



CEDA's Top 10 Speeches 2019

A collection of the most influential and interesting speeches from the CEDA platform in 2019

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About this publication

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About CEDA

CEDA – the Committee for Economic Development of Australia – is an independent, membership-based think tank.

Working with our members, we identify policy issues that matter for Australia's future and pursue solutions that deliver better economic and social outcomes for the greater good.

We seek to impact discussion and outcomes by:

- Undertaking research to understand the most important issues Australia faces.
- Creating platforms to inform, stimulate ideas and promote debate of critical issues.
- Facilitating collaboration to inspire innovative and progressive policy solutions.
- Influencing decision makers by delivering compelling evidence and recommendations and advocating in support of our positions.

CEDA has 770 members. Our cross-sector membership spans every state and territory and includes Australia's leading businesses, community organisations, government departments and academic institutions.

CEDA was founded in 1960 by leading economist Sir Douglas Copland. His legacy of applying economic analysis to practical problems to aid the development of Australia continues to drive our work today.

CEDA – the Committee for Economic Development of Australia

Level 3, 271 Spring Street

Melbourne 3000 Australia

Telephone: +61 3 9662 3544

Email: info@ceda.com.au

Web: ceda.com.au



committee for economic development of australia

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Introduction

In 2019 CEDA again delivered an impressive program of thought-provoking events across the country.

We presented more than 320 events featuring more than 570 speakers and panelists, making the task of compiling our annual Top 10 speeches a tough one.

Audiences heard from Australia's leaders in politics, business, academia and the community sector on their priorities for our nation. And of course, we presented CEDA's new research agenda. This included the release of *Company pulse*, the results of CEDA's first nationwide poll to better understand community expectations of business and the challenges facing business leaders.

We also continued to deliver research under our overarching policy stack which includes: technology and data; workplace, workforce and collaboration; population; and critical services and institutions – all areas that CEDA believes are vital to creating better opportunities for the future and making people's lives better.

The speeches contained in this year's Top 10 collection strongly align with our areas of policy focus and address the issues that continued to be at the forefront of policy debate and public discussion throughout the year. The topics range from trust in institutions, climate policy and Indigenous recognition, to workplace inclusivity, technology and skilled migration.

I would like to thank the authors included in this publication and all the speakers who took to the CEDA stage during 2019 and contributed to the breadth and depth of conversations CEDA was able to deliver this year. I would also like to thank the CEDA members who sponsored events and in doing so helped us to continue fostering serious, important and respectful discussions around Australia.

I hope you enjoy this collection of speeches and I look forward to seeing you at a CEDA event in 2020, when we will be celebrating 60 years of contributing to the policy issues that positively shape Australia's future.

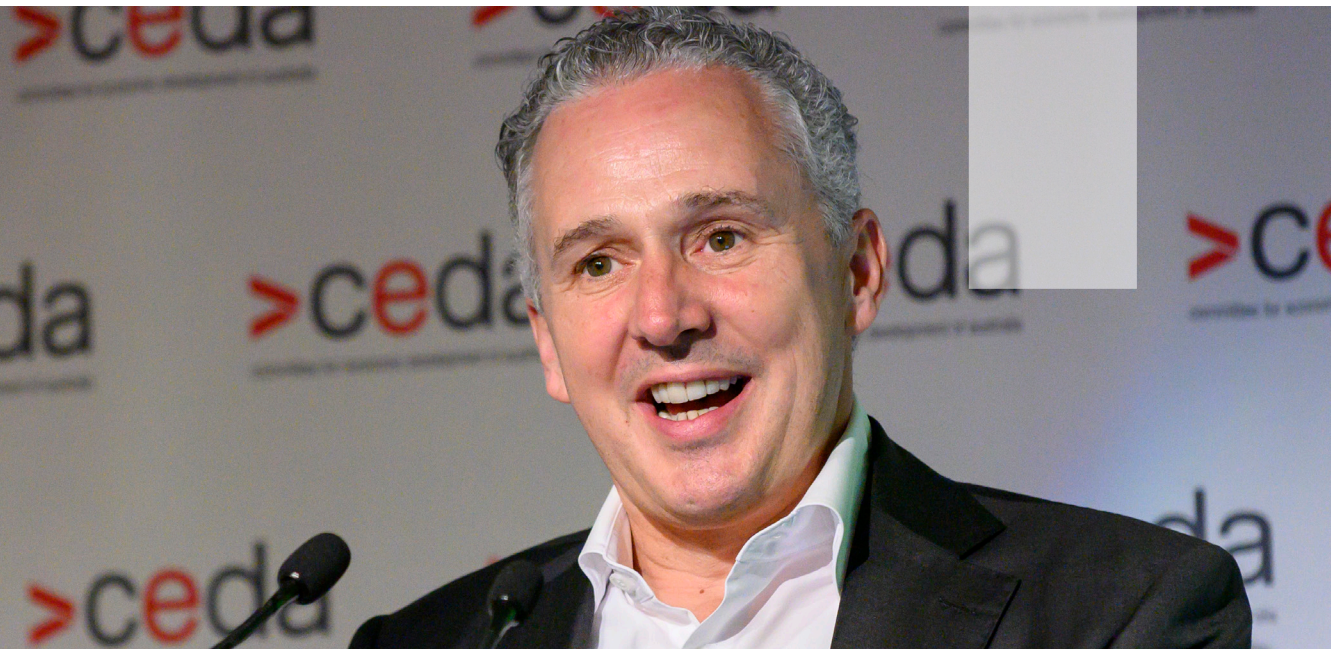


Melinda Cileno
Chief Executive, CEDA

> DIGITAL ECONOMY

> 30 JANUARY 2019

> MELBOURNE



The future of work

Andrew Penn

Chief Executive Officer, Telstra

Advancements in digital technology, from artificial intelligence through to 5G networks, are affecting every aspect of the economy.

Speaking at a CEDA event, Telstra Chief Executive Officer, Andrew Penn, described how Telstra is grappling with the challenges these changes have created, such as growing customer expectations and competition for major infrastructure projects.

Mr Penn spoke about how Telstra is adapting its workforce and addressing labour shortages to meet these challenges, and used his experience to reflect on how Australia can better prepare for the future of work.

Mr Penn also spoke about the importance of skilled migration policy reform in furthering this goal, reflecting the findings of CEDA's recent research on temporary migration.

Good afternoon everyone. Thank you to CEDA for inviting me today. CEDA is an important forum that makes a valuable contribution to the exchange of ideas around key issues for our country and for our future.

And of course, one of the biggest issues that we all face today is something that's very important, which is the future of work. Because work is important: it's important for our livelihood, for our self-esteem, for our identity and collectively, for our economy and for our country. But the nature of work is changing rapidly because of advancements in digital technologies and connectivity and this will affect every aspect of our lives in every job and every business and it is driving disruption to the traditional workplace on a truly global scale.

Now, some people believe that we're all going to be replaced by robots, artificial intelligence and automation, and there's cause for great alarm. However, I always describe myself as a technology optimist, so I see a different world. I see a world full of opportunities but only if we make the right investments and the right decisions.

I certainly do not underestimate the scale of the impact on the workforce which is now underway, nor the level of concern and fear that obviously some would necessarily and naturally feel. The workforce changes we are seeing are profound and they will be felt right the way across the board – big companies and small companies. The key question though is what is Australia doing and what can we do as companies to be ready for these changes?

I don't know about you, but I was thinking as we came into the New Year that it's hard to believe that we are rapidly approaching the end of the twenty-teens. It's almost 20 years since the beginning of the 21st-century. I can still vividly remember the end of 1999, the excitement that was around the end of the century and the concerns. Who remembers the Y2K bug? Many thought it was going to lead to all sorts of catastrophic events, and how wrong did we get that? We've come a long way since then.

Twenty years ago, 3G phones had literally only just been launched and internet access on our phones became possible for the first time. I don't know if you know this, but you could not get access to the internet on 2G. This year, 5G will become a reality and it is 100-times faster than 3G. But it's more than just a smart phone and a faster smart phone, although it is certainly that; 5G will bring a quantum leap in network speed and capacity in an age where the demand for data is exploding.



However, the true power of 5G is the fact that it is arriving at exactly the same time as a number of other really important technologies are maturing. And by these, I mean technologies such as software defined networks, technologies such as the internet of things, cloud computing, machine learning, artificial intelligence. In a world where sensors are now being incorporated into virtually everything and connected, it's this unique convergence of these technologies all maturing simultaneously, brought to life by 5G, that will create this incredible transformation. These sensors will produce huge amounts of data that will be able to be stored and processed in the cloud with incredible computing power, where artificial intelligence and machine learning engines will turn that data into insight to drive automation and power robotics. And this is what has far reaching implications for every industry.

In many ways, one could argue we're entering a fourth industrial revolution as we enter the 2020s. The question therefore that we are going to address today is what does all of this mean for work and for jobs in the future? Now, CEDA's own research has estimated that five million jobs in Australia, that's almost 40 per cent of all jobs that exist today, have a moderate to high likelihood of disappearing in the next 10-15 years.

Machine learning is the biggest driver of this and in future, many tasks which are performed today, particularly traditional service type activities, will be done by computers more quickly, more cheaply, more accurately, in whole or in part.

But does that mean that robots are going to take over our jobs? From my perspective as a technology optimist, I would say not. Certainly, there are profound changes ahead and all jobs will be affected in one way or another, but we should not forget that new jobs will also be created, in new areas, requiring new skills and new talents.

Human creativity and entrepreneurialism should never be underestimated. To ready our workforces – and to help the workforce of today and prepare tomorrow's workers – we do need to think carefully about the future of work, the investments that we are making and the capabilities and skills that we are building. And I'd like to reference some of the changes that are happening in Telstra to illustrate how this is playing out for us in the real world.

Let me start with some context: telecommunication companies in Australia and around the world are facing unprecedented change, as I know many of you are in your industries. In our industry, this is driven by the massive growth in demand for data, increasing competition and changing and rising customer expectations. I have not yet met a customer who has told me that their internet is too fast. I haven't met that person yet. I have not yet met a customer

who does not want twice as much data next year than they had this year, faster and for a lower price. That's the challenge we face, and it drives an incredible amount of capital investment technology innovation to support that.

Added to this, we have a particular extra challenge that can be summarised in three letters: NBN. The National Broadband Network re-nationalises Australia's fixed broadband network and this means that Telstra no longer is the main wholesale provider, as Telstra has been since the date it was privatised almost 20 years ago. The impact on us as a company is profound. It means that we basically lose between one-third and one-half of our earnings, because these are revenues that used to come to Telstra that are essentially now going to the government. You cannot take away a material part of a company's business and earnings and expect it to carry on with the same strategy and the same workforce. It's hardly surprising therefore that at Telstra we are reducing our workforce by 8000 roles, around a quarter of our team.

That's a very difficult decision to make and it's a very tough thing to do, but you also need to put that in the context that NBN Co, which is becoming the wholesale fixed broadband services provider in Australia, now actually employs 7000 people itself directly and a field force of 24,000, many of them of course, former Telstra employees. So, when looked at on a national level, the impact is very different and I'm sure that point is not lost.

NBN though, combined with a changing marketplace and the broader opportunities created by this fourth industrial revolution have meant that we have to restructure for the future and we announced a plan last year, which is our plan to do that, called T22. This is about Telstra radically simplifying our products, eliminating many of the customer pain points that we know our customers have felt with telco services in the past, creating all digital experiences and leaving our legacy behind.

And most relevant to the address today, transforming our workplace. To help transform our workplace, we have developed a future workforce strategy. It is something that we've been working on for the last few years, it lays out how we need to attract, develop, retain, retrain and rebalance our workforce. It also details how we need to be more agile in the way we work.

A key part of our program is to bring those serving our customers closer to a much smaller, more agile group of senior and middle management and that means we are reducing this group by at least 25 per cent and our organisational layers within the company from between two and four. While we're reducing our directly-engaged workforce, we're also building new capabilities by recruiting 1500 new roles in areas such as software engineering, data analytics and cyber security.

These roles are sourced where the best talent is available and that is both within and outside of Australia. Currently, and by necessity, we are sourcing far more of this talent from outside of Australia than from within and that's why we're committed to work with government and industry partners to explore building a bigger technology talent pipeline within Australia for the overall benefit of the nation and that's a point I'm going to come back to in a moment.

By the end of our financial year 2021, the proportion of both our offshore workforce and our industry partner workforce will decline as a result of reduced call volumes and more efficient and effective order fulfilment delivery through our strategy.

Through all of this, we also need to remain absolutely committed and focused on maintaining our presence in regional Australia and we do not expect the current balance of our workforce between metro and regional areas to change materially as a result of our strategy, although we need to remember overall our workforce is declining.

A key part of our workforce strategy is to ensure that we create a great environment for our employees and continue to improve our standing as an employer of choice. We need to make sure that Telstra is an easier place to work for our employees and as part of this strategy we are introducing new ways of working, including Agile.

Now, I'm sure many of you, like me, use products and services from companies such as Netflix or Apple or Sonos, and you would have seen, as I do, how regularly you get a notification of a change to their app and an instruction to upgrade and install or upgrade the software – it's constant.

They're not adopting Agile because it's the latest management fad, they're doing this because their business model is built around a continuous rapid upgrade, improvements to customer experiences, products and services and that is what Agile enables. Companies that use Agile typically get better results to customers, they do it faster, at a lower cost with a better employee experience.

The introduction of Agile is also a recognition of the fact that at Telstra we need to bring in people with new thinking and different mindsets. As a company, we passionately believe diversity in our workforce leads to diversity of thought and in turn, better customer outcomes. In practical terms, that means we do not necessarily need the perfect engineer, we need a great engineer who can collaborate and participate in problem solving across the business. It's an important shift and it goes right to the heart to the type of company we need to be.

As I mentioned earlier, T22 also means that we need to build new skills and new capabilities in new areas. We need these capabilities now, but the fact is we cannot find, in Australia, enough of the skills that we need on the scale that we need them, particularly in software engineering. Why? There are simply not enough of them, the pipeline is too small. We're also competing for these skills domestically with other organisations in Australia, probably many of you.

That competition is fierce, and it's estimated that Australia will have a shortfall of 60,000 skilled workers in the ICT sector in the next five years alone. That means we're having to recruit some of those capabilities on the global market, including in places like India.

Given our urgent need, Telstra will be creating a new Telstra innovation and capability centre in Bangalore this year. Bangalore is India's Silicon Valley and even there we are competing for talent with Google, Facebook and Apple and many other digital companies. This innovation and capability centre consolidates our presence in India where we are already working with many partners and it takes in-house talent that we had previously sourced from third parties.

In other words, it means we're not increasing overall the number of resources that we have in India, we're actually bringing them in-house. It means we can quickly hire, develop and scale the talent across our business, including back into Australia. It also complements what we're doing here in Australia, within Telstra Labs; within Muru-D, our accelerator program, and within our customer insight centres where we're doing incredible amounts of innovation. A key step to bringing more of this talent to Australia is first to bring it in-house to Telstra and that is what this centre enables.

Another key factor for us is the ability to bring skilled migrants into our team when we need to. Immigration in Australia is often a vexed issue and attracts an enormous amount of political and media angst. In fact, it's not just an issue in Australia. In the US and the UK, we are seeing significant negative commentary around immigration. I believe globally this is an unhealthy and potentially dangerous path for the world to take. We need to build skills in the world, not walls.

An ongoing skilled migration policy is essential for Australia and essential for Telstra to attract and recruit the right talent and capabilities that we need to transform and compete effectively on a global scale. We support the continuation of policies that include measures which amplify and reduce administration costs and serve to attract talent. It's also important to remember that a well-targeted and skilled migration policy is a job creator, not a job taker. Skilled migrants bring ideas, they bring expertise and innovation and they bring



capacity to train and skill their Australian colleagues. Skilled migrants also add to Australia's wealth. Research by the IMF estimated that Australia's migration program would add up to one per cent of annual GDP growth from 2020 to 2050 because it focused on skilled migrants of working age and would limit the economic impact of Australia's ageing population.

We not only need new strategies for the future of work at a company level, we also need them at a national level. As we rapidly approach the 2020s and think about the future of work in a time of great technology change, we need vision. We need a vision with clear goals and strategies for all of Australia, we need a vision that embraces businesses, unions, not for profits, governments, communities young and old. A vision that capitalises on our position as an already technologically advanced nation, a nation of early adopters that transcends the pedagogical cycle, encourages and supports innovation and is cognisant of the tech changes fast coming down the path towards us.

To remain the lucky country, we need to become a future focused country as well and that takes vision at a national level. We also need to ensure we are building the right core skills to set up Australia with an educated, skilled and creative population able to work productively in the innovative workplaces of the future.

In the digital age, it is people, the skills they have, but also the way they think and the way they collaborate that will underpin Australia's competitive advantage. At the heart of this is of course STEM skills – science, technology, engineering and mathematics. Though it is important to broaden this to STEAM – the extra 'A' being a reference to the arts or what is sometimes termed as the soft skills. I often think about them as the glue skills. For example, if you take a skill that we need at Telstra, engineering, every engineer who comes up with a new innovation practices far more than maths, engineering and technological prowess. They also use design thinking, creativity, communication skills to bring those innovations to life.

Today's innovators, including those at Telstra, work collaboratively in open spaces, sharing ideas globally with other thinkers. These less tangible skills allow the best ideas to morph into something great, that is what I mean by the glue. It means the final result is greater than the sum of the individual technological parts.

Australia's curricula, our training courses and our workplaces reflect that 21st-century professionals need to be well-rounded, design-thinkers and skilful communicators, as well as technologists and mathematicians. We need to do much better as a nation building our workforce on a foundation of STEAM.

The final area where we must focus on as a nation for our workforce is partnerships and particularly the close alignment required between business, government and the tertiary sector. I flagged earlier that Australia's skilled labour market is currently too small to meet Telstra's need for specific skills and we have to ramp up our recruitment of software engineers from overseas.

To be more precise, Australia had around 1200 new software engineers in the last 12 months and India had 44,000 – that's 40 to one. Adding to the challenge, we have to compete for these skills domestically with other Australian organisations and that is why it is so critical for Australia to build these skills locally.

As a major employer with significant technology skills, Telstra very much wants to play our part in this. To that end, in addition to what we're already doing locally, we're establishing a partnership program with a small number of universities around developing specific capabilities. We recently started to partner with the University of Wollongong on their global leader's development program and have taken our first of their Big Data students as an intern, one of 80 students from around Australia who have been working with us over the summer.

In the months ahead, similar partnerships will be established with additional tertiary institutions around key technology areas such as software defined networking and machine learning. As part of this, we also guarantee that we will take a number of graduates each year.

As a nation, we have to do more to get the balance right between what the government does, what the private sector needs and what is being taught in institutions and universities. When we look at the deep domain technology skills we need at Telstra and when we look at our growth profile, Australia is just not able to meet our requirements in the short term and we have to tap into the global market to address this. There is a national call to action therefore, we have to stop looking at this problem and start acting on it now because these challenges are in front of us at this very moment. We want to be part of this discussion, but more importantly, we want to be part of the solution.

Let me finish my remarks today on a personal note. Last year I marked 40 years in the workplace. I know I don't look that old, but I marked my 40th year in the workplace. I started work at the age of 15 in London as a shipping clerk. That's a job that no longer exists. Offices in those days were organised by hierarchy, the computers worked using punch card and paper tape and people were even smoking in the office.

I've seen firsthand how the workplace has changed, as I know many of you have too. I've seen how roles changed, I've seen roles disappear completely. At the same time, however, employment has actually increased, as has productivity and efficiency as new technologies have been introduced.

I've also seen many changes in the nature of what constitutes a successful company. From Australia's perspective, I think it's a missed opportunity to consider that, in the main, our top 10 listed companies in Australia are many decades old and have been essentially the same top 10 listed companies for a long period of time and, generally speaking, from traditional industries. This is in contrast with the US, where their top 10 companies include a number of relatively recently formed digital companies such as Microsoft, Amazon, Apple.

