WATTS:

I was almost going to ask you to give me your best Lawrence Mooney impersonation but I think you’ve done a fairly good job.

Prime Minister, thank you very much for taking time today to speak to me and to speak to my listeners to explain what the government is attempting to do to lower energy costs in this country because it’s just for a lot of Australians, being the biggest energy producer certainly in our region if not the world, it seems really difficult that we’re paying such exorbitant power bills at the moment. So I do appreciate your time.

PRIME MINISTER:

That’s great Merrick. We’re on the case. And can I tell you – there’s been failures of policy for years but that’s come to an end. Engineering and economics delivering affordable and reliable power for all Australians. That’s my commitment.

MERRICK WATTS:

That’s a good catch phrase too Prime Minister – I like that a lot!

PRIME MINISTER:

Okay.

MERRICK WATTS:

Take care. Have a good day.

PRIME MINISTER:

Alright Merrick, thanks a lot.

[ENDS]