This is neither a criticism or a prognosis of any of these companies and how they're going to do in the future, it's just a stark illustration of how technology has shaped another country's economy and corporate sector. We would be naïve to think it's not going to continue to drive changes in our lives and in the workplace. The real issue then is how do we respond and how do we prepare ourselves for the future? How do we ensure that our companies – yours and mine – and Australia are successful, because these changes are upon us now and we have to prepare for the workforce of the future.

Thank you.

> INDIGENOUS AFFAIRS

> 31 JANUARY 2019

> PERTH



Unfinished business: a new path to reconciliation

Andrew Mackenzie

Chief Executive Officer, BHP

In a speech addressing Indigenous reconciliation, BHP Chief Executive Officer, Andrew Mackenzie backed calls made in the 2017 Uluru Statement from the Heart to enshrine the voice of Indigenous Australians in the Constitution and establish a Makarrata Commission to oversee agreement-making and truth-telling.

Mr Mackenzie described how he came to understand Aboriginal and Torres Strait Islander people's connection to country and how this led him to believe that constitutional reform is a meaningful step towards reconciliation. He said there was nothing to fear from empowering the Uluru Statement. Instead it provides an opportunity to address unfinished business between Indigenous and non-Indigenous Australians.

Welcome everybody and thank you for your attendance here today. I've come to talk about BHP's views on the Uluru Statement from the Heart and the unfinished business between Indigenous and non-Indigenous Australians.

Before I do that, I'd like to comment on the events in Brazil last Friday¹. The collapse of the Brumadinho dam and the horrific loss of life are beyond words. I offer our deeply heartfelt sympathy to all those affected and to the loved ones of the unbearable number of people who have died.

BHP will help in any way we can. I believe we can and will make mining safe. Last week's catastrophe shows we as an industry still have much to do. At BHP, we are committed to learn from what happened and to redouble our efforts to make sure events like last week's cannot happen.

Before I begin, I would like to acknowledge that we are on the custodial land of the world's oldest living civilisation and acknowledge the traditional custodians of this land on which we are gathered, the Whadjuk people of the Noongar Nation. I pay my respects to their Elders, past, present and emerging. I acknowledge and respect their unique culture, resilience and spiritual connection to this land that has been a source of sustenance and strength. And I recognise the contribution they make to the life of this city and this region. We are thankful to be here.

It's great to be in Western Australia. The home of our iron ore operations in the Pilbara, our nickel operations in the Goldfields and in Kwinana, our petroleum operations in Onslow and our interest in the North West Shelf. As CEO, it's an essential part of my job to understand what this home really means to BHP and to learn what home means to Indigenous Australians.

This continent has been home to Indigenous Australians for at least 60,000 years, the oldest continuous living culture in the world. Aboriginal and Torres Strait Islander peoples were, and will always be, the First Peoples of this continent. Aboriginal and Torres Strait Islander peoples are Australia's first builders, Australia's first land managers and Australia's first astronomers. They are Australia's first geologists too.

At Wilgie Mia in the Weld Range Hills, southeast of Geraldton in Western Australia, you'll find the largest and deepest underground Aboriginal ochre mine in the country. Indigenous Australians first extracted the ochre more than 30,000 years ago, which makes it the world's oldest continuous mining operation. The ochre's rich red colour made it perfect for use in medicines, for rock art and traditional ceremonies, and in the preservation of animal skins. It was also used to make tools for cutting, pounding and grinding. The ochre was traded right across the country from WA to Queensland.



This land was never empty. It was never terra nullius. Over the past two months, I've spent time with some of our Traditional Owners, as well as Indigenous leaders from across the country. We spoke about their meaningful connection to country and the power, strength and resilience of their language and culture. And we spoke about the social and economic challenges many Indigenous Australians have overcome and many still face.

It's been a privilege for me to meet these men and women and experience first-hand the rich diversity of Australia's First Nations people. A privilege because the insights of First Nations people are as diverse as they are valuable. A privilege because Indigenous Australians have a lot to say to non-Indigenous Australia and non-Indigenous Australia has a lot to learn from them.

But the voices of Indigenous Australians are often not heard. Today, I want to contribute my voice to speak about the voices of Indigenous Australia, because their insights are profound.

The Uluru Statement from the Heart is a challenge to hear the unheard. It is the collective expression of 250 Aboriginal and Torres Strait Islander delegates who represent Indigenous people from across Australia. The Uluru Statement is an invitation to Australia and the Australian people. It was created through a process of consultation and dialogue among Indigenous Australians that is impressive in scale and ambition. It calls for the establishment of a First Nations voice to the Australian Parliament to be enshrined in the Australian Constitution. It is an offer of Indigenous participation in a Makarrata Commission to oversee agreement-making and truth telling about Indigenous history. And it shows how constitutional reforms can create a rightful place for and empower Indigenous people.

The Uluru Statement speaks of the 'torment of powerlessness' that has disadvantaged generations of Indigenous Australians. It invites us all to respond to its calls for voice, agreement-making and truth-telling.

Today we want to be part of the response to those calls. But first let me clearly, directly and unequivocally state our position. We endorse the call for empowerment of the Uluru Statement from the Heart. We believe that the Constitution should be amended so that the voices of Indigenous Australians can be fully heard. Because the longer I've been at BHP, the more certain I've become that this great company, like this great country, has unfinished business with the Indigenous peoples of Australia. That is why we cannot stand on the sidelines.

BHP as a company must listen to the voices of Indigenous Australians. It is in all our interests to hear the first voices of this country because what they have to say is connected to the deep time of Aboriginal and Torres Strait Islander culture.

I am a geologist by training. 'Deep time' is a philosophical concept of geology first articulated by 18th century Scottish geologist James Hutton. Deep time is about the true age of Earth and its evolution over the vast expanse of geological time. Deep time is about origins forged over many millennia and their connection to the present.

Australia is both a young nation and an ancient land. It wears deep time on its sleeve. Indigenous culture too is old enough and rich enough to carry from antiquity to this day stories about the events that shape Australia.

Australia has always been a country of people, of place, of story. These stories are the voice of the First Nations people that connect the past and the present, and embody wisdom, knowledge and opportunity. Their voice demands respect and acknowledgment. Their voice must be heard. That's what the Uluru Statement from the Heart is about. It asks only for what many of us take for granted - to be heard on decisions made about their rights and interests and to have power over their destiny.

The Australia of post-European settlement can truly give effect to the values on which our democracy is founded when we are empowered to walk in two worlds, with indigenous culture recognised as a gift to this country.

The Uluru Statement is a unique opportunity and an invitation to listen to the voices of Indigenous Australia and to respond to them. When I first saw Uluru five years ago, it deepened my appreciation of Australia. It was more than a professional interest. I was compelled to connect with the landscape and with this country. And I saw first-hand the importance of culture.

When culture is strong, people are strong. It gives people power, pride and resilience. But I also saw the disadvantage of many Aboriginal and Torres Strait Islander peoples and their communities. I saw it again two weeks ago at Port Hedland when I spent time with Traditional Owners. I've been struck by the gulf that exists between Indigenous and non-Indigenous Australia. That gulf is economic, it's social and it reflects history. We have a chance to create a new chapter in our history, a voice that will establish a bridge across that gulf.



There are fears that a constitutionally-enshrined voice confirmed by referendum will deepen cultural divisions and is undemocratic. These fears don't stand up to scrutiny. The final report of the Joint Select Committee on Constitutional Recognition, which aimed to recapture bipartisanship on this matter, found that there was nothing to fear from giving Indigenous Australians the constitutionally-enshrined voice they deserve.

Australia must not squander this opportunity. The Uluru Statement is a gift. It is a path forward. It can create, as Stan Grant has said, a nation of "Australians indivisible".

The establishment of a national Indigenous representative body, a First Nations voice to parliament, is a meaningful step towards reconciliation. It would empower Indigenous Australians. It would make sure Indigenous people have a say on the legislation, policy and programs that shape Indigenous lives, families and communities. And it would create new opportunities for social and economic progress.

A referendum is more likely to succeed if the voice is co-designed by government and Aboriginal and Torres Strait Islander representatives from across Australia. And a referendum must be held at a time when it has the best chance of success. But we must maintain the momentum of the Uluru Statement so that it is not overshadowed by other issues. A referendum not only demands political courage, it demands courage from all of us. This is not just a matter for politicians, this concerns us all.

That's also why I am here today as the CEO of BHP. And that's why we will work with Australia's leaders and use our voice to support the call to give Indigenous Australia the constitutionally enshrined voice it deserves.

The BHP Foundation, a charitable organisation funded by BHP, plans to invest around \$1 million in Cape York Partnership's Uluru Education Project. The project aims to spark a national conversation about the Uluru Statement so that Australians are fully informed about the call for a constitutionally-enshrined voice to Parliament ahead of a referendum.

At BHP we encourage our Indigenous employees, suppliers and partners to have a voice. But we know we must do more.

The Uluru Statement is also about agreement-making and about this nation's path towards truthful reconciliation. I've travelled far and wide over the past six years and developed a strong connection with this great nation. We have a land that has been geologically blessed, a population that is deeply multicultural, and an economy that is one of the most successful in the world. Over

this time, I've also come to understand the powerful link between the land and Indigenous ancestral ties. That is why our relationships with Traditional Owners must be founded in the spirit of partnership so we all truly benefit from our presence on country.

And that is why we reach agreements with Traditional Owners that aim to build economic sovereignty, mutual benefit and opportunity for Indigenous communities. BHP currently has agreements with a number of Traditional Owner groups in South Australia, Western Australia and Queensland. The way we understand the spiritual connection between Indigenous communities and their land has strengthened over time.

Our agreements with Traditional Owners have evolved since our first at our Area C iron ore mine in Western Australia nearly 20 years ago. They aren't just about financial benefits. They now encompass heritage protection, employment, contracting opportunities and cultural preservation and they are based on mutual benefit. As we gain more experience in agreement-making, we have come to understand the immense value of these reciprocal relationships. They are about partnerships. We see agreement-making not as something to fear as a company or a nation, but an opportunity to forge new relationships that build a better future for us all.

While mining benefits our whole nation, business, governments and society all must make sure communities closest to mining operations benefit. We know we must do more to increase the size of our Indigenous workforce and engage more indigenous businesses. That's why we lifted our 2020 targets within our Reconciliation Action Plan to achieve Indigenous employment of 5.75 per cent of our workforce. We also committed to work to obtain consent and negotiate agreements with Aboriginal and Torres Strait Islander peoples for new operations or major capital projects. And all our Australian assets will promote relevant procurement opportunities to Aboriginal and Torres Strait Islander businesses.

But to build a better future that takes its inspiration from the achievements of both the world's oldest continuing culture and of European settlement, we first have to come to terms with the unfinished business of Indigenous and non-Indigenous Australia.

The past leaves its traces in the present. We are all histories of ourselves.

The Uluru Statement is an opportunity for Australia, for business, for all of us to re-imagine our history through story and through truth. To do that we must listen, really listen to the voices of Indigenous Australia because only then will we know the unabridged story of this nation.

As author Richard Flanagan says, “freedom exists in the space of memory and only by walking back into the shadows is it possible for us to finally be free”.

What does that mean for BHP? We have more than 1500 Indigenous employees, we work with Indigenous businesses, and we have partnerships with Indigenous communities across the country.

We greatly value those relationships. We’ve thought long and hard about what we can do to strengthen those relationships. They must not be based on histories that are incomplete or silenced. And we’ve concluded that an important way we can strengthen those relationships is to better understand the history of BHP’s interactions with Indigenous Australia.

As I said at the start, we have spoken to Traditional Owners and Indigenous leaders over the past two months in Port Hedland. We heard that we need to be involved in a regular dialogue with Traditional Owners. Not just when we need their support for our projects. We were told that many developments that benefit our business today began at a time when legal frameworks did not adequately recognise Indigenous land rights and cultural heritage values.

I heard the experiences of the Kariyara, the Banjima, the Nyiyaparli, the Njamal and the Ngarla, and we accept that there are many uncomfortable truths. We also expect that these realities exist for groups which we are yet to speak to.

We will hold more talks in the months and years ahead with Traditional Owner groups to determine how best to fill in the blanks and understand our true history. We don’t know what our conversations will find. What we do know is that the best way to face the future is to hear the truth.

As a step forward, we will establish a standing advisory group that comprises Indigenous leaders from across the country. They will give our business leaders guidance on Indigenous issues and help us equip our Indigenous employees with the skills to take on leadership and executive positions.

We will also intensify efforts to further economically empower Indigenous people within and outside of our business, engage our workforce about the significance of the Uluru Statement and the history, culture and achievements of Indigenous people, and increase momentum with our agreement-making.

In conclusion, we all have a responsibility to finish the unfinished business I’ve spoken about because what’s past is present. If we acknowledge and recognise the past, we will build a future filled with possibility for all.

The Uluru Statement is a call to BHP, to business and to Australia to create a rightful place for Indigenous peoples in this nation through voice, through agreement-making and through truth. If we respond to these calls, we will strengthen Australia's success as a society and an economy in a way that inspires people and nations in our region and across the globe.

A more successful and confident Australia will create greater opportunities for us all, including for BHP. So I hope to look back on this time and feel that BHP found a way to seize this opportunity and play our role in it. That we were part of the discussion about how we might powerfully and harmoniously connect two civilisations in a way that fully expresses Australia's nationhood, and helps this great country embrace its unique heritage and unlock the possibilities of an extraordinary future.

The Uluru Statement is an act of profound generosity. This is our opportunity to listen to and act upon a request from Indigenous people to be truly recognised.

After 240 years, we must take it.

Thank you.



Endnote

- 1 On 25 January 2019, a tailings dam at Vale's Brumadinho iron ore mine in south-eastern Brazil burst releasing a torrent that killed more than 250 people.

> WOMEN IN LEADERSHIP

> 4 APRIL 2019

> SYDNEY



How 'diversity' gets in the way of equality

Aubrey Blanche

Global Head of Diversity and Belonging, Atlassian

While most employers believe workplace inclusivity is important, we still aren't seeing enough meaningful outcomes for underrepresented and marginalised people, according to Atlassian Global Head of Diversity and Belonging, Aubrey Blanche.

Addressing a *Women in Leadership* event in Sydney, Ms Blanche described Atlassian's measures to build a truly inclusive workplace that values individual and group differences. She said that we need to start talking about building balanced teams rather than building diversity, and that harnessing empathy is a key to motivating change.

Thank you so much everyone, I am so excited to be here today and tell you a little bit about what we've done at Atlassian to build a structurally equitable organisation.

What you'll hear from me today is that I think it is a great time for us to be grateful for what's got us to this point. But the language, the methodologies and the approach that we've used to get here absolutely will not get us to the next stage. (We can) create truly equitable organisations, where people are happy, they're healthy, they're innovative and frankly, we can all make a lot of money while we do it. So, thank you for what's come before, but let's look at what's next.

Before we get there I want to level set about where we are in the tech industry and global business when thinking about what we used to call diversity and inclusion.

Let me tell you a little bit about Atlassian. If you don't know, we create collaboration software for teams and one of the things I often tell leaders is that you have to know why you're investing in diversity and inclusion. "Because everyone does it" or "it's a PR thing we have to do" is not a good reason. This is hard work, it requires deep structural change in your organisation.

At Atlassian our mission is to unleash the potential in every team. Now, the thing is we have customers in over 150 countries around the world. If we don't represent those customers, if we don't know what delights them, what pain points they have, there's absolutely no way that we're going to build the tools that help them build amazing things out in the world.

And we're also a values-led organisation. Our founders, Mike (Cannon-Brookes) and Scott (Farquhar), deeply care about the experiences of people at Atlassian and we don't believe that we can live our values or achieve our mission without getting this right, and we hope also that this is a key to actually unlocking the potential of the tech industry in Australia to create a global leader in technical talent.

Now, where are we today? I am a research scientist by training, so we do a lot with data. A couple of years ago I wondered what people think, feel and do around diversity and inclusion in the tech industry. I hunted high and low for data and no one seemed to be able to give it to me. So we decided to collect it ourselves and because our culture is one of openness, we want to share because we don't believe that it's about Atlassian getting it right and building a balanced equitable company, it's about all of us sharing what's working so that we can come up together. And I want to be honest, the news isn't great right now.



We have data that's internationally representative. Good news: tech companies believe that diversity and inclusion is important. Bad news: it's not working.

Saying that you care about diversity and inclusion is not leading to meaningful outcomes for underrepresented and marginalised people in tech. We see that retention is down and that there's not any meaningful increases in things like whether people feel like they belong.

And perhaps, even more concerning, there's been a 10 per cent year-over-year decrease in companies that have corporate diversity and inclusion programs and when we dig in and look at workers, in some cases, a 50 per cent year-over-year decrease in engagement with diversity and inclusion activities.

What we're seeing is that people say that they care but they're not doing anything and I'm here to tell you that saying that you care and not taking action is not caring. It's complicity in the mediocrity that we've seen up to this point. But, good news, like any good investor, you invest in a down market, right? That means that this is a competitive advantage for companies that get it right because what we're seeing is that Gen Z, the millennials, they want to work in balanced workplaces where they feel like they belong. So for the folks in this room, take heart because we're going to win.

I want to talk a little bit about how we've approached this problem here at Atlassian. So, most of the time folks in my job think this is their remit. I'm here to tell you that that's so completely and utterly wrong. What you are actually trying to do is build balanced teams. Now, you're probably thinking "Aubrey, that's a rebranding. Don't you have more important things to do, like solve structural racism?" And you're totally right. But, I want to talk about first the fact that language shapes our reality.

I was so appreciative of your greeting, thinking about how when we say "hey guys" we're implicitly telling women that they're not a part of the team or when we say "ladies and gentlemen" we ignore the existence of trans and non-binary folks, but the way we think about this work must change.

First, we need to stop talking about diversity. First of all, no one is diverse, it is a team level construct. I, as a bisexual Latino woman with multiple disabilities, am not diverse. I am underrepresented. I have often lacked opportunity to show the brilliance that I have, which is so similar to people who share those identities.

That same survey that I just talked about, which is available on our website and that we'd love to share with all of you, showed that I asked all of my respondents: who is diverse? Fun fact, it was a trick question. I listed all the groups. But respondents overwhelmingly chose two groups that were diverse: white women and black Americans.

Respondents in Australia were significantly more likely to say that African Americans were diverse than Indigenous Australians. That's just weird, right? And so the fact is that we've used the word diverse so loosely connotated with those groups that we've not only excluded the people in power, but we've also ignored populations like people with disabilities, those on the autism spectrum, parents and caregivers, people who've had military service and especially those of us who carry intersectional marginalised identities.

I always get asked, "Do you want to come to a women's ERG?" I'm like, "Well, do I have to leave my Mexicanness at home?" Because when we say diversity equals women, what we actually mean is straight white cisgender economically privileged women who are probably related to the executives. It's true. And so we need to stop talking about building diversity and start talking about building balanced teams.

I am also asking you on a personal level, because my boss won't let me change my title to 'Balance and Belonging' until I make this happen, so please help me out. We also need to get away from inclusion.

I want to be quite honest with you, I am not interested in being included. I'm not interested in being a tack-on to a space that was designed for straight white men. I think they're great, let's keep them and bring friends, but I want to be in a space where I belong, a space where I was considered in the first place or I am not held to the standards of someone like my Dad, who when I was eight told me that I would never get a job if I had weird hair and facial piercings. I also have visible tattoos. Welcome to 2019. I want to belong.

And what I've seen at Atlassian is we've changed its language. I haven't just increased engagement for my underrepresented employees. Those white men who may be autistic or come from lower socioeconomic status backgrounds who felt marginalised by the obsession with women in diversity and inclusion suddenly say, "But I count too. My story matters."

And when you create that moment when people feel seen and valued, guess what? They engage as allies for other groups because other people are doing it for them. So this isn't just about bringing up folks in the majority group, but also recognising the different ways and the different things we bring into the workforce which turns out actually helps get us to that gender parity that we were trying to get to.



I also want to be really honest that a lot of companies think of doing basically social justice work as a brand, PR and recruiting problem. I promise you that all of the research suggests that if you do not have a balanced workforce it's because your culture is broken. Research shows that 53 per cent of women in technical roles leave the technology industry by 10 years into their career and almost everyone I've ever said that to said, "Yeah, well they have kids." But if you actually listen to them they say, "No, the culture was broken. It was toxic." They went and worked in tech at Walmart. They didn't leave technology, they left the tech industry.

We need to create structural change. I'm a total fan of feminism cupcakes, right, for International Women's Day we had cupcakes – but I'm especially interested in changing the structures of your organisation such that women can buy their own cupcakes. I also want to get away from talking about women, not because it doesn't matter – it's an important identity to me – but in my hierarchy, I'm a Latina first, I'm LGBT second and then I'm a woman. And actually on some days that flips over and sometimes I feel really female.

So, thinking about intersectionality allows those of us who have those complicated layered identities in that way to come in, but it also allows folks who come from majority groups, but have a different story, to come to the table and engage because diversity and inclusion is not about them, building a balanced team is.

The last thing I want to talk about is we have to stop looking at the company level. I love when companies say, "Oh, we've hit gender parity." And I say, "Yeah, are all your women in HR and marketing?" At Atlassian we're obsessed with teams, it is literally our stock symbol on NASDAQ. But I believe that we measure balance at the team level, but we also encourage people to engage with inclusion at the team level. Why? Because your average mid-level manager doesn't know how to empower women other than go out and buy Dove deodorant, but what they do understand is how to do a little bit better on their team.

To that middle manager, I can say, "How about you implement a no interruptions rule in your meetings?" Now, he might not know that's because women are three times more likely to be interrupted while speaking in business settings, but the fact is, implementing that rule helps women's voices get in the room.

It also helps people who are introverts and folks who come from cultures where being assertive is not respectful. So we've just created more belonging

in the group because people feel that they belong when they're able to contribute and those contributions are seen as valuable.

Now, I'll talk a little bit about what we're doing. So first, I'm a data geek and we measure everything. I see a lot of companies that are afraid to measure because they say what if we find the problems? And my answer is what if you don't?

So first, we look at hiring monthly across groups, who we measure varies by GO, based on what data we have to collect, but we're constantly looking to make sure at minimum that we are hiring at what we call market availability. In Australia about 13 per cent of ICT degrees are given to women and Sydney is our largest engineering centre. So as you can imagine, all those American companies who say they have a pipeline problem, I have no sympathy for you.

We also look at promotion and pay equity, so every time we run a compensation program we look by gender to ensure that people are being paid equitably for similar roles, but we also look at making sure that people are being promoted because often those pay gaps are not driven by two people doing the same job, but by one person having a better opportunity to get the top job.

We measure inclusion annually. I use an index of three questions on our engagement survey: "I feel like I belong on my team", "I can be myself at work" and "my team has diverse perspectives that influence our decision-making." Those three questions are some of the best indicators of whether someone is going to stay at Atlassian.

And then attrition. I want to know who's leaving, because at the end of the day attrition is my most important metric because we think about hiring – we can do that, that's a money and a numbers game – but when people stay, it's because they're valued and it's not because I gave you a cupcake. It's because I created an environment where your brilliance is allowed to shine.

Now let's get a little practical. Talent acquisition: we have an incredible number of programs looking to create equitable fair recruiting processes. People are always looking for a silver bullet and my bad news for you is it takes 5000 tiny ones. But we use sourcing libraries, these are confluence pages full of lists of names, professional organisations, hashtag sororities when we're looking for women, making sure that we're overcoming the barriers in things like LinkedIn. We get over that by building our own resources to improve the time to fill, while also building more balanced candidate pools and by the way, more balanced pools equals better pools.



We use structured behavioural interviewing to reduce unconscious bias and increase our ability to predict job performance. We have gotten rid of culture fit from our interviews; let me tell you, culture fit is nothing but an intractable morass of unconscious bias.

Being someone you want to hang out with and going to happy hour is not job performance, and in fact, we are significantly more likely to say that someone is a culture fit if we like the colour of their jacket in the interview. That's real research. So, what we do is we look for specific behaviours that predict success at Atlassian and those behaviours are aligned with our values.

Things like someone who is constantly critical, not great for Atlassian. But someone who is candid and kind with constructive feedback is. And we ask people to demonstrate those behaviours and we don't hire people who don't. We have balanced panels, we have work right now measuring how many of the interview panels that we have globally actually are not homogenous because we don't just want underrepresented candidates to meet a balance at Atlassian, we want everyone to meet a balance at Atlassian.

We employ something called the balanced slate approach for senior level hiring, meaning that we require that qualified, interested, underrepresented candidates be interviewed for every senior level role. We've added three board members to Atlassian over the last four years: two of them are women, one of them is a woman of colour and one of them is the chair. It works. We formed strategic partnerships with organisations that help us connect with that underrepresented talent, we hold events and meet ups where we meet more people and we even try to have impact on brand activations.

Last year at the Grace Hopper Celebration for Women in Computing, one of the largest events of its type in the world, instead of giving out swag t-shirts, because whoever took a job because you got a t-shirt, right? Never happened. Tech loves t-shirts. We actually said what could we do with that money that was better? We made a giant Jira board. Jira is our largest product. And partnered with three organisations; Women Who Code, Black Girls Code and Code 2040.

When women came up to our booth we talked to them about the opportunities, checked out their resume and said, "Here's two stickers. One is for you and your laptop and one we'd like you to put under the name of the organisation you'd like us to donate your swag budget to."

Why is that awesome? Because we're meeting amazing female candidates, they're directly creating more access for other underrepresented people in tech and frankly, the people who would be mad that they didn't get a t-shirt are not the people we want to hire anyway. It's a great sorting mechanism. But it's not just about getting people in the door and this next piece is what I say when I mean structural equity.

Last year Atlassian changed our performance assessment process. We went back to philosophies to all of the research we could find about what let women down in the workplace. Your traditional sort of performance assessment, just asked one question, "How did you do your job? Did you perform?" Well, it's pretty easy to get a great rating if you're a jerk but you hit your numbers, right? And those are the kinds of folks who, while rare, create toxicity and actually cause women to leave.

So, we said we know that women tend to do office housework and other underrepresented people actually tend to contribute more culturally to organisations, so we broke our performance assessment into three pieces. There's a behavioural component: values, do you live the values?

Those same behaviours we look for in the interview process, we hold you accountable for every year in your performance assessment. We still ask whether you did your job, that is still important, but we added a third bucket and that bucket is called team. And what that does is it allows folks who are doing extraordinary things to get extra credit in their performance review and that could show up as engaging in balance and belonging activities, volunteering with our foundation or maybe you're just that person who is always helping the new person on board. It's not about any specific type of contribution, but knowing that we think Atlassians should be contributing outside of their role.

We also separated the ratings and weighted them equally. So in experimental testing that we did, we found that the brilliant jerk still got a good rating if we just ask the manager, "Here's the three categories, what's the final rating?" Instead, we ask our managers to rate values, then rate role and rate team. We have an algorithm that determines that final rating.

We also got rid of gendered language. So it turns out that what's called agentic or doer language actually has strong male connotations to it, meaning that men are going to do well in a system that uses a lot of it, while communal language is language that's associated with women. We use Textio, which is a machine learning tool, to identify gendered language and actually remove it from the process, so building a gender equitable assessment.



We also describe performance using growth mindset. So research shows that organisations that have a growth mindset are significantly less likely to use stereotypes in evaluation, eliminating unconscious bias. So, you can't get a legendary rating at Atlassian, although you used to be able to, now you can have an exceptional year, a great year or maybe you're having an off year. Again, lots of tiny bullets.

When we ran our performance assessment last year, we had no statistically measurable gender bias in the distribution of ratings. This is important because this underlying structure of the company influences who gets selected for leadership programs, how much you get paid and eligibility for other things in the workplace.

And so we had to get this base level right. Today we have 19 per cent women in technical roles across Atlassian and that is a nine percentage point increase from when I started. And when you think about the fact that 13 per cent of ICT degrees in Australia go to Atlassian, we're incredibly proud of this.

Now, it's also not enough, but when you look at our global workforce, 30 per cent of our global workforce identifies as female and you're probably thinking in the back of your head, "Yeah, but are they all graduates?" Because one of the things that we often see is that we can get underrepresented folks in the workforce but they don't advance. And so one of my favourite statistics about Atlassian is that our representation in senior leadership is actually leading the company.

We know that predicts retention for folks further down the organisational chart, but also it means that our workforce and our leaders are learning how to lead in a more balanced environment because a lot of folks think it's about fixing the women, right? Sheryl Sandberg, *Lean In*. But what research actually tells us is that men and women in the workplace are judged differently on the same behaviours, so it's not about lean in. It's sometimes asking our majority to lean out of the way. This is so incredible and we are so proud of this progress, but we are also ruthless perfectionists and we know that this isn't the end of the journey.

Here's what we're looking at now. First we're trying to create greater community, so we know that creating connection across teams for people is incredibly important, but we're not directing those employees with Employee Resource Groups (ERG) which sometimes force people to choose their categories. We actually encourage grassroots community development, so we have parents' groups, we have a group for our Christian employees, we have our Outlassians, because who doesn't love a good pun for your LGBT group?

And we believe that this is actually what drives change because we're allowing employees to move fluidly between the communities that matter to them. We are studying meetings, thinking if there was one space where we could improve how people felt it would be that meeting because that's where your ideas get valued and used.

I can tell you, if you go to the Atlassian Playbook online, we have already released a play on running inclusive meetings that you and anyone on your team can use, but we're actually looking at what behaviours are happening in meetings at Atlassian so that we can run a campaign to target that behavioural change.

Last, we're pushing open dialogue from our employees. We have a blog internally called Side By Side that's by Atlassians, for Atlassians. There's no barrier to publishing, you don't have to ask for permission, you can write about whatever you want as long as it's about your identity or experience and how it impacts your work. And we also encourage folks at the end to create a little "how to support people like me."

Just a couple of months ago one of our principal developers wrote a blog called "How not to fuck up with your trans teammate." She transitioned at Atlassian a couple of years ago and what she found were so many people were well-meaning, but had absolutely no idea what was the correct language or what you could say and so they were just disengaged from her because they were trying to be polite but didn't know how to do it. And so she included things at the bottom like, "Here's the language that works" and "Don't ask about medical things".

People are naturally curious but we do that for a lot of our employees and what we've found is that drives so much engagement because people aren't interested in an executive telling them what to do, but what they do connect with is their teammate asking them to support them. Empathy drives motivation for change and for allyship and it creates a lot of space for folks to bring it in.

We just had an employee who published a blog about what it was like to get diagnosed with autism because of a speaker he heard at Atlassian and how, when his team found out about that, they changed their work practices to better support him. Yes, I cried at my desk before the meeting when I read that.

I think what's powerful is we're not forcing the change, we're trying to inspire our employees to create the change themselves and I hope that as you've seen this, what you also understand is none of what we have done is rocket science, you can all take pieces of this back to your workplace tomorrow and start implementing it.

It may feel hard because that flywheel model is true; a lot of effort at the beginning creates a little change. But what I'm seeing at Atlassian is that now people are doing my job for me. I love being redundant. And that's where change is sustainable and that's why we're seeing accelerating progress in representation by focusing on teams and building belonging.

Thank you so much.

> CLIMATE CHANGE

> 7 JUNE 2019

> BRISBANE



The sustainability revolution

Al Gore

Nobel Peace Prize recipient and
45th Vice President of the United States of America

New technology and shifts in public policy have seen the world enter a sustainability revolution, according to former Vice President of the United States and Chairman of the Climate Reality Project, Al Gore.

Speaking at a CEDA event in Brisbane as a part of Climate Week QLD 2019, Mr Gore discussed the economic opportunities that renewable energy presents while providing a warning on the cost of inaction.

Thank you very much, Melinda (Cilento, CEDA Chief Executive), and ladies and gentlemen, it's such an honour to be invited here and such a pleasure to look from this podium out at such a magnificent gathering. Thank you so much for allowing me to be a part of this, and Melinda, thank you again for your introduction.

Premier Palaszczuk, thank you for your outstanding leadership on these incredibly challenging and energy and environmental issues that are all intertwined, taking so many different acts of leadership to move Queensland forward.

It's really quite impressive, and I'll return to that theme in just a moment, but I want to acknowledge your Treasurer and Deputy Premier, Jackie Trad, Minister for the Environment and the Great Barrier Reef, the Hon. Leeanne Enoch; Minister for Health, the Hon. Dr Steven Miles; I'm going to get in trouble by not acknowledging all of the distinguished ministers and elected officials, Victorian Minister for Energy, Environment and Climate Change, the Hon. Lily D'Ambrosio.

I'm reminded that there are ministers and treasurers from other parts of Australia here, and business leaders and distinguished guests of all kinds.

I have been here for, this is the third day, training a group of almost 800 new leaders on the issue of climate. The President/CEO of the Climate Reality Project, Ken Berlin, is here, and one of our board members, Don Henry, who also works with the University of Melbourne Sustainability Institute is a colleague and partner.

Melinda, I was listening to your introduction and I couldn't help but recall my experiences as Vice President. I was asked on one of the late-night television shows in the US back when I was Vice President what is the best thing about being Vice President, and I said, "well, there's the great seal of the Vice President of the United States, and if you close one eye and turn your head just right, it says "President of the United States of America".

In any case, I am enormously impressed, Premier, with what has happened here in Queensland under your leadership.

This is the place where the future is unfolding, and yes, of course there are all kinds of issues, there always are. It is never easy to transition from one age to another, but when you look at the incredible progress for renewable energy development here in Queensland, electric vehicles, the fact that here in Brisbane, you're manufacturing one of the high-value products that's central to this transition to electric vehicles.

By the way, you know India just announced recently that it is going to require the legal phasing out of all internal combustion engines by 2030. Whether they follow through on that or not remains to be seen, but there are many many jurisdictions around the world, many countries and sub-national governments that are now prospectively banning internal combustion engines.

Even in Germany, the birthplace of diesel, their largest cities, many of them are banning diesels from inside their cities, and auto manufacturers virtually – I actually don't know of any exception – I think now every large automobile manufacturer in the world is shifting to electric vehicles.

Within less than two years, the cost of the powertrain, the central most expensive part of a vehicle, for electric vehicles is going to fall lower in price than the powertrain for internal combustion engines. It is really an amount of change that is, I think, quite literally unprecedented.

You can talk about renewable energy and electric vehicles and battery storage. Australia now has the largest battery in the world. In the state of Florida in my country, which is also called “the Sunshine State”, it was illegal up until recently to lease a solar panel because the coal-burning utility controls the government – but how does that?... never mind.

The largest utility there just announced it is closing two huge natural gas-burning electric-generating plants, replacing them with a solar farm, coupled with a new battery that's four times larger than the world-record holding battery in South Australia.

Within three years, LEDs are going to account for 95 per cent of all of the new lighting purchased in the world. Isn't it astonishing how quickly that transition is taking place?

Within five years, more than 50 per cent of all of the buses in the world are going to be electric buses. Efficiency improvements, we've seen the decoupling of GDP and electricity and energy consumption.

If you take all of these and other related trends and put them together, it's clear that our world is now in the early stages of a sustainability revolution, based in part on new digital capacities and tools like machine learning and artificial intelligence and the internet of things, and it's empowering the executive teams of many business and industries to manage electrons and molecules and atoms and genes, by the way, with the same skill and precision that the information technology companies have demonstrated in managing bits of information.

This sustainability revolution apparently has the magnitude of the industrial revolution but the speed of the digital revolution. It is literally unprecedented. One quick example: Google, when I went into the business world after leaving the White House involuntarily in 2001 – you think that’s funny, do you? I mean, my attitude is you win some, you lose some, and then there’s that little-known third category...

In any case, I was invited to come and work with Google, and I was happy about that later on, at the time too, but just to give you one example, they have used their new artificial intelligence company, Deep Mind, to reduce energy consumption in their server farms. Google has the largest server farms of any company in the world, so they also have a lot of data about how those server farms have been operating for many years, deep structured data, so they have an advantage there, but they applied artificial intelligence.

This story is not well known, but here is the result: with no new hardware, simply the application of artificial intelligence, they have reduced the energy consumption of those server farms by 60 per cent with more intelligent management of the electrons and the BTUs, and there are examples across so many sectors of business and industry, where inefficiencies that we’ve always accepted and taken for granted can now be identified precisely and pushed away.

Energy demand is being reduced quite significantly, even as the new sources of energy in solar and wind are rising to be a part of this sustainability revolution. The exponential growth of renewable energy at the global level is really at a tipping point.

We had a wonderful discussion earlier in a smaller group about the economics of the sustainability revolution. The deputy head of your federal bank was an assistant to an economist that was a great friend of mine in the US, Rudi Dornbusch, and he had a saying. He used to say: “things take longer to happen than you think they will, but then they happen much faster than you thought they could”.

That’s what we’re seeing now, and Queensland, thanks in no small measure to the leadership of your Premier and the group of ministers and leaders who are part of her team, are positioning and have made Queensland one of the real leaders in this revolution, so I really do congratulate you, but you ain’t seen nothing yet.

This revolution is still growing in speed and magnitude, and of course, the dangers that we face from the climate crisis are also growing. I often try to choose my words carefully so as not to push people toward so much apprehension and fear, really, about what lies ahead that it induces paralysis, but that's not who we are as human beings.

We have the capacity to see dangers when they're obvious and react and protect our civilisation, our children, our grandchildren, but worldwide, emissions are going back up again.

You know, the sky is not a vast and limitless expanse. It's a very thin shell surrounding the planet. If you could drive an automobile at highway speed straight up in the air, you'd get to the top of the sky in five or 10 minutes, to the layer where you can't breathe anymore, and where the greenhouse gases accumulate.

We're using that thin shell of atmosphere as an open sewer for the gaseous waste of our civilisation, and we're spewing 110 million tonnes every day of this gaseous waste into that thin shell of atmosphere, and it stays there for 1000 years, on average, and the cumulative amount that's there today, to which we're continually adding, now traps as much extra heat energy from the sun as would be released by 500,000 Hiroshima-sized atomic bombs exploding every 24 hours.

Hard to imagine, but that's the reality that we're facing, and it's boiling the oceans. That's a metaphorical use of the word boiling. It's raising the temperature of the ocean so significantly because 93 per cent of all that energy is going into the oceans, and with respect to Las Vegas, what happens in the ocean doesn't stay in the oceans.

It's causing the release of so much additional water vapour to start the water cycle that it feeds these atmospheric rivers. The Brazilian scientist who first began to focus on this called them flying rivers. The average atmospheric river has 25 times as much moisture as the Mississippi River, the largest river in my country, and when that comes over the land and encounters the conditions that release a downpour, what you get is not a gentle rain. You get a rain bomb, as the scientists now refer to them.

You've had some this year in Queensland, in Townsville, for example, 500,000 cattle drowned, and the other examples are quite numerous. In Houston, Texas, we had one and a-half metres of rain, largest rainfall in the history of my country, and you can go around the world in India, China, South America, Africa. It's rained in Antarctica. It doesn't happen very often.

They don't know the history there, but they don't think it's rained until recently there, but now it does.

Last year was the hottest year in the history of Antarctica, and both in Antarctica and in Greenland, this extra heat energy is melting the ice, of course, people know this, and that is beginning to speed up the sea level increases, and there are places in Australia, neighbourhoods in Sydney, for example, where the sea level rise is already causing damage, and there are insurance companies who are warning home owners and business owners that their ability to buy insurance in these coastal areas is going to disappear in some of those areas.

We had a panel of scientists yesterday who were asked, in questions from the audience of these 800 from around Australia and the Pacific Island nations, tell us, what could happen if we don't reign in these emissions? How bad could it be? What would the sea level increase be?

Well, it wouldn't happen right away. We could have a metre and a-half to two metres in this century. The scientists are not yet willing to say that's the most likely outcome, but if it went ahead unchecked into the next century, how much sea level rise? One hundred metres.

Do we owe any obligation at all to the generations that follow us? Do we wish them, if they have schools for their children, to read in their lesson plans, "those men and women who lived in the first decades of the 20th century did not give a damn about us, and they let this happen"?

I'm sorry to get worked up. I'm going to move to the good news here in a minute, and the good news is abundant.

If we did not act, the consequences that would ensue are unthinkable. They're unacceptable. Who are we as human beings? A scientist once said to me, "what we're engaged in, AI, is an experiment to see if the combination of an opposable thumb and a neocortex is a viable combination on this planet".

I refuse to believe that we as human beings are destined to preside over our own destruction. I choose to believe, and I do believe in my heart, that we have the capacity to rise above our limitations and to choose a course that saves our future, and I see that happening here in Queensland with the choice in favour of this sustainability revolution, with renewable energy.

I know there's a lot of coal. By the way, just one hour before this luncheon started, back in the United States, where I live, my friend, Michael Bloomberg, just announced that he's going to spend \$500 million to completely close all of the remaining coal plants in the United States of America, and by the way, in India, which in some important way is connected in this region to Australia and others, they're building 225 gigawatts of solar, and the price of electricity from solar is now 25 per cent lower than the electricity from coal, and some coal mines in India are shutting down.

We have in the United States some very expensive holes in the ground that taxpayers and electricity ratepayers are still paying for and getting nothing in return. It's a difficult transition period, but ladies and gentlemen, the opportunities are fantastic.

The Bureau of Labour Statistics in my country just had another report, consistent with last year's report. The fastest-growing job in the United States of America is solar installer. That job is growing six times faster than average job growth. The second-fastest growing job is wind turbine technician.

The jobs in retrofitting buildings and improving efficiency in reducing energy demand in installing LEDs, these jobs are the ones that are growing, and by the way, the young people in my country and in Australia are demanding a better future. More than 100,000 Australia students joined the school strike movement. You think they're slowing down? Not a chance.

Businesses in hiring the brightest and best young women and men coming out of universities are hearing young people say, okay, what are your values? If I go to work for you, I want a good wage for sure, but I want to be able to tell my mates, my peers, my family, my friends, that I'm part of something more than just making money, and what I'm hearing from the business community in Australia, often in public but even more in private, is that they get it. You get it, and yeah, there's some laggards for sure – there always are – but the history of this period will record that the change became unstoppable and that Queensland helped to lead the way.

There are only three questions left about the climate crisis. Do we really have to change? Must we change? The evidence is pretty clear. I've mentioned many of the examples, I didn't mention drought. I didn't mention the Great Barrier Reef yet. I didn't mention the threat to the productivity of the oceans or many of the other reasons why we have to change.

Second question, can we change? Equally important. Sometimes in life, you have to change, but you don't have the ability. Boy, that's a formula for depression, but that's not the case we are facing now. We can change. We have the tools available to us, and Queensland is demonstrating it and moving forward to implement them.

The third and final question, the most important is will we change? Sometimes in life we have to change, we can change, and then we don't change. I don't think that's the situation we're facing either, but you know what? The jury is still out. Will the rest of the world follow Queensland's leadership? Will Australia seize the opportunity to become, as many have said is now in its destiny, the renewable energy superpower of the 21st century?

You have the most sun-blessed nation of any nation in the world. One hundred and ninety-five nations, you rank how much sunlight they get, how much solar energy potential they get, Australia is number one on the list. You're not number one on wind, but you're in the top five.

You are already producing a lot of renewable energy, but you could make this your future. You could build a nationwide grid. You could export renewable electricity by long-distance high-capacity DC cables to Indonesia, to Singapore, to other nations hungry for non-polluting energy, energy that does not contribute to the destruction of humanity's future.

You could use zero marginal-cost electricity, which you already have for several hours of many days. You could have it in abundance and use it to operate the high school chemistry equations that convert water into hydrogen and oxygen and use hydrogen a conveyor and storage medium for energy and export it to the rest of the world, starting with Japan, and your Premier here in Queensland has already engaged in discussions with the government of Japan about how to make that happen, but the nation has to make a decision.

Will you educate the engineers that you need? Will you build the infrastructure that's necessary? Will you avoid the opportunity cost of still going after dinosaur projects of the past?

That's all I'm going to say. I'm encouraged, I'm hopeful, I'm optimistic. I truly believe that Queensland is showing the way to humanity's bright and hopeful future.

I said the jury's still out, but I am optimistic, and I want to congratulate your Premier, your government, your business community your investor community, and all of you who are a part of this transition, and I know there's sceptics, but I'll close by saying this: if anybody doubts for one moment that we as human beings have the will to change, just remember that the will to change is itself a renewable resource.

Thank you very much.

> STATE OF THE NATION

> 19 SEPTEMBER 2019

> CANBERRA



Maintaining a free and prosperous global order

Senator the Hon. Marise Payne

Federal Minister for Foreign Affairs and Minister for Women

In her keynote speech at the 2019 State of the Nation in Canberra, Federal Minister for Foreign Affairs and Minister for Women, Senator the Hon. Marise Payne, spoke about the ways Australia can work to maintain the rules-based international order in today's challenging geopolitical environment.

Senator Payne said that the international system of rules that underpins and encourages fairness across the board has allowed Australia to prosper. To support this system, she said that Australia needs to continue advocating for its core values and interests, and take a leading role in keeping the international rules and norms fit for purpose.

Thank you very much, Jeff (Connolly, Siemens Australia and New Zealand Chairman and CEO) and Melinda (Cilento, CEDA Chief Executive). Ladies and gentlemen, I also wish to begin by acknowledging the traditional owners of the land on which we meet today, the Ngunnawal people, and pay my respects to their Elders, past, present, and emerging.

It's a special opportunity for me to visit the National Museum here this evening. Notwithstanding the fact that I've been working in Canberra one way or another for over 20 years, I can count on literally one hand the opportunities I've ever had to visit the National Museum, so I feel quite privileged tonight. Thank you for not having this at Parliament House.

Can I acknowledge the very distinguished guests, one and all, who are in the room this evening, particularly the members of our diplomatic corps. It's a great pleasure to speak to you tonight at what is a distinguished forum on the state of the nation.

I want to congratulate CEDA on your 40th State of the Nation and the important contribution that CEDA makes to generating ideas on Australian public policy. I'm always very pleased to speak at CEDA gatherings. I think the last time I did one was in Queensland as Australia's Defence Minister, so I've transitioned slightly from there, in a very lateral sense, but great to be back.

A couple of points that I want to make tonight as I start this evening, and particularly given today's announcement by the Treasurer and the Finance Minister. I want to talk very briefly about our record of economic reform here at home in Australia because it is particularly notable that as a result of the government's economic plan and responsible budget management, my colleagues were able to announce today that the federal budget has returned to balance for the first time in 11 years.

For some, I find, and having gone through a campaign, or in fact, in my family, two campaigns this year, I find those discussions are not always front of mind on the streets and corners of Western Sydney, where I live and work, overwhelmingly, previous to this job, anyway, but the importance of that, I think, can't be overestimated because it actually matches very well with Australia's role in shaping global norms that have enabled broader economic progress internationally, and that's an achievement of which we are also very proud.

CEDA's own recent report, *Connecting people with progress*, captured a really important principle, I think. Reform and economic development are not ends in themselves but must be geared towards actually making people's lives better. Equally, global rules and norms have been rightly shaped over many decades to reflect what the international community, Australia included, has judged will deliver the best outcomes for everyone, and it's the importance of these rules and norms that I'd like to talk to you about this evening, in a context that you'll be familiar with: the power of competition on a level playing field, governed by a code we all agree on.

Speaking to a business audience, I'm optimistic that I will be among friends when I say that healthy positive competition is something that we favour. Our international system of rules and norms has created stability and prosperity by allowing most disputes, clearly not all, but most to be resolved peacefully, and enabling commerce to flourish.

This system is under strain today, as differences and disagreements emerge over what are the right kinds of rules and who benefits from them. Nobody denies the challenge that Australia faces as the distribution of economic and strategic weight, coupled with, for example, the emergence of new technologies, change our circumstances at a pace it is difficult to anticipate.

Australia's strategic ally and our largest trading partner are engaging in a period of competition which we are approaching in a considered, calm way to ensure that our responses, our direction are well-managed and strategically focused. The fact of the competition is beyond denial, but the nature of that competition itself is still variable, and with that we need to be shaping our responses appropriately.

Of course, as I alluded to, competition itself when it's on a fair level playing field, conducted within clear rules, is actually in our interests. Australia on the international stage must be continuing to support a rules-based international order which is founded on values that enhance stability and prosperity for all people. For Australia, for me, they include values such as freedom, openness, inclusiveness, and respect by each nation for the sovereignty and independence of others. At times, that will mean speaking our mind or taking actions that are disagreeable to others.

It might seem, occasionally, easier not to speak or to act, but in my view, it is in our long-term interest to remember our core values. Our values are good for business because they underpin the rules and the norms that support predictability and consistency, and thereby create or enable the long-term conditions for prosperity.

Consider fairness in trade. I believe fairness is a valued Australian principle. It is part of who we are. Trade deals rely on all parties keeping their promises, and when there are disputes, having agreed processes to resolve them justly and fairly. Unfair dealing is anathema to countries who work within this system of trade rules and who care about their international reputation.

An international system of rules that underpins and encourages fairness across the board has therefore allowed us to prosper. The rules themselves, it's widely acknowledged, will need to be updated, modernised, to keep pace with changes in technology and economic conditions, but the values that constitute their foundation are enduring, and Australia will need to remain clear about our values and core interests, and we continue to be active in prosecuting them. Fortunately, we have a strong track record, regionally and more broadly, of using our diplomacy actively and effectively, a fact that is, I think, underappreciated, and I want to give you a few quick examples on a traverse of our diplomatic history.

In the 1970s, Australia was already deeply engaged with ASEAN, the Association of South-East Asian Nations, and at that time, the beginning, comprising Indonesia, Malaysia, The Philippines, Singapore, and Thailand. We played an essential role as a facilitator as these five nations put aside their own differences and signed the Treaty of Amity and Cooperation, and then in 1974, we became the first of ASEAN's 10 dialogue partners, a treasured and important relationship between Australia and ASEAN. By the end of that decade, ASEAN was already a bastion of stability, to the south of what was still a troubled Indo-China.

We then played a supportive role when Vietnam, Laos, Myanmar, and later Cambodia joined the ASEAN fold. Another 15 years from that, in 2009, we signed the ASEAN Australia New Zealand FTA. This year, we've warmly welcomed the ASEAN outlook on the Indo-Pacific. It expresses a complimentary vision for our region to the one that we share with like-minded partners, including the United States, with Japan and with India. So this South-East Asia story of which we are part is one of peacebuilding, prosperity, and partnerships to create the stable and prosperous Indo-Pacific, our region.

Moving slightly further north: of course, Australia and China established diplomatic relations in 1973, but our understanding of one another took a few years to evolve. By the end of that decade, after the establishment of diplomatic relations, we had set up the well-regarded Australia-China Council. We celebrated its 40th anniversary last year. Many distinguished Australians have served as members of the Australia-China Council.

So 40 years on, we see the current chair of the council, Warwick Smith, now working to help us establish the recently announced foundation for Australia-China relations to further strengthen ties, harnessing the efforts of federal and state agencies, of peak bodies, of NGOs, of cultural organisations, of the private sector and the Chinese-Australian community, that over-one-million-person diaspora here in Australia.

We have an Australia-China comprehensive strategic partnership as the framework for our engagement, while our economies benefit enormously from the free-trade agreement between our two countries. Yes, there are difference that arise inevitably from our distinct political systems. We haven't made the mistake of ignoring those differences. Rather, we act in our national interest, working to resolve them respectfully and always looking for areas of common ground where we can cooperate, work together. It's well known China is Australia's largest trading partner. Less often noted, perhaps, is the fact that Australia is China's sixth largest source of imports. Our goods contribute to China's manufacturing base and economic growth, while our services improve quality of life in China, especially in health care.

We've also been a champion of developing those international rules of the road that have been instrumental to the stability and the prosperity of our region. We were at the forefront of negotiations that produced the United Nations Convention on the Law Of the Sea, the UNCLOS. It's often called the constitution of the oceans, and the UNCLOS has underpinned stability and security in our region and around the world, including through the peaceful settlement of disputes.

We have the world's third-largest maritime jurisdiction. We have an enormous stake in upholding these rules and norms. The maritime boundary treaty with Timor-Leste was a landmark for UNCLOS and for international law. I was particularly honoured to be in Dili in Timor-Leste with the Prime Minister just a few short weeks ago when the treaty entered into force on the 30th of August, exactly coinciding with the anniversary of the referendum that paved the way or Timor-Leste's independence.

This conciliation under the UNCLOS, under the convention, was the first of its kind, as two democratic nations, as close neighbours, Australia and Timor-Leste demonstrated the value of international law and the rules-based order, and I would say as an aside, it is difficult for me to recall a more singular honour in my professional career than having been in Dili on the 30th of August 1999 as an observer of the vote for independence on that day and returning literally 20 years later to the day as Australia's Foreign Minister to record that particular anniversary.

The fourth example that I would raise hits also close to home. In 1971, Australia was a founding member of the Pacific Islands Forum, which has become a key part of our regional architecture. It's enabled us to work in close partnership with our pacific neighbours to address most pressing issues including our regional security, and most recently in that context through the 2018 Nauru Buoy Declaration and particularly in the context of climate change. Nearly half a century later, our communities, our histories, our values are deeply intertwined with our neighbours. Our future is also intertwined, more so than ever with Australia's pacific step up, through which we are sharing the responsibilities, the challenges of ensuring the region's sovereignty, stability, security, and prosperity.

I hope that those four examples underscore my point that Australia has used our diplomatic skills, crafted through my department and more broadly to considerable effect in the past, and I have every confidence that we can continue to do that into the future. Of course, the way we exercise our diplomacy evolves as the strategic environment, as technology, as economic circumstances evolve.

We're ready to take a leading role in keeping the international rules and norms fit for purpose. Where the rules need modernising, we will help to harness that international will to bring them up to date and we've seen that already in the trade dispute between the United States and with China. As the Prime Minister and other members of the government have said, we recognise that international trade rules need to be reformed.

There is understandable concern right now about the differences between the United States and China. A trade war between the world's two largest economies is in nobody's interests. We urge and have continued to do so, to urge both sides to resolve it and to do so in a way that reinforces our open rules-based trading system without undermining the interests of other nations. We recognise, for example, that intellectual property theft, that forced technology transfer, are wrong. Lopsided trade and investment practices are unfair, and it's precisely to ensure that such disputes continue to be resolved in accordance with international rules and norms that we believe these rules must be modernised.

Indeed, extraordinary leaps in technology mean that the types of goods and services that are now being traded under the auspices of the World Trade Organisation are in danger of being unrecognisable to the rules written in an area dominated by trade in an era dominated by trade in commodities. The US-China trade dispute, though, is but one lens for considering Australian

interests. Importantly, and it's imperative, I think, that we don't lose sight of this, is the distinct set of national interests that is engaged in each of these relationships in their own right.

The US is and will remain our most important strategic ally, and I make these observations this evening on the cusp of a state visit by the Prime Minister of Australia to Washington tomorrow, only the second state visit of this administration, and the second state visit following a previous visit by Mr Howard with President Bush some many years ago now.

China is a vital economic partner and a major power, and we are as a nation continually deepening and engaging with relationships across the region, for example, with countries like Japan, with India, with Indonesia, with those ASEAN nations with which our relationships go back so far.

As the Prime Minister said in his Asialink speech delivered some months ago now, just after the election, we should not be sitting back passively and awaiting our fate in the wake of a major power contest.

As a regional power with global interests, Australia can and must find common ground with other countries to marshal the cooperation that we need. We've done it before, we did it in the late 1980s when we founded APEC to drive economic cooperation in our region, to get businesses involved in shaping rules and to push for global trade liberalisation.

We played a role in the establishment of the World Trade Organisation, and we should, therefore, be playing a role in reforming it to maintain its relevance.

More recently with Japan, we led the conclusion of the 11-nation Trans-Pacific Partnership. The TPP is so much more than a trade agreement. It will help to improve predictable open and inclusive rules. To use my friend and colleague Simon Birmingham's words, this agreement, the TPP, has given institutional legally-binding form to Australia's view of regional economic order, and in recent weeks, Simon has been to Beijing and Bangkok to help shape how the parties to the proposed Regional Comprehensive Economic Partnership, the RCEP, including China, plan to take that agreement forward.

At the same time, we are taking a proactive role in shaping rules in spheres that currently lack proper international regulation, such as space and cyberspace.

We're central, for instance, in two UN groups to develop rules of the road for what is acceptable conduct in cyberspace, and we'll work with other countries to ensure that states and non-states who undertake malicious cyber

activity are held to account, maintaining the international rules in our national interest.

Of course, as I have already said this evening, we acknowledge that there are and will be pressure points. There'll be times when ripples in geopolitics mean business does become more difficult in the short-term, but the goal of our effort must be stability and security on terms that are consistent with our values and long-term interests in a way that empowers our people to improve their lives.

Just as leaders of the business community seek to make their organisations competitive over the longer term, you can be assured that the Morrison government is focused on the long-term prosperity of our nation. We will continue to help shape a world that remains free and fair, in which individual and collective rights are protected, and people and nations are not subject to coercion and pressure.

That's a world in which the private sector is free to pursue innovation and develop the big ideas that will power and shape the economies and the societies of the future. Fair competition on a level playing field governed by rules. That is the world we want. It's a world to which the people in this room, I suspect, have become accustomed and in which many of you have prospered.

As a nation, we have a history of helping to provide solutions. We've earned a good name on the international stage, and that's a core message that I will take with me on Sunday to the United Nations in New York. The government believes that the UN remains central to maintaining the rules and institutions that underpin a free, open, inclusive, and prosperous global order.

This UNGA Leader's Week will traverse many, many issues: climate, health, sustainable development, and oceans. We will discuss nuclear non-proliferation, counter-terrorism, our work to achieve justice for the victims of the downing of flight MH17 and their families.

More than ever, Australia is and will continue to be active and vigorous within the international system. There's no doubt that these are challenging times. However, we have strong experience of engagement in influencing our region and our strong contribution to the rules. While cooperation between government and industry and business has always been important, the tech-advanced world of few to no borders in which we live means that such cooperation is more important for our prosperity and our security than ever.

So I encourage you, the communities, the business, the institutions that you represent, to join me in taking Australian values to the world, and in securing our interests in a peaceful, open, inclusive, and free international order.

Thank you very much for the opportunity to speak this evening, and I think Jeff has indicated a couple of questions coming my way. As I said to the boys and girls at the Armidale school in the city of Armidale last week, that'll make my fifth question time for the week, so you'll crack 10, and I think that that's a very good way to finish my week.

> STATE OF THE NATION

> 20 SEPTEMBER 2019

> CANBERRA



The upside of the trade downturn

Chris Richardson

Partner, Deloitte Access Economics

Deloitte Access Economics Partner Chris Richardson discussed the surprising implications that recent global trade disputes have had on the Australian economy. Addressing an audience at the 40th annual CEDA State of the Nation, Mr Richardson said that Australia had been the world's largest beneficiary of the trade wars to date.

He also reflected on the issues affecting the Australian economy and the relative advantages of the different levers policymakers could pull to stimulate lagging growth. Mr Richardson said that the central dilemma in Australian fiscal policy is how we can boost the economy today while managing the risk of future economic challenges.

Many thanks, Melinda (Cilento, CEDA Chief Executive), and many thanks to CEDA for having me along. CEDA is a magnificent institution, fighting for a better Australia. I was talking a moment ago up here to Melinda about that. In Australia and around the world, fighting the good fight for a better future is getting harder. It's central to your heart and to your mission, it's central to the heart and the mission of Deloitte too, and it's actually going to be a bit of what I'm talking about today.

I'll talk about some of the current issues, some of the current controversies, but I actually wanted to start, just in a very simple sense, because we get so lost in the detail of particular issues, where they are, how they're going, and we're always at risk of getting lost in the wood for the trees. Whether you're talking about Australia or indeed any society, there's two main aims: prosperity and fairness, the size of the pie and how we are slicing the pie up.

I love the federal budget; I would classify myself as the biggest budget nerd in Australia. I love it because it is Australia's social compact, and it is all about how we band together as a nation, as a society, to chase those two key important goals. If you're thinking about that, of course, and you're looking at this, you'll notice that one of the slices of Australia's pie is just a little smaller than the others. That's clearly the Newstart slice of the pie, and if we were to go back and look at the same pie next year, well, as CEDA and indeed as Deloitte Access Economics have pointed out in relative terms, that particular slice would be even smaller still compared to the other slices, and that's a fairness issue.

I'm going to be talking today a chunk about prosperity, which, to some extent, requires talking about how the Australian economy is going, the size of the pie, how it is growing. You all know the answer there, and you know that it's a challenging one.

You look at the growth in the production: how much extra Australia is making, output or real GDP, the most quoted statistic about the Australian economy. You look at the growth in that over the last year, you can straight away see the challenge. The growth rate in Australia today has dropped to the lowest that we've seen since the global financial crisis. Now, that's a challenge, and what we should and perhaps shouldn't do around that challenge is going to be the focus of what I talk about today.

There's a problem. Who is to blame for that problem? Well, again, we immediately leap to the answer. We all know that it's down to the trade wars and in essence the Dumbo and the dictator who run the world these days. That bit was off the record, so for you up the back there, I didn't actually say that.



Just to clarify, only kidding, only kidding. And it is true that the trade wars are a particular challenge for the world economy and that they aren't irrelevant to the real GDP growth rate, production, the output growth rate in Australia dropping to the lowest that we've seen in a decade, basically the lowest that we've seen since the global financial crisis.

It is a genuinely more complicated story than that. I used to work at Treasury, that was some time ago, and it wasn't until I left Treasury – Treasury talks most about and thinks most about production, output, real GDP – it wasn't until I left and became part of the private sector that it gradually dawned on me that GDP growth isn't a very useful indicator.

I don't talk much about GDP growth anymore. It might still dominate the headlines, but it certainly doesn't dominate our thinking at Deloitte Access Economics. A much more relevant measure is national income and the growth in national income. If you look at where that is today versus that longer-term trend, 5.8 per cent over the past year versus a longer-term trend of four and a-half per cent, and you compare today to the global financial crisis.

Again, this is not the most quoted statistic, but it should be. The Australian story is more complicated, but it's also better in a bunch of ways than people have given it credit for. Why is that so? The main reason why we're getting national income growth going up at a time when output growth is going down are those trade wars. It actually turns out that the world's largest beneficiary of the trade war to date has been Australia. Let me step through and explain that.

So how does a global downturn – and there is a global downturn, our growth has slowed around the globe – how does that usually hurt Australia? The main channel, the main way is that as the world slows down, there are bits of the world economy that slow faster, typically manufacturing, broadly industrial production, all those very cyclical things. It shows up most in the most cyclical thing of all, those commodity prices.

What Australia does very differently to essentially any other rich nation around the world is we sell industrial inputs to the world's factory, and so in a downturn, those factories get hit the hardest, and the prices of the stuff – the coal, the iron ore and the rest of it – usually goes down, and it goes down quite a lot. That's how we hurt, but that has not been happening.

The main reason, and it's been building slowly, like the improvement in the budget balance, and for the same reason it's been building slowly since the early months of 2016. As China slowed, its politicians came under pressure,

it's responded with stimulus, and most of the stimulus in China travels through the construction sector. Construction needs steel, steel needs coal and iron ore, added to the fact that we had that tragedy or a few tragedies over in Brazil around mine safety, and the response of the Brazilians was to close down some of their production for a while.

We've seen big increases in coal and iron ore prices, while things like gold prices have gone up as well. They're off their peaks, but they're still pretty high. It turns out that for all we worry, Australia's easily been the world's biggest winner from those trade wars, and much of what we're thinking about as the problem is genuinely not the problem, which does, of course, raise the question of what has been doing the damage.

Two things have damaged output growth in Australia. The drought, which was slipping off the front page, but it's started to come back because it hasn't gone away, and again, this is an old story, a big drought causes a chunk of damage to the Australian economy. It's caused about a third of the slowdown in production in Australia.

Two thirds of the trouble, the bulk of the trouble, is housing. From about late October onwards, house price falls in Australia accelerated. There was a substantial phase where the average home in both Sydney and Melbourne was losing value by \$2000 a week. This was, and again, using the technical jargon, the housing – I don't really want to call it a bubble, but it was certainly close to a bubble. It was always going to bite Australia on the bum because those prices divorced a long way from fundamentals, from gravity, if you like, and gravity eventually caught up with that stupidity, and as it did, and as those housing price falls began to accelerate, that did two things: first, fewer apartments getting built at the moment, though that took time because there was this big pipeline of stuff getting built.

The second, bigger, faster thing to happen: housing construction is only five per cent of the Australian economy. Retail spending is 25 per cent and, more widely, consumer spending is over half the Australian economy, and as the wealth of consumers began to go down, there was a lot of fear around that. You saw consumers become more careful, so we pulled back on our spending, and as always, it was the discretionary stuff. Car sales are down 10 per cent today on where they were a year ago. A lot of discretionary spending is where the pain was felt.



Or looking geographically, retail turnover in New South Wales has barely budged today from where it was a year ago. In other words, the housing downturn did two things: it made consumers more cautious. Their wealth was going down, they were more cautious, and it's showing up in the pace we're building new homes and renovating old ones. Lately, that has been what's been causing the damage here in Australia.

What next? We already know that there's a bunch of stimulus. I would go so far as to say heaps of stimulus. House prices are, as we know, rebounding now. That's a problem longer term. We had a housing affordability problem, it was getting better, now it's getting worse. I mentioned we went through a number of months from late October well into 2019, we saw those averages – homes in Sydney and Melbourne losing value at \$2000 a week. Last month, they were back to rising at \$1500 a week.

There's some data just out from Corelogic last week. The average house, the median house value in Sydney rose \$4000, and in Melbourne, it rose \$3000. To be clear, this is actually the hair of the dog that bit us, and there are dangers around that, but in the short term, it's part of what is putting something of a floor under the Australian economy.

The drought isn't going away, but we're talking about growth rates, and, in fact, the current estimate is that this year's winter crop will be a little better than last year's winter crop, or in other words, it goes from being something that's worsening growth to something that ever so slightly is helping growth.

We've had two interest rate cuts, and we'll get more. We'll get another two, maybe another three interest rate cuts. We've had tax cuts and they are rolling into people's pockets. The Australian dollar is down about 10 per cent on where it was two years ago. That's not a bad combination. That is enough to, in a grand sense, do nothing. It's enough to leave the unemployment rate around about where it is, five and a-quarter per cent. It's enough to leave wage growth at about two and a-quarter per cent, or in other words, it's enough to keep the Australian economy muddling through.

Now, that's a disappointment to a bunch of people. Muddling through, you kind of think, well, is that the best we can do? The obvious question is, well, what's the alternative? Does anybody have a cunning plan? And of course, the Reserve Bank does have a cunning plan, and it has to have a plan because something unusual is happening in Australia and around the world. It's the same story here and globally.

You're seeing interest rates getting cut, but essentially for the first time ever, interest rates are getting cut for two reasons, not one reason. Not because economies are slower, but the other thing, the thing that people really don't understand is growth is showing up, here and around the world, differently to how it used to.

These days, it shows up more in jobs and less in wages than it used to. The trade-off between, in particular, unemployment and hence wages and prices inflation, that trade-off has shifted. The Reserve Bank put up its hand and said, "well, hang on, we used to think that it took an unemployment rate of five per cent to get wages moving faster, now we think four and a-half per cent."

Now, it came to that conclusion, and it's the same conclusion globally that shifted at a time when economies had slowed, and so as the Reserve Bank cuts rates here or you see equivalents overseas, two things are happening. Imagine we're driving along in a car, the speed limit is 60 kms, but the car's drifted down to 50, and so we've put a foot on the accelerator.

That's the traditional reason we're seeing central banks respond to a slow-down. The other thing, though, is that the central banks of the world and the Reserve Bank has looked up. They've said "hang on, we thought we were in a 60 zone. We're actually in a 70 zone," and so they're putting their foot on the accelerator even harder.

To get from where we are, unemployment rate of five and a-quarter, to where you have to be to move wages along, to address the two things, I called it muddling through, the unemployment rate basically doesn't improve, wage growth doesn't improve. In fact, on our forecasts, we're still working through in response to the national accounts, but wage growth, if anything, edges down slightly in the next little while. This would address those two things.

To get from five and a-quarter per cent unemployment down to four and a-half, you need about 200,000 extra jobs. That's 100,000 people off the unemployment queues and 100,000 people retiring later or coming back into the workforce earlier, all those things. We're talking by definition about something that would be very good for those 200,000 people, particularly for the 100,000 who'd be moving off Newstart. It'd be good across the 12 million workers in Australia who would be better off as a result of that.

Now, how much do you need to move the dial? How much do you need to move the levers to get an extra 200,000 jobs in Australia? Well, let me talk about two levers. One of them is just interest rates, and the other is just infrastructure spending, and these results come out of our modelling.



We have a beautiful economic model at Deloitte Access Economics, but they're broadly consensus results. If you were just using interest rates to create an extra 200,000 jobs, you would need to cut interest rates about three percentage points, which is a problem if the cash rate today is one per cent. You've got the Reserve Bank saying, well, we can't do this ourselves. They've explicitly noted, well they could, I'll call it "printing money".

They could do the fancy stuff, and we know the fancy stuff helps. We also know there is a risk that the fancy stuff is kind of better at pumping up share markets and housing prices than it is pumping up economies, but it does help.

So interest rates, three percentage points, which we don't have. Say the Reserve Bank was out of this equation, and the only lever we were using to get an extra 200,000 jobs was infrastructure, you would have to essentially triple the amount of infrastructure, public and publicly funded infrastructure spending in Australia today. And we know there are some challenges around – there's certainly a bunch of projects that we should do, not necessarily some of those on the agenda. Cost benefit is the key, but there's a bunch of particularly smaller projects that you can do. You look at Sydney and Melbourne, though, and there are some capacity constraints there.

So here's the Reserve Bank plan, here's the levers and that's why the conversation there is essentially saying the Reserve Bank needs to do more, and it is doing more, and it's looking to the federal government, or perhaps the federal government, to push along the state governments to come to the party. That is hard – hard but do-able.

I just want to set the conversation, though, in a wider context, because a bunch of people are assuming, well, that Reserve Bank plan is what we should do, and we're dumb if we don't. I just want to take you back to those two aims, prosperity and fairness; I'd typically say sustainable prosperity and fairness because I want to bring in environment and global warming, but there's a sustainability question here too, if you think about the Reserve Bank plan versus the government plan, which is essentially doing what they're doing, or no further stimulus.

As you weigh up those alternatives, as you think through the costs and benefits, this is essentially an insurance discussion. We are talking about clear gains, if you shift policy, you get an extra 200,000 people in jobs, and wages moving are faster than they are at the moment, clear gains.

What do you lose? Well, to some extent, you lose a bit of wiggle room. If the Reserve Bank cuts interest rates close to zero and starts printing money, if the feds pitch in and fiscal policies substantially assist, and we get to that four and a-half, and it's all great, but just remember that nobody knows the future, and that risks and uncertainties, the known unknowns and the unknown unknowns, they continue to rise. You worry about Brexit, you worry about trade wars, you worry about Hong Kong. You should worry more about India and Pakistan. Iran is backed into a corner, and its punches are starting to be a little on the wild side, so you kind of think, well, is this the right thing to do? And so many people assume yes.

I would simply say roll forward five years when we will know, and if we're looking back and we say, well, okay, we did what the Reserve Bank suggested, and we got the extra 200,000 jobs, and we got wages moving faster, and there wasn't a crisis in the meantime, well, it will have been the right thing to do.

If, however, the bad thing happens, if the world does throw a recession at Australia across that five years, and we've cashed in a chunk of our recession insurance, there are technical limits, in particular on how much printing money could achieve. There are political limits, there would be people in the room, certainly good economists would say, well, it doesn't really matter if the federal government is in much of a deficit.

When the crisis hits, it can get an even bigger deficit. That is entirely correct in a technical sense. It is less correct in a tabloid sense. The politics of fiscal stimulus are a lot easier the better is that budget position. I'd simply make that point if somebody is saying to you that it's obvious what should happen now, what I would say is that it is a question of risk management. We don't know who's right.

The more the risks and uncertainties rise, and even in just the last three months they've risen, I would say that holding back a little, keeping that insurance, if anything, the value of that option has continued to rise in recent months.

Bad things are happening, but they haven't actually hit yet. Think about Australian national income, they haven't really hit yet.

This audience in particular would understand that there are two types of economists: there are the economists who love their Kenny Rogers. There's a surprising amount of them, whereas, of course, I am your Bob Seger type, and when I think about that trade-off and that insurance and do we hang on to a bit of wiggle room, "I wish I didn't know now what I didn't know then".



The tragedies of my lifetime have been recessions. They are, again, to be technical, god-awful, and the Australian experience, or indeed, the American experience more recently in the global financial crisis was that if you lose your job and you don't get a job back within two years, then you're essentially on the scrap heap forever, so having that room to manoeuvre in the event of recession is vital.

Churchill becomes Prime Minister, and France is collapsing, and he races over to France, and he says, "where are the reserves?" and he's told, "there are none". It's a complicated decision. That's the debate that Australia should be having at the moment.

The Reserve Bank is right. We can do better, and they may be entirely right that we should do better, that we should push on the monetary and fiscal accelerators more. But we don't really know that, and as the risks and uncertainties rise, I must admit, I'm not uncomfortable with where policy is at the moment, which is, of course, a dangerous note on which to finish.

Thank you very much.

> FUTURE OF WORK

> 29 OCTOBER 2019

> PERTH



Jobs and the future of work

The Hon. Anthony Albanese

Federal Leader of the Opposition

Delivering his first major speech since the 2019 Federal Election in Perth, Federal Leader of the Opposition, the Hon. Anthony Albanese, outlined Labor's vision for the economy.

Mr Albanese spoke about the ways technology and shifts in the global economy are affecting Australian workers. He introduced Labor's plan to boost productivity through investment in skills and technology. Mr Albanese also discussed the job opportunities that a transition to a low carbon economy could create.

Thanks very much Paula (Rogers, CEDA State Director WA) and thank you to yourself in particular but CEDA in general for putting together this event on relatively short notice it has got to be said. So well done and what a fantastic venue.

Can I thank Barry (McGuire) for the Welcome to Country, not just the words but the song, which really added to the event. We are indeed privileged to live in a country which was occupied by the oldest continuous civilisation on the planet for thousands of years and I pay my respect to elders past and present. To the Premier Mark McGowan, a friend of mine and someone who I am very pleased has taken the time to be here today along with the members of your team Rita and Allana and the others who are here.

To my team, this would be the largest ever, I'm sure, number of front bench members here in WA from any major political party. We have 20 shadow cabinet members here and we have other shadow ministers here and all the local team from WA as well. To Richard Marles and the team thank you to all of you. In particular, thanks to our fantastic local representatives.

Australia is at a crucial intersection. We have a weakening economy and growing job insecurity. We face environmental, demographic and geopolitical challenges, but we have a government that has no agenda yet alone a plan for the future. They are in denial about insecure work, about wage stagnation, about declining living standards. They are in denial about our choked cities and our starved regions. They are in denial about energy and science and they are more interested in division than in inclusion. But above all, they are characterised as being scared of the present but terrified of the future.

I am optimistic about the future provided we get the policy settings right. Today the Labor Party begins laying down the framework on which we will build the policies that we will take to the election in 2022. Today the Australian Labor Party turns our focus forward. We must face the future in the interests of our country and we will be guided every step of the way by our values. Labor values. Values that have at their heart the desire to lift up our fellow Australians and help us reach our full potential, not just as individuals but as a nation. Our policies will always need to adapt to the changing world around us, but our values are enduring.

The very sites of economic production and exchange are changing rapidly. The global economy is more integrated and competitive than ever before. And in that changing world, we are confronting an intensifying international debate over energy production and our natural environment. More and more women are claiming their right to employment and economic security, forever changing the face of – and the culture within – our work places.

We are in the midst of a technological revolution. It is acting as both a catalyst for disruption, and providing an unprecedented opportunity to improve our lives. It is a revolution that is changing absolutely everything. The way we live, the way we learn the way we relate to each other and of course the way that we work.

Today I present the first in a series of Vision Statements and I am proud to do it here in Perth, WA. It concerns the very heart of Labor's mission: jobs and the future of work. We understand that work isn't just about a pay check. With work comes purpose, self-confidence and dignity. Good jobs strengthen families and communities. Australians are worried about the future of their job and the jobs that their children will have in the future. They are anxious about facing technological change greater than at any time in human history. They deserve reassurance that the future of work will help them get ahead and not fall behind. And they expect government to do its bit by working just as hard as they do.

As a party born of working Australians, which arose from the trade union movement, Labor will fight to see aspirations rewarded, and hopes realised. Australians want their children to have better lives and more opportunities than they enjoyed. It is not too much to ask for.

In 2019 however, many fear that this simply won't happen – that their children will have fewer opportunities than they enjoyed.

And they are right to be anxious. They are right to be worried about weak growth and stagnant wages. The current government's finance minister has even described low wages growth as, and I quote, "a deliberate design feature of our economic architecture".

The pace of change is confronting. I get it. While government cannot stop change it can certainly shape change and Labor's priority always has been and always will be to shape change in the interests of people.

Only Labor can lead Australia confidently into our future. We have done it before and we will do it again. Like Bob Hawke and Paul Keating, I understand that building the future means that we must first and foremost be in the business of creating wealth, as well as ensuring that it is distributed fairly.

Labor is proudly and resolutely pro-growth. We understand that successful businesses and a vibrant economy are essential prerequisites for that jobs growth. The contribution made by the 2.2 million small businesses is especially important. They employ 4.9 million Australians – nearly half of all private sector employees. Ensuring that they thrive and flourish is vital to our national prosperity. So too is finding and harnessing new drivers of prosperity.

We need to shape our changing economy so it serves the Australian people, not the other way round. Not yesterday's economy, tomorrow's economy. When it comes to building that economy, technology and innovation are our allies. They are the key to boosting productivity. We must find new ways to use our resources more effectively, especially our most important resource: the talents of our people.

As much as technology can play a part here, people will matter even more. How we skill them up and prepare them for change is crucial, not just in producing the goods and services we buy, sell and trade in the private market and overseas, but also those public goods and services people expect and deserve, such as a clean environment, quality healthcare, opportunity through education and a proper safety net in the workplace.

As economist Paul Krugman said, "productivity isn't everything but in the long run it is almost everything." The future belongs to those countries that can innovate, adapt and adjust. Complacency is our enemy.

As well as lifting economic productivity in the short to medium term, technological advancements are also opening new doors of wealth and job-creation opportunities. And those opportunities are made even more significant due to our geographical position on the doorstep of the world's fastest growing region in human history. We are in the box seat to reap the benefits of the Asian century, but only if we get it right.

Some of those opportunities lie within the global efforts to tackle one of the greatest challenges that we face today: the challenge of climate change. The fact is the world is decarbonising. With the right planning and vision, Australia can't only continue to be an energy export superpower, we can also enjoy a new manufacturing boom. This means jobs.

Consider the direct exports of LNG from northern and western Australia through to South East Asia. Or the dividends from a hydrogen economy that can help our major trading partners such as Japan and South Korea make the switch to hydrogen. This goal is also consistent with the ambitions that were set out in the Asian Century White Paper.

It urged Australia to improve human security through the development of resilient markets in basic needs such as energy. Indeed, experts tell us that achieving 50 per cent renewable energy at home, while building a hydrogen export industry would create 87,000 good, well paid jobs. Chief Scientist Alan Finkel sees a hydrogen export industry that in just 10 years could be worth \$1.7 billion.

Working towards a low carbon future provides the opportunity to revitalise the Australian manufacturing sector. Opportunities that are all about jobs. Yet our current policy settings barely acknowledge climate change let alone seek to exploit the opportunities that over time can come from the global shift to renewables.

In the century that is before us, the nations that will transform into manufacturing powerhouses are those that can harness the cheapest renewable energy resources.

We have the highest average solar radiation per square meter of any continent on the planet. We don't need to create nuclear power when every day we can harness the power of the greatest nuclear reactor in the solar system that we see right outside here: it's called the Sun. We also have some of the best wind and wave resources and we have some of the best engineers and scientists in the world breaking down the barriers of what is possible.

Australia can be the land of cheap and endless energy – energy that could power generations of metal manufacturing and other energy-intensive manufacturing industries. Our resources and capability also offer us the scope to be the capital of mining and processing of the key ingredients of the renewables revolution.

Australia is the second largest producer of rare earth elements. We have the greatest reserves in the world of iron and titanium, the second greatest reserves of copper and lithium and the third greatest deposits of silver. Just as coal and iron ore fuelled the industrial economies of the 20th century, it is these minerals that will fuel the clean energy economies of the 21st century.

Among these resources there is one that the WA Government has identified as key to the diversification of this states economy and that is lithium. Right here in WA we are seeing the emergence of an industry, adding upstream value to a resource, creating new processing and manufacturing industries and crucially creating regional and metropolitan jobs. As electric vehicles, energy storage systems and smart devices become more mainstream, the global demand for lithium batteries will explode and WA under Mark McGowan's leadership is ready.

Already WA has seven operation lithium mines, two lithium processing plants are being built and a feasibility study is underway for a third. And it is all supported by a research centre that is taking Australia a step closer to the development of a battery manufacturing industry.

Yesterday I visited Mineral Resources in Quninana with local MP Madeleine King and our Shadow Minister for WA Resources Matt Keough. I saw first hand this exciting growth industry. The emerging lithium industry is a living example of how real world economic progress happens. Business, unions, researchers and government coming together to deliver on an aspiration bigger than just digging stuff out of the ground and letting the value adding happen offshore before it is imported back in.

Not only is Australia in a position to build the batteries, Brisbane based company Tritium has developed and is already exporting the technology to recharge them. Their charging stations are the fastest in the world and are fuelling the shift to electric vehicles in Europe.

Our traditional industries are also poised to benefit from a low carbon future. For example, it takes more than 200 tonnes of metallurgical coal to produce one wind turbine. According to forecasts of global growth in wind power capacity to 2030, Australia could be exporting 15.5 million tonnes of coking coal to build these turbines. This is the equivalent of three years output from the Moranbah North coking coal mine in Queensland. It is expected that the growth in electric vehicles will mean global copper production in the next 25 years will be larger than all the copper that has been mined anywhere in human history.

Simply put, the road to a low carbon future can be paved with literally hundreds of thousands of clean energy jobs as well as supporting traditional jobs, including coal mining. Labor wants to lead that clean energy revolution.

Labor's vision for Australia will always be one of a country that continues to make things. I have always been optimistic about our great manufacturing sector. My optimism was confirmed when I recently visited Keats 3D advanced manufacturing in Bendigo. Located in an old foundry, this 21st century company designs and prints custom made defence, medical and mining components, employs 140 locals in that great regional city and exports to the world.

But it is certainly not our only example. The Bombardier factory in Dandenong has recently been tasked with building new velocity trains for regional Victoria and refurbishing existing ones. These additional sets will help secure 100 jobs as well as indirect jobs in the supply chain.

It is not just good for workers. Those stickers on the side of trams in Victoria that say "Made in Victoria" are a source of real pride. In regional Queensland, Downer EDI is fixing up the new generation of rolling stop trains with all 75

sets to be repaired at its Maryborough site—again jobs in regional Australia. And here in WA the McGowan government has announced its METRONET railcars will be built locally, bringing rail manufacturing back to this great state.

Change can also bring about higher safety standards, while it creates jobs. At the Dulux plant in Melbourne, workers in lab coats and computers undertake the task of paint development, a risky undertaking that used to be done manually. This change has not only boosted productivity it has created better, safer jobs and among those with jobs at the plant are former Ford workers from Broadmeadows.

Our traditional industries are also embracing technology. For example, our mining services are a major export. The future manufacturing sector of Australia needs to develop world class products, incorporate the best technology, and provide the good jobs that the sector has provided for generations. And a high-quality manufacturing sector that competes on the basis of being the best, not on the basis of a race to the bottom on wages, is how we deliver the good manufacturing jobs that we both need and we deserve.

But this too requires leadership, investment, the addressing of challenges, and vision. Our manufacturing sector is straining beneath record energy prices without a plan or leadership from the government. I want businesses to invest, and that is why the decline in business investment under the Coalition is so concerning.

Governments should be about encouraging capital investment. Labor has been urging a bring-forward of the infrastructure investment that is need to stimulate the economy. Today I call upon the government to introduce an upgraded investment guarantee as part of a measured economic stimulus package to boost our sluggish economy. Bringing forward infrastructure investment, combined with increased business investment, will create jobs in the short term as well as lifting productivity.

Two of our other greatest renewable resources are our imagination and our creativity. Our government should be playing more of a leadership role in the development of employment opportunities in the creative sectors. These industries span creative services, such as architecture, design, software, digital content, advertising and marketing; as well as cultural production including film, television and radio, music and performing arts, publishing and the visual arts.

Governments across the world are recognising the creative industries as a key strategic area for development. In Australia, these industries are growing at nearly twice the rate of the broader Australia workforce, and because they

require creativity and judgement they support jobs that are much less likely to be automated.

The creative industries are of strategic importance to Australia, but are being held back by cuts, a lack of investment, and outdated policy settings. So I am pleased to announce that Labor will hold a Creative Economy Summit in the first half of next year. Led by Shadow Minister Michelle Rowland the summit will bring together key players from across the creative industries to chart a course for an expansion.

There are other developments that will have profound effects on countries and their economies, notably the future impact of artificial intelligence (AI). Some have estimated that over the next 10 years, AI could create nearly \$15 trillion in economic value. In last year's budget, the government announced it was allocating \$30 million over four years to support the development of AI. That's a start but bear in mind our Singaporean neighbours are allocating around about five times to that amount and they start out ahead of us before the process.

At this year's election, Labor championed the establishment of a National Centre of AI Excellence to help chart the likely national investment required in this area by bringing together those with a stake or an interest in the effect of AI's application in our economy.

This centre needs to be established now, or we will fall behind. Think of it this way: my son was born at the end of the year 2000. For his generation and the next to come, we must respond to the digital revolution with plans to help manage its impact on the future of work and maximise the benefits for communities and our economy.

Achieving growth also depends on ensuring that all Australians are able to participate in the workforce. Since the equal pay decisions of the 1970s, progress has been made to ensure workplace equality for Australian women, yet women in the workplace still suffer gender segregation, pay inequality, sexual harassment and discrimination.

To ensure that Australian women thrive in the workforce we must change the culture of Australian workplaces when it comes to caring responsibilities. We must strive for a labour market where women can be seen on construction or mining sites as equally as men are seen in our places of care. A labour market where the only thing that matters is your skill and your ability to do the job. Ensuring that women can reap the full benefits of participation in the workforce will be a priority for labour and I will work with unions and employers to achieve that outcome.



Higher productivity and economic growth will only be sustainable when everyone can access the job opportunities and the resulting prosperity. A strong economy and an inclusive society go hand in hand. But even now the unprecedented rate of change and the spread of new technologies are leaving many workers unsettled and others of course are left out of the labour market all together.

To return confidence to the labour market we need to rebuild the pathways that allow workers to engage with technology and innovation in an assured manner. This will require the single-minded pursuit of skills.

Skilled workers are confident, they have more choices. And we know that almost two million Australians are either out of work or they want more hours. Yet a recent Australian Industry Group survey indicated that three quarters of Australian businesses cannot find the skilled workers that they need. According to the government's own agencies there are skill shortages: pastry chefs, electricians, motor vehicle repairmen, bricklayers.

Furthermore, the Australian resources and energy group predicts the mining sector will need an additional 21,000 additional employees by 2024. As a result of the rollout of the NDIS and the ageing of our population, the demand for workers in health and human services is set to become even more acute. In short, what we have in Australia at the moment is a labour market that is characterised by the mismatch between what workers have to offer and what employers need.

Over the past six years the current government in order to deal with this has issued half a million visas to foreign workers. Instead what we should be doing wherever possible is training Australians for current and future jobs. I recognise that this debate is a complex one, but working through the issues is what conscientious governments do.

We must commence a national project to repair our VET system. We see a steep decline in Australians who are working towards an apprenticeship, with 150,000 fewer apprentices and trainees than when this government came to office. This includes 7000 fewer across Perth alone. Under this government, TAFE and training have suffered huge cuts in gross underinvestment and state governments have also had an impact.

Under the previous WA Liberal Government, TAFE fees for some courses went up by as much as 500 per cent. Mark McGowan's Government is dealing with that; it is committed to TAFE as demonstrated by its lower fees local skills policy which halves TAFE fees for high-priority skills.

Too many young Australians have been burnt in recent years by fraudulent training providers and that must never be allowed to happen again. We must also ensure that trade qualifications are more relevant to the jobs of today, and to ensure that people have skills that transfer between occupations.

Transferability of skills is critical in a world of accelerating change. Today I announce that Labor in government will establish a new national partnership to drive improved outcomes in the vocational education and training sector and to strengthen workforce planning particularly in the growing sectors of our economy.

We will create Jobs and Skills Australia. This will be a genuine partnership across all sectors – business leaders both large and small, state and territory governments, unions, education providers and those who understand particular regions. And for the first time I want this to be a data driven exercise working in real time with labour markets technology, such as Seek and LinkedIn, to drive real outcomes.

Like Singapore's Skills Future I want Jobs and Skills Australia to strengthen our choices in jobs, skills and careers. It will be legislated just as Infrastructure Australia was legislated in 2008. Its functions will encompass workforce and skills analysis; preparing capacity studies including for emerging and growing industries; undertaking specific plans for targeted groups, such as those over 55 and young people; and reviewing the inadequacy of the training and vocational system.

In addition to those functions it will also have a unique statutory obligation. Jobs and Skills Australia will undertake forecasting and assessing skills requirements for all those services where government is the major funder and where demand is forecast to expand. This includes the human services such as NDIS, aged care and health. This specific function will ensure that proper coordination occurs across all our human services investments and that the risk to service delivery or cost is reduced. As Deloitte Access Economics has written, our future workforce will require the skills of the heart

I want to do it with a proven model of collaboration. It will work with business and unions to harness insights from industry to ensure that training is meeting not just today's needs but the needs of the future. It will ensure that the Commonwealth works genuinely with the states and territories. The TAFE system is the cornerstone of the Australian training system. It can be complemented but it can never be replaced. Our model of Jobs and Skills Australia is for that genuine partnership.



The skills challenge of today is more acute than when the Rudd government developed our skills policy, which is why today's policy goes further. I see it as the basis of a new compact. The Coalition has taken some steps in this direction with the proposed establishment of a National Skills Commission, but this is a late and inadequate response from a tired government in its seventh year.

The same government that abolished the Australian Workplace and Productivity agency that Labor established in 2008. This was an active decision to vacate national leadership in this area and our workers and the businesses that need them have been paying the price.

I know that collaboration works. As Infrastructure Minister, I established infrastructure Australia. In spite of the fact that it was opposed by the Coalition at the time, it is still in place today because it works, and I envisage a similar model for Jobs and Skills Australia.

Put simply, a collaborative model to guide investment in human capital, just as Infrastructure Australia provides a model to invest in physical capital. Labor will always ensure that workers have access to a strong and stable set of minimum conditions, as well as ensuring that workers have the right protections. We need to make sure that workers get their fair share of gains in national productivity.

Let me be very clear though: supporting protections is not the same as supporting protectionism. A trading nation such as ours cannot depend on the latter. Protectionism detracts from growth and punishes consumers as well as businesses. But protections are different. They are the insurance we take on to reduce uncertainty, strengthen confidence, manage risk and support enterprise. Labor has always advanced such protections. Protections such as the age pension supported by Andrew Fisher; the National Unemployment Benefits Scheme of Curtin and Chifley; universal superannuation and Medicare under Hawke and Keating; the NDIS and paid parental leave under Rudd and Gillard.

There is a common theme here: all of these great reforms help protect Australians against uncertainty and the risk of loss, not least in regional Australia where unemployment rates are higher. We have established a Regional Jobs Taskforce chaired by Meryl Swanson to focus on employment in our regions, because right now uncertainty is everywhere.

Job insecurity is on the rise and it doesn't discriminate. According to the latest research, one in four workers feels unsure about the future of their current job and half expect it would be difficult to find a new one quickly if they had to.

While many people take on casual or similar styles of work for lifestyle or other reasons, others compelled by financial necessity have little choice. Instead they find themselves working unpredictable, fluctuating hours with few or no protections and uncertainty about the size of their pay packet. As a result, many of these workers are unable to plan ahead or make time to be with their families. They may find it impossible to get a car loan yet alone a home loan. Their lack of job security may leave them too afraid to speak out at work about issues such as health and safety.

These Australians deserve a greater sense of security. One option will be to investigate the barriers to business offering full time employment. A full time job is what most Australians want. This would not only be better for workers; businesses prosper when they foster stronger mutually beneficial relationships with their workforces.

Our industrial relations system is being strained by the emergence of new forms of employment arrangements. One such trend is the growth of intermediated or on-demand employment such as the growth in the gig economy

And non-standard work is seen across industries. For employers, non-standard arrangements can help with volatility or short-term spikes in demand for labour and we get that. But we want people to elect to take on this form of work because it benefits them, rather than because they don't have any other option and not as a tool to de-unionise workplaces as a step to lowering wages and conditions.

For many employees, these arrangements can be beneficial. They can provide flexibility and additional income. Today we have close to one and a half million secondary jobs some with a median income of nine and a half thousand dollars depending on the industry.

Forty per cent of Uber drivers for example have a separate full-time job or own a business. Many Uber drivers adopt the platform precisely for the flexibility it provides. It is time that we have a conversation about new forms of worker protections, which can be made as flexible as the gig economy jobs they could cover, as well as benefit more traditional industries – ideas like portable entitlements. Over the coming months through our Shadow Minister for Industrial Relations Tony Burke, Labor will lead that conversation.

In conclusion can I say that it is no longer possible to assume that economic success is inevitable, but for individuals the talk of the large levers of national economic policy, the data and the statistics, is all made real through the opportunity to work. Through having a job. Through their family and their neighbours having a job.



Not just any job, we want to see good jobs, ones that guarantee a decent standard of living, ones that continues to improve over time. But just what those jobs will be a decade from now is uncertain.

We can watch the tidal way of change coming and be swept away by it, or we can protect our citizens by giving them a fair shot at a prosperous future. Labor doesn't believe that government should simply get out of the way and leave it to the market alone. We know that trickle-down economics only rains down misery on working people.

Government must understand the landscape and the forces that drive change – it must be proactive not reactive. The Australian people can build a safe, prosperous and secure future, if we establish the conditions in which their own efforts are rewarded. One that understands that unions and business have common goals.

Hawke and Keating laid the foundations for 28 consecutive years of economic growth. Rudd and Gillard saw us through the global financial crisis. In the coming decades, we need to create the conditions to prosper in our changing and dynamic world.

There is absolutely no sign that the current government even understands this challenge yet alone possesses the will to tackle it. To put it bluntly, they are complacent and they have no plan. Labor is prepared to take it on. We know we can do this as long as we work together and present a vision for the future.

Whatever the economic challenges that we face, a fair day's work for a fair day's pay is still a concept worth aspiring to. The future isn't going away, it is already with us. Right here, now.

Thanks very much.

> WOMEN IN LEADERSHIP

> 4 NOVEMBER 2019

> BRISBANE



The challenges and opportunities facing Australian media

Ita Buttrose AC OBE

Chair, Australian Broadcasting Corporation (ABC)

In a keynote address to an audience in Brisbane, ABC Chair, Ita Buttrose, spoke about how the continued growth of digital technology and political pressure has affected the Australian media.

Ms Buttrose spoke about the importance of public interest journalism, reflecting on the recent raid of the ABC by the Australian Federal Police and the impact of the public broadcaster's recent reporting on aged-care services.

Ms Buttrose emphasised the public's trust in the ABC and the important role it plays in Australian life. She stressed the growing need for public broadcasting in Australia, as trust in institutions declines, media concentration increases and pressure from digital channels dissuades commercial media companies from producing content and journalism that benefits Australia.

Since Prime Minister Morrison announced my appointment, I have often been asked about the ABC's future. We face challenges and like all media organisations we are disrupted by digital change. But I sense new opportunities for the ABC in the digital landscape, as we focus on our strengths: excellence, innovation, public service, and rewarding both niche and broad audiences with distinctive programs.

Technology is going at a rapid pace. Things are evolving quickly and when faced with evolution, those who adapt survive. Media evolution has been driven by technology. In the space of a decade newspapers and magazines have had to make the transition from Gutenberg to Zuckerberg technology. Television no longer has to be the big piece of television that took up much of the living room; these days television is a mobile personalised service with programs available from across the world at the touch of a button or even at your verbal command. It's no longer His Master's Voice, it's 'Alexa, find me the news.'

Crucially, these programs are often delivered without the disruption of advertisements. The FANGS – Facebook, Amazon, Netflix, and Google – are taking a huge bite out of Australia's advertising pie, and as a result the bottom line for commercial TV, radio and print is getting smaller by the day.

I have learned a fair bit about adaptation, working for most of my professional life in commercial media, and I have no doubt the Australian commercial media is facing its most challenging times. We at the ABC may not face precisely identical pressures, but we have plenty of our own to deal with – a diminishing budget in real terms; the rising costs of making high-end Australian content; competing with an almost endless supply of programs from the giant international competitors; continued investment in resource-intensive public interest journalism; balancing the cost of maintaining traditional broadcast technology while investing in digital and online services; and a public that rightly demands the highest quality Australian content when and where they want it.

We are now in what some have called the attention economy. Commercial media and other companies aren't just competing for your purchasing power and data but for your time. The founder of Netflix, Reed Hastings, said that their biggest competitor wasn't Amazon, Disney or YouTube, it was sleep.

Each minute more than 500 hours is being uploaded to YouTube, one million people are logging on to Facebook, 700 hours of content is being watched on Netflix. Reed Hastings was joking to some extent but he is right, time is the ultimate scarce commodity.

So on the one side, barriers are down, with content and services flooding in from across the world. On the other, Australian commercial media is pulling up the drawbridge to save their most valuable possession, shareholder confidence. They are taking fewer risks, concentrating on rationalising their resources, investing only in what they have to, and banding together to increase scale.

And why wouldn't they? They are commercial businesses that need to turn a profit or else they will no longer keep turning at all. They have to make the toughest decisions to survive. So what does this mean for Australia's national broadcaster and more importantly for the public, who rely on local media for their news, information and entertainment.

I think this is our opportunity to be bold, to be enterprising, to be Australian. I will turn back briefly to the past to inform the future. In its earliest days, Australian cinema was an international pioneer, but with the post-war flood of Hollywood content, by the 1960s it had reached its lowest ebb. However, with a real nurturing of Australian talent and creativity, the support and leadership of government, first by John Gorton and then by Gough Whitlam, a publicly funded entity as a hothouse for local content and renewed focus on uniquely Australian storytelling, the situation was turned around.

By the 1970s and the 1980s, Australian cinema underwent a renaissance, and films like *Picnic at Hanging Rock*, *Mad Max* and *Gallipoli* were not only popular here, but critically acclaimed and commercially successful overseas. So with the right commitment there is opportunity for Australian media and the ABC.

I have only to look at our own little cattle dog Bluey as an example. Now you may have seen Bluey, if you haven't please take a look. *Bluey* is a delightful children's program made by Ludo Studio in Brisbane and broadcast on the ABC. *Bluey* premiered last September and has already notched up more than one hundred million plays on ABC iview.

Can you imagine? One hundred million. *Bluey* has been picked up by Disney and recently introduced to American children. Bluey might just become a global rockstar. Maybe she'll be the perfect replacement for Paul Hogan and become the face of Australian tourism. I'm not sure though if Bluey knows how to put another prawn on the barbie or even a shrimp. Success stories like these can be reproduced but it requires a concerted effort, and to some extent, a collegial approach.

This may seem an anathema to some, and Australian media, particularly commercial television, is notoriously cutthroat. But as the fallout from recent events has shown, with adversity comes unity. Who would have thought that

it would have taken the Australian Federal Police to bring the ABC and News Corporation together? It's quite ironic really, as it is usually News Corp that is attempting to police the ABC.

The AFP's actions, the raid on the Sydney offices of the ABC and the home of News Corp journalist Annika Smethurst, have not gone unnoticed overseas. The New York Times wrote: "Australia might be the world's most secret democracy. No other developed democracy holds as tight to its secrets."

The raids are just the latest example of how far the country's conservative government will go to scare officials and reporters into submission. In calling for media law reform and better protection for journalists and whistleblowers, we are not seeking for anyone to be above the law. We respect the law, and we certainly respect the need to observe the rules of national security. Journalists have always been keepers of secrets. We can be trusted, we don't always report on everything that comes before us, often because some matters truly are in the interests of national security.

But there needs to be better clarification of what exactly 'in the interests of national security' means. For instance, there were more than 4000 reports of assaults in nursing homes throughout Australia last year, but the media is not permitted to tell Australians if they were by staff or residents, or if they led to convictions. If I had a relative in an aged-care facility where assaults were happening or had happened, I would like to know about it and I am sure we all would. Given last week's interim report of the Royal Commission into Aged Care, and by the way it is an investigation that would not have happened if ABC's *Four Corners* had not drawn the public's attention to the plight of our frail, dependent older citizens in aged-care facilities, I think it is imperative that the public has a right to know.

There cannot be any secrecy in our country that prevents us from knowing how elderly Australians are cared for in our aged-care facilities. The interim report refers to "cruel and shameful treatment and an aged care system that diminishes Australia as a nation," and indeed it does.

Let me make one more important point on the issue of the public's right to know. The Royal Commission into Aged Care and the Royal Commission into Banking, another *Four Corners* expose, would not have happened without whistleblowers coming forward, and the ability of a free media to report on these matters. Effective democracy depends on informed public debate about key issues affecting society and the nation, and this need is best served by the presence of a diverse range of sources of news and other information including those that are independent of commercial and other vested interests.

The tendency of media markets towards concentration of ownership is clearly at odds with the socially desirable outcome of ensuring a diversity of news and information sources. Against this background, there is a clear role for public broadcasters, which not only increase the number of news and information services but are legislatively obliged to provide independent news and information services.

The ABC's news and public affairs output is subject not only to public scrutiny through the Parliament but also to a rigorous multi-tiered complaints process and the most comprehensive set of binding editorial policies of any Australian media organisation.

As public confidence in the media's ability to deliver quality news reporting declines, and in an environment where even Australia's quality newspapers need to run more tabloid content online in order to monetise audiences, Australians seeking a credible source of news and information will be even more reliant on the ABC.

Commercial media is experiencing a significant loss of advertising revenue. As a result, their regional newspapers and newsrooms are closing. Commercial TV also is seeking commitment from government for reduced obligations for Australian content and perhaps even a complete removal of Australian children's content quotas.

So who is left to do investigative journalism that leads to improvements in our society? To report on stories that matter to the third of Australians that live in regional and rural areas? To invest in Australian drama, education and science programs? In thought provoking programs on RN? To unearth new Australian music from classical to jazz to new independent music? To broadcast trusted, ad-free children's content? To ensure that Australians continue to have access to diverse programs that document our history and reflect our diverse communities in the present? And who will tell the stories of our Indigenous cultures? The national broadcaster of course.

But with the commercial media in retreat, it means the ABC will be expected to do more with less. There has to be some quid pro quo. The success of the digital giants has completely changed the way we watch programs, listen to music, and receive news and information. In its broadest terms, in the shortest amount of time, they have influenced our very culture and democracy.

The resulting paradoxes are that there is more content than ever but the question is, is it any good? There are more media platforms than ever but do they serve local and regional audiences? There is more news and information than ever but can it be trusted? There is more content directed at children but has it been made for the benefit of children? Australians are watching more video

content than ever but is it Australian? These questions lead me to believe that many of the solutions lie with public broadcasting and as a result the ABC is more vital than ever.

In the analogue world, the ABC was critical, as for many Australians it was one of only a handful of media outlets available to them, a place to go for information and entertainment, to hear and see the rest of Australia. This was especially true in the bush, where for a long time there was Channel Two and if you were lucky one commercial channel. Even in the most isolated parts of Australia this is no longer the case and people have a choice of information and entertainment beyond the wildest dreams of anyone 40 years ago.

Today scarcity is not the problem, but the ABC continues to fulfil its vital service to the Australian public. In many ways, it is a public policy solution for the inadequacies and failures of digital media. In regional and local services as commercial media continues to look for scale and rationalisation to combat the international digital platforms, local newsrooms and publications have closed. Meanwhile the ABC regional network operates a total of 46 physical bureaus across Australia producing and broadcasting around 48,000 hours of original radio content every year.

In terms of news and information, independent research from numerous independent organisations, including Roy Morgan, find that the ABC is the most trusted news provider in Australia. Our own research finds that 80 per cent of people trust the ABC, compared to 58 per cent of people for commercial TV, 57 per cent for newspapers, and 33 per cent for Facebook.

Trust in the ABC remains high while that in other institutions is in decline because of the content that we present: factual reporting and agenda setting public interest journalism. The release last week of Screen Australia's annual drama report confirmed that the ABC is the nation's biggest backer of Australian content and creativity, creating more support for homegrown content and stories than any other broadcaster.

The ABC invested \$52 million across 28 programs, more titles than Seven, Nine, Ten and SBS combined, including *Total Control*, *Glitch*, *Utopia*, *Harrow* and the upcoming *Stateless* starring Cate Blanchett. Similarly, the ABC remains the home of Australian children's content, from the mainstay *Playschool* to our newest star Bluey, whose success I have told you about.

As the public broadcaster the ABC has a responsibility to serve all Australians, which is why it is crucial that we maintain technology like AM radio. This network serves such an important function, covering wide parts of Australia and broadcasting essential information especially in times of national emergencies. In the last 12 months, the ABC has broadcast information far and

wide about more than 370 natural and other emergency events, including the Townsville floods, bushfires in Tasmania, and cyclones in WA.

There is no doubt that like all traditional media in Australia, the ABC has had to face challenges. We are now all in the ring with heavyweight opponents, with whom we can't compete on pure size and strength, so this means we have to be agile and creative and determined and fast moving. This is nothing new for the ABC. Innovation is in our charter and our DNA.

As an example, we were the first video on demand service in Australia starting in 2008. At that time, Netflix was just a slip of an idea – that is, they were literally slipping DVDs in envelopes to mail out to their customers. The game has definitely changed since then but we still hold some advantages. First and foremost is the support of the Australian public, who trust and value the ABC. That public support is one of our greatest strengths. More than two out of three Australians come to us every week and 88 per cent of Australians think we provide quality services and content. But to retain relevance and trust we must continue to be at the centre of the Australian way of life, whether this is during national moments like ANZAC day or Australia Day, celebrating events like the Hottest 100 or New Year's Eve, broadcasting Matilda's matches or programs like *Old People's Homes for Four Year Olds*.

We have to be meaningful and unifying. We will soon launch our 2020 content plan which sets out our key programming priorities for the future, programs like *Backroads*, *Insiders*, *Four Corners*, *Ahn's Brush with Fame* and *Mad as Hell*, and our radio networks Triple J, Classic FM, RN all resonate highly with audiences. Our aim is to continue to invest in this content and also to find new content that is just as creative, distinctive and of high quality. We also need to reflect contemporary Australia as it is today in all its diversity – geographical, cultural and socio-economic. I believe that in having plans in place we will continue to hold the trust and support of the Australian public.

In 2007 the *Sydney Morning Herald* wrote:

“Just try to imagine Australia without a national broadcaster. You can imagine an Australia but not this Australia. The character of Australia owes much to the ABC. No other institution reaches as many Australians or touches so many so profoundly. The national broadcaster helps not only fashion Australian life, it is also a deeply personal part of innumerable individual lives.”

And indeed it is. It still is. I think the role of the ABC is even more vital today. Because in a world of limitless content choice the ABC still stands for Australian stories, reliable news and information, and diverse innovative and quality content for audiences everywhere. That is why I am confident that the ABC can look forward to a robust and vibrant future.

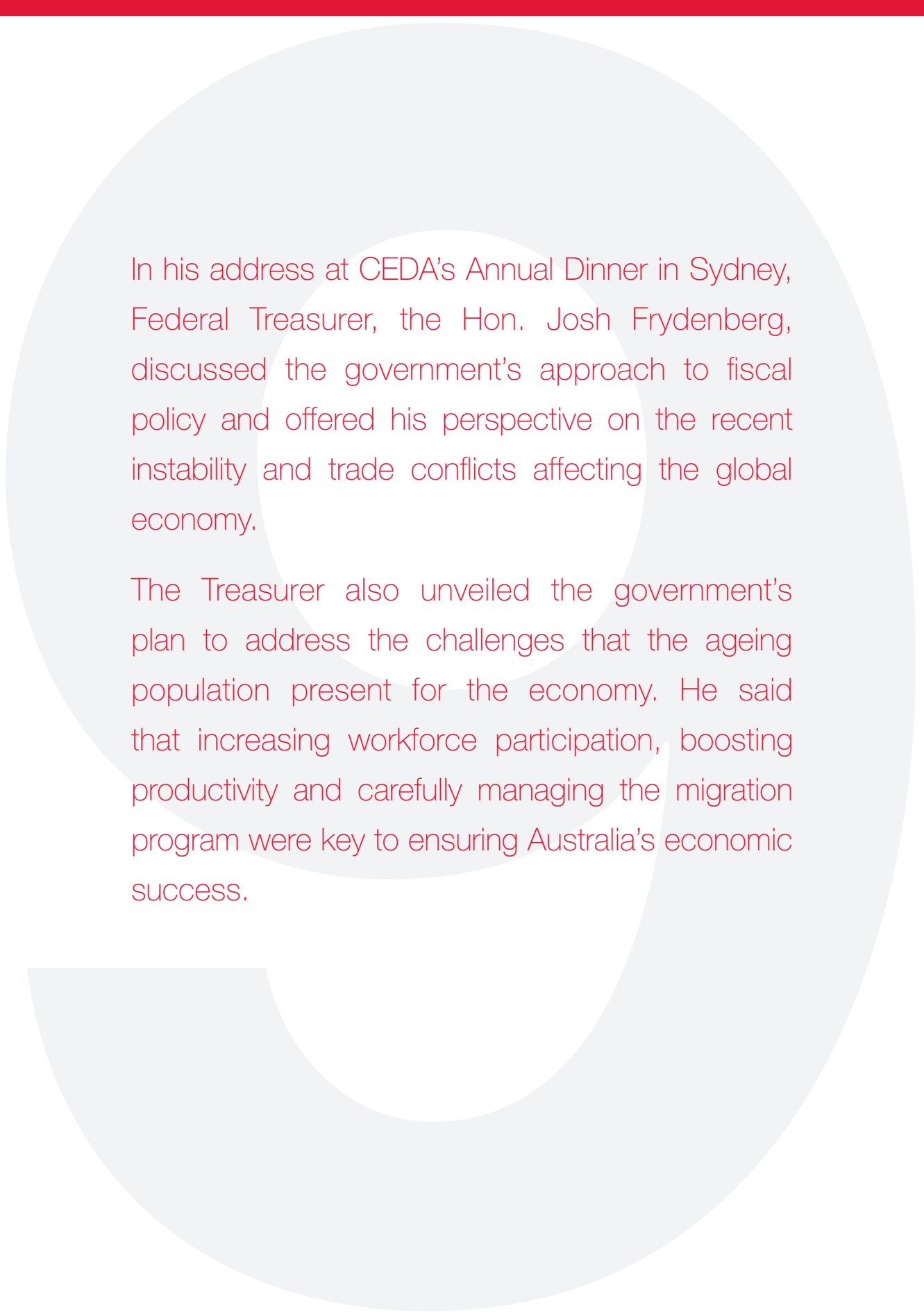
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- > 19 NOVEMBER 2019
- > SYDNEY



Preparing for an ageing population

The Hon. Josh Frydenberg

Treasurer of Australia



In his address at CEDA's Annual Dinner in Sydney, Federal Treasurer, the Hon. Josh Frydenberg, discussed the government's approach to fiscal policy and offered his perspective on the recent instability and trade conflicts affecting the global economy.

The Treasurer also unveiled the government's plan to address the challenges that the ageing population present for the economy. He said that increasing workforce participation, boosting productivity and carefully managing the migration program were key to ensuring Australia's economic success.

Thank you to CEDA for the opportunity to speak at tonight's dinner. I would like to acknowledge their history of contributing to public policy discussions that advance Australia's economic and social development. CEDA continues to lead the way in focusing on long-term solutions to some of our nation's most complex issues.

Tonight, I will focus on three issues: the state of the domestic economy; the headwinds facing the global economy; and the challenge of an ageing population and how we are responding.

With the budget back in balance for the first time in 11 years and on track to return to surplus, it's important that we focus not just on the 'what' but the 'why'. At \$19 billion per annum, our interest bill is more than double what we invest in childcare and a little under what we spend every year on schools – government, independent, Catholic schools and others. Our debt burden represents not just a cost to the budget and therefore every taxpayer, but also an opportunity cost as it constrains the government's ability to invest in other areas.

If we don't remain fiscally disciplined today, the next generation will have to pick up the bill tomorrow. The return to surplus will have been hard-fought. When we came to government, we inherited a budget deficit of \$48.5 billion or three per cent of GDP – the second highest in Australia's history even though five-years had elapsed since the GFC. Since then, we have steadily improved the bottom line with real spending growth halved to two per cent per annum, the lowest level of any government in fifty years.

While we have benefited from a positive terms of trade, we have been prudent in our budget forecasts. For example, the spot price of our largest export, iron ore, is currently around US\$70 per tonne, whereas it's in the Budget at US\$55 per tonne.

This conservative approach has ensured our record spending on health, education and disability support is not contingent on high commodity prices. A good illustration of our increased funding on essential services is the NDIS. Our share of funding has increased to \$8.5 billion this year and will increase by more than 50 per cent again as the Scheme extends from 300,000 people on it today to more than 500,000 when it is fully rolled out.

In terms of understanding the drivers of our improved budget position, the strength of the labour market with more than 1.4 million new jobs being created since September 2013 has been key. Last financial year, more than 300,000 jobs were created, which was 100,000 more than Treasury had



forecast. Unemployment is at 5.3 per cent compared to 5.7 per cent when we came to government and employment growth remains at two per cent compared to the OECD average of 0.9 per cent and the 0.7 per cent we inherited.

With more people in work, welfare dependency is now at a thirty-year low. This stronger budget position has enabled us to cut taxes for more than 10 million income-earners and more than three million small and medium-sized businesses while keeping our tax to GDP ratio well below our self-imposed cap of 23.9 per cent.

The \$158 billion of tax cuts we legislated after the election were the largest in a decade. Together with \$144 billion of tax cuts that were announced and legislated in last year's budget, we are creating a stronger, simpler and fairer tax system. We are completely abolishing the 37 per cent tax bracket which will see 94 per cent of taxpayers, who earn between \$45,000 and \$200,000 a year, pay a marginal rate of tax of no more than 30 cents in the dollar.

Treasury has estimated that the Coalition's tax cuts will boost aggregate household disposable income by around \$8 billion each year for the next four years. The government has also delivered lower taxes for small and medium sized businesses. This includes delivering lower company taxes five years earlier than planned and supporting investment by increasing the instant asset write-off to \$30,000 and expanding it to businesses with an annual turnover of up to \$50 million.

The stronger budget position has also given us the fiscal flexibility to respond to significant calls on the public purse, like the drought. The Morrison Government has committed over \$1 billion of additional funding since the election to provide much-needed support to farmers and local communities. I have seen first-hand the devastating impact the drought is having. Farmers whose families have been on the land for more than a century have said that they have seen nothing like it.

With over 95 per cent of New South Wales and more than two-thirds of Queensland affected by drought, the impact on the Australian economy has been significant. If we look at the past two financial years, the output of Australia's farm sector is now around 14 per cent lower. Lower farm output is weighing on rural exports as well as food manufacturing.

In addition to our drought response, we have also said we will respond with more funding for aged-care in light of the findings in the interim report of the Royal Commission. This will build on what is already record funding for the sector, which has increased by more than 50 per cent since 2013-14.

In addition to the immediate spending pressures affecting the budget, such as drought and aged care, the economy is also confronting significant global economic headwinds. In recent months, the IMF, World Bank and OECD have all downgraded their global growth forecasts. A principal driver of these revisions has been the flow on effect of the US-China trade dispute.

Now nearly two years on, hundreds of billions of dollars of reciprocal tariffs have been placed on each other's goods. The United States is now threatening further tariffs which, if applied, will see the amount of trade covered by tariffs reach US\$735 billion. While this would represent tariffs covering only around four per cent of global trade, the impact has been far more profound.

In trade wars, there are no winners, there are only losers. It's not just the protagonists who are affected, it's the bystanders as well. As a result of the uncertainty and the instability caused by the tariff war, confidence has been hit, investment decisions have been deferred, capital flows reduced and the growth in global trade volumes severely curtailed. Some countries are feeling the impacts more than others. Germany, the UK, South Korea and Singapore have all experienced negative quarters of growth this year.

The other significant dynamic at play in the global economy is the extended period of record low interest rates, which has seen central banks in more than 50 countries cut rates this year.

Unconventional monetary policy is already underway in Europe and Japan and, remarkably, one quarter of all government bonds are trading at negative yields.

In effect, investors are paying governments to hold their money as they expect interest rates to stay lower for longer and they look for the stability and the certainty that sovereign bonds offer. Australia is not immune from these global forces. At 0.75 per cent, our cash rate is at a historic low as the RBA has also moved. In the words of Governor Lowe, "we live in an interconnected world, which means that we cannot completely insulate ourselves from long-lasting shifts in global interest rates."

While we navigate our way through these choppy international waters, Australia like many other countries around the world, is working through longer-term structural economic challenges, in particular, that posed by the ageing of the population.

In 1950, five per cent of the world's population was aged 65 or over. In 2015, it was eight per cent. By 2050, it will double to 16 per cent. Some experts are predicting that China's population will start to shrink as early as 2027 with the projection that by 2050 there will be more women in China aged over 84 than there are people in Australia today.

In Australia, we may not be ageing as fast as Europe, Japan or China, but we face this trend nonetheless. Since the first Intergovernmental Report was released in 2002, we have gone from 13 per cent, or 2.5 million people, being aged over 65 to 16 per cent, or four million people, today. Our median age, now 37, has increased by two years since then and life expectancy has gone to 81 for males and 85 for females.

With the sixth highest life expectancy in the world, we are seeing an increase of almost one year every four years. In Australia today there are 5400 people over the age of 100. This number will increase five-fold to around 26,000 over the next 30 years. As more Australians live longer, the number of working age Australians for every person aged over 65 diminishes. Whereas in 1974-75 it was 7.4 to one, 40 years later in 2014-15, it was 4.5 to one. It is now estimated over the next four decades to fall to just 2.7 to one.

As this trend plays out, the impact on the budget will be felt on both the revenue and spending side. In a report published by the Parliamentary Budget Office earlier this year, it is estimated that the ageing of the population will reduce annual average real growth in revenue by 0.4 percentage points and increase annual average real growth in spending by 0.3 percentage points over the decade.

In dollar terms, this equates to an annual cost to the budget of around \$36 billion. As the PBO point out, this is more than the projected cost of Medicare in that year. As our ageing population puts pressure on our health, aged care and pension systems, we need to develop policies that respond effectively to this challenge.

It is a great development that people are living longer but we must be prepared for the implications. Our policies need to leverage the three P's: population, participation and productivity. When it comes to workforce participation, we are at record highs and the participation rate for those aged 65 and over has increased from 12.3 per cent to 14.6 per cent over just the last five years.

The participation rate for this cohort was less than six per cent 20 years ago. However, with Australians in work currently undertaking 80 per cent of their training before the age of 21, this will have to change if we want to continue to see more Australians stay engaged in work for longer.

It is not about forcing people to stay in the workforce, but rather giving them the opportunity and the choice to pursue life-long learning and skills training if they so choose. Governments at all levels have a role to play. Federally, we announced a program in last year's budget that was designed to provide career advice and funding support for those aged between 45 and 70 who

were re-tooling for the workforce. In this year's budget, we announced a National Skills Commission and pilot skills organisations in areas like digital technologies, human services and mining which is available to support people of all ages.

As Ian Yates from the Councils on the Ageing has rightly pointed out today, employers also have an important role in ensuring flexibility in the workplace which facilitates the continued and valued workforce participation of senior Australians.

The Morrison Government also recognises the importance of allowing older Australians to earn more from a part-time job without affecting their aged pension. It was with this in mind that the Pension Work Bonus was extended to \$300 a fortnight in this year's budget.

Population factors are also critical in how we meet the ageing challenge. Our migration program has served us well. With the median age of new migrants being 20 to 25, or 10 years younger than that of the broader population, immigration has helped to soften the economic impacts of the ageing population.

The government is ensuring that we understand all the challenges associated with the changing size and structure of our population. Last year the Prime Minister established a new Population portfolio within Treasury with the aim of addressing the challenges while supporting our economic growth.

And last month, the government launched the new Centre for Population to work closely with the states and territories, academics and think tanks in order to share data, research, ideas and expertise on population. The work of the Centre will provide a crucial evidence base for policies that ensure that we have the right services and infrastructure to meet the future needs of our ageing population.

The third P, productivity, is, however, one area where we need to do better. Like other developed countries, Australia's productivity growth has slowed, but it is better than that in any of the G7 countries and the OECD average. Australia's 30-year historical average annual rate of labour productivity growth is 1.5 per cent. But our five-year average annual rate of productivity growth is 0.6 per cent.

Productivity is the most important source of income growth over the long-run – contributing three-quarters of real gross national income growth over the past 30 years. With productivity tracking at less than half the long-term average, our focus is on deregulation, skills, industrial relations and other micro-economic reforms to improve service delivery.



Infrastructure is also a key area where the Prime Minister announcing just yesterday a \$400 million plus package which involves new money as well as bringing forward spending on six projects in South Australia, with announcements in other states to come. Our 10 year \$100 billion infrastructure plan will better connect people to jobs, their homes and their communities, and improve access from our farm gates and our factories to domestic and export markets.

Finally, when it comes to meeting the challenge of an ageing population, it's vitally important we get the settings right around retirement incomes. Under our retirement income system, the combination of the Age Pension, superannuation and voluntary savings work together to secure the living standards of Australians in their retirement. As Australia's superannuation system matures, future retirees will have higher superannuation balances to support them in retirement. Consequently, the Age Pension will make up a smaller proportion of future retirement incomes, and a higher proportion of pensioners will be on a part rate pension rather than the full rate.

In the context of this changing dynamic, I recently announced a review into the retirement income system with Mike Callaghan and include on the panel Professor Deborah Ralston and leading business figure Carolyn Kaye. The review will look at the three pillars of the existing retirement income system. This is the first comprehensive review of the system since the establishment of compulsory superannuation 27 years ago and it follows a recommendation from the Productivity Commission. Through its work, the review will establish a fact base of the current retirement income system that will improve the understanding of its operation and the outcomes it is delivering for Australians. The Panel will release a consultation paper in the weeks to come and will provide its final report to government by mid next year.

Ladies and gentlemen, as we implement our economic plan to repair the budget, grow the economy and guarantee spending on essential services, we do face some significant domestic and global economic headwinds.

This will require calm and considered decision-making and we cannot afford to engage in knee-jerk reactions to every economic event or request for more government spending. Our ability to effectively manage these short-term challenges as well as the longer-term challenge of an ageing population will depend on it.

Thank you very much.

> TECHNOLOGY AND INNOVATION

> 22 NOVEMBER 2019

> ADELAIDE



Australia's race for space

Dr Megan Clark AC

Chief Executive, Australian Space Agency

Dr Megan Clark AC spoke to a CEDA audience in Adelaide about the formation of the Australian Space Agency (ASA) 16 months ago, its progress since then, and how ASA originally defined its purpose and set about engaging the nation in its mission.

Dr Clark also discussed the details of ASA's first major project, which is joining the United States on the Artemis mission to the Moon and to Mars and the role that Australian companies can play in the space industry of the future.

Thank you very much for those warm words of welcome. Let me also pay my respects to the Kurna people. The Kurna people were extraordinary astronomers and have left us with some wonderful stories of the stars. I wanted to acknowledge the Attorney General. Thank you for your kind words. I was very impressed that you are now starting to learn a bit more about space law so you're an inspiration to all of us.

Thank you Michael Waite from Shoal. Thank you Mike Kalms, as well from KPMG, for your sponsorship. It's great to have you supporting events like this. Hamilton Calder, thank you for the support of CEDA, a very important organisation throughout this country. Julia Mitchell and I have met before and it's great to have Sitael here represented.

Today I wanted to do something that I don't normally do in public presentations. I wanted to take you back to some of the stories and challenges that we encountered setting up an agency literally from scratch and a blank piece of paper.

I thought at the end, I would take you on a short journey to the Moon and Mars and also share some early thoughts on our plans, as the Prime Minister has announced, to join the United States on the return to the Moon and on to Mars.

So, let me just start at the beginning. The agency is only 16 months old. If I go back 16 months, there were only two of us, myself and Anthony Murfett, who's the Deputy Head of the Agency, and we had to establish the purpose, the values, the strategy, and the charter of a new organisation.

And I can recall at the time we had a *Utopia*-like moment going on in the back of our heads:

"So, Australia is going to have a new space agency?"

"Oh yes, that's right, the government has announced that Australia will have a new space agency today."

"Oh, so what will it do?"

"Oh, we are not quite sure what it will do yet, but we know we want one."

"Oh, you do?"

"Well, New Zealand's got one."

So, we haven't quite worked out what we do, and we are the ones who have to figure that out.

Nations establish space agencies for different reasons, some of them to demonstrate global superiority in technology, you can think of the efforts of the United States, Russia, or China, others to inspire their countries, as India and Israel have been doing.

In the Australian case, the government's purpose was actually crystal clear and that was to really diversify our economy and create jobs that weren't available in this country. And so, we set the purpose of the agency, to transform and grow a globally respected Australian space agency and space industry.

We could not do that without partners. We knew, as a country, we could only do this by leveraging the partnerships that we have around the world. And we wanted to make sure that we were also inspiring and improving the lives of every Australian, bringing what we were doing from space back to improve what we were doing here on Earth. This is the most commercially focused purpose of any space agency in the world.

And we had to think about our values. Because right at the beginning, if you know your purpose and you know how you're going to do things, the rest can come along. We know we needed Australia to be a responsible citizen in space and over time to grow to be a responsible citizen in our region as we built trust. It's difficult to get to space. We've seen this through history. We wanted to be safe on Earth, we wanted to be safe getting from Earth to space. It's very difficult.

So being responsible, safe and secure was so important to us. We also knew that Australia has a can-do attitude so beautifully expressed here in South Australia. We wanted to showcase that Australia really can do this and get our ideas back into space.

As the Attorney-General said, we were right there in the 60s. We were right there as one of the first nations. And I think deep in our hearts, across the nation, we know we should be there again. And so, we wanted to tap into that entrepreneurship. We wanted to build a diverse team that could run through the legs of giants.

We have a lot to catch up on as the Attorney-General quite clearly told us and so we know we needed to do that. When you have a blank piece of paper, we've simply stated that our agency would be diverse from top to bottom, 50-50, from day one. This is something we have done at every level in the organisation.

As a newcomer to this, with many agencies established out there forming the partnerships, if we didn't do what we said we would do, we would simply not build the trust that was needed for us to enter.

So, this was our purpose: "transform and grow a globally respected Australian space industry."

Now sometimes if you go on to Twitter some of the comments can get a little negative, it really can bring your day down. But I had one experience where I was reading the Twitter feed when we were working out our purpose and the Twitter feed went:

"Well they say we are going to grow the space industry, but for goodness sake can't we also transform the industry?"

And we were right in the middle of creating our purpose and I thought "oh that's quite good really." So, we took that. I don't know who that person was, but they have now been embedded into our purpose.

Because I think it summed it up well, we weren't just there to grow, we wanted a complete transformation.

In terms of our values, now I've talked about "responsible," we wanted to have our partnerships and our shared vision, but we also wanted "passion".

Now the original version of this idea was, "we do cool things," which the students will appreciate, because we are a space agency. That idea made it all the way through the approval process but it got crossed out at the last minute. So, you will see "passion", but to us it's still, "we do cool things."

Our values really thread through everything we do. In 60 years, looking back, nothing would make me happier than to know that we never lost an Australian getting to space, in space, or coming back.

Something so simple. But you can look at the record that Qantas has, and record that the Australian Antarctic Division has, of not losing any of their staff in Antarctica.

So, going back to our *Utopia* moment, we actually did have to figure out not just what we were doing, not just how we were going to do it but our strategy to get there.

One of the things that we needed to do was engage the nation. A lot of people, particularly in government, think that all you need to do is convince government of the merit of your policies and strategies. But actually, for

longevity in the nation, you need to do something more and that is you have to have the support of the kitchens and lounge rooms of the nation. If you don't have that, then how can you expect to have support from your government?

So, we did set out to engage the nation, and we set a goal – I can share this with you now – we set a goal, “if we engage with five million Australians in our first year, that's one in five. That's not so bad. They can hear about the agency and read about what we do.” We thought that would be a good goal.

We blew past that goal in the first few weeks, so it wasn't such a good goal. Now we've had engagement of over 110 million Australians. What that means is that every state, every territory, every demographic was seeing, hearing about, and engaging with what the agency was doing several times.

I know there's not 110 million people in Australia, so for the students, if that question is on your exams next week it's not 110 million Australians. This was part of getting the country behind us. I actually think our capacity to inspire this nation surprised us and we don't take that for granted.

I was at our first international meeting in Germany and for the first time we had an Australian booth. It was absolutely going off. Aussies finally had somewhere to hang around and our booth was definitely the place to be.

And it stood out to all these thousands of people. We served wine – it wasn't South Australian wine – in fact it wasn't even Australian wine, we couldn't get our act together for that. But we were serving wine, and everybody came.

The Head of the UK Space Agency closed the UK booth. They just said, “what's the point, because everyone's over there,” and they came and joined us. He took me aside and he said to me, “I don't have the nation behind me, and you clearly do. Don't take it for granted.” There is something happening in Australia and I think that's truly wonderful for all of us.

Looking back, I think the other thing we needed to do was engage the states and territories. If you're going to transform an industry, if you're going to grow an industry from \$3 billion or \$4 billion as it is now to \$12 billion, and generate 20,000 new jobs for some of the students that are here, you can't do that from Canberra you have to do that out in the states and territories.

I look back 16 months on and I think one of the things that we did that helped with that is every 12 weeks we did a roadshow to all the states and territories. And we just kept going back, reminding people of what was happening, learning from them and getting the states and territories involved and getting the Premiers involved. Of course, the Premier here, of South Australia, has just been so enthusiastic and wonderfully supportive of us.

Here in South Australia is where we will have our headquarters and the Discovery Centre for the public which you'll be able to access coming in off the terrace. We will also have Mission Control. Our vision is that we will have live feed to the International Space Station and also to see what's happening on the Moon and Mars. For people to be able to drop in and see what's happening, and know it's happening in real time.

I was lucky enough to see some live feed to the International Space Station and there was an astronaut floating around trying to fix something. He has Mission Control on the ground in his ear and he's got a map and he is asking "is it the green wire or the blue wire?" I think for an electrical apprentice to actually see that would have been extraordinary. I think he got the wire right.

We also knew that if you're going to grow an industry, it's not just the role of government. It's really about attracting the investment that's required in this country. So, we set ourselves a goal of stimulating \$2 billion of capital investment in the space sector. A couple of years ago that investment pipeline was negligible in this country.

We figured that if half of that – so \$1 billion of that – was inbound capital from industry, from other space agencies, then we would truly start to generate some momentum that would ultimately lead to new jobs for these projects.

I'm really pleased to say that already that pipeline is \$1.4 billion and half of that is inbound capital and includes the investment in our R&D. So we are making some progress. I wanted to share with you a little bit about the plans for the Moon to Mars.

As I said, in October this year the Prime Minister announced that we would again join the United States on their Artemis mission to the Moon and also on to Mars.

And in our agreement with NASA, funding, \$150 million over five years, will come to industry and research here in this country.

We will do a series of things: one, we will support companies to enter into the international supply chains for these missions. We will start demonstrator projects that can showcase Australia's fantastic ideas and get them qualified and operating in orbit so that those companies and researchers can really start moving up to the next level.

Then we wanted one or two projects that really put the Australian flag up there alongside our colleagues and that's what we'll be doing. So, the first step if you're going back to the Moon and to Mars is you need a big rocket. The Space Launch System will be one of the largest rockets we've ever seen. You

will feel the lift-off deep in your chest if you are three kilometres away. This is going to be a massive rocket.

But importantly it can take 26 tons of payload. Because now we're going to have to start building things. You're not just going to the Moon to come back to Earth, you are going to the Moon to stay – going to Mars to stay. So, this is the Artemis mission that we will be joining.

Obviously you need to stage the mission to prove your technology. The first thing NASA will do is send out the human spacecraft, the Orion capsule for six astronauts, and take that around the moon with no humans in it just to make sure everything works.

The next step will be to put the astronauts in that capsule and orbit the Moon. That orbit of the Moon will take astronauts further from Earth than humans have ever been.

The next piece is to start to build out the lunar orbiter, build its power system, its human habitat system, as well as a landing system to go back down to the Moon. And then by Artemis 3, a crewed mission – the first woman and the next man – will go down to the Moon and they will land near the lunar South Pole.

The reason for that is water. I got caught the other day because I was talking about landing on the South Pole, and I had forgot to mention that it was the lunar south pole. And I was in a quite a serious meeting in Parliament and someone said, "why would NASA want us to go to Antarctica?" And I said, "no not that South Pole, the south pole of the Moon." When you do this every day you do forget those things.

The plan is also to start having commercial payloads, cargo missions on the Moon surface, and to build habitats on the Moon as well.

Phase two, which is still being developed, is about how we use the Moon to test all the things that need to be tested that will be done on Mars. How do we get fuel from water? How do we set up habitation? How do we genuinely live and use the resources on Moon? And that's Artemis mission 4 through to Artemis 7.

So, I'm a geologist by training and given that we as a country are going back to the moon and on to Mars, the very first thing that you need to do when you're a geologist is you get a topographical map. So, given that you're all going to have to learn a lot more about the Moon and Mars, I thought we might as well start that lesson straight away.

Because you'll be hearing a lot about this, so stick with me. One of the reasons that we are landing on the south pole (of the Moon) is the search for water. So, the landing sites, both on the Moon and Mars, are really designed around the search for water. We need water to live but we need water to separate, to have hydrogen and oxygen for use as fuel.

There is extraordinary topography on the Moon. All those pictures you see where the moon is flat are misleading. You will not be driving your moon buggy down some of the craters on the moon I can tell you that.

During the Apollo missions, when I went to school, the Moon was dry and it was flat. And they wanted it to be dry because they didn't want the astronauts to catch anything from microbes that might be living in water that they didn't know about.

But actually, we now think there is water on the Moon. In 2013, LADEE, one of the missions orbiting the moon, noticed plumes of water vapor. They didn't quite understand why they were periodic until they noticed that they coincided with meteor showers and big meteorites.

The theory is that there is water sitting below the surface that is released when meteors hit or a large asteroid hits the surface of the Moon and that's what the return mission to the Moon will look to prove. The next mission to the Moon will look to try and extract 100 to 200 tonnes of water.

I wanted to finish off by talking about what role Australia and South Australia can play. South Australia is already one of the hottest places for start-ups and companies to come and engage. It is really starting to happen here.

We are seeing 135 per cent growth in SMEs in the space sector in the last few years. We're seeing 65 per cent growth in international companies looking to expand here for space.

There's three areas I just want to highlight. The next era of communication for us on earth and in space will be the combination of lights and radio spectrum. So, we need more and more bandwidth, just like kids need more and more bandwidth, and the next jump of bandwidth beyond radio spectrum is using light, using photons. Australia has a role to play in the laser communication network that will be established between the Moon and the Earth.

What's extraordinary about helping to establish that network is that it will transform the way we communicate here on Earth. For a country that is an island, for a country that you don't have to drive too far north until you cannot use your mobile phone, this is really critical for us.

I mentioned that this time we're returning to the Moon to stay and set up habitation. Australia leads the world in autonomous drilling, in remote asset management, the things that happen here in South Australia. We want to bring our expertise to the table to support that.

Just this week NASA announced that it's partnering with the Australian Antarctic division to trial a robot that travels underneath the ice. That will be a trial for the Europa Clipper mission where they're hoping to take a robot like that down into the ice on one of Jupiter's moons.

The third area for us will be, we are really good at taking satellite data and putting that into a kind-of cube of data. We are better at this than any other country – Geoscience Australia does this work. We would love to do the data cube for the Moon and Mars. Going back to when we were exploring to find the Americas or even the many waves of exploration to come down to this southern part of the world, who had the maps definitely made a difference.

We will work very hard to make sure that Australia and Australian ideas and technology are showcased out there. But what really is driving us is to be able to make sure that we're giving jobs to the kids and grandkids of this nation, in a sector that right now they can't fully participate in.

Thank you very much.

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National

Level 3
271 Spring Street
Melbourne 3000 Australia
GPO Box 2117
Melbourne VIC 3001
Telephone 03 9662 3544
Email info@ceda.com.au

New South Wales and the ACT

Level 14
The John Hunter Building
9 Hunter Street
Sydney NSW 2000
GPO Box 2100
Sydney NSW 2001
Telephone 02 9299 7022
Email info@ceda.com.au

Queensland

Level 4, 232 Adelaide Street
Brisbane QLD 4000
GPO Box 2900
Brisbane QLD 4001
Telephone 07 3229 9955
Email info@ceda.com.au

South Australia and the Northern Territory

Level 5
2 Ebenezer Place
Adelaide SA 5000
Telephone 08 8211 7222
Email info@ceda.com.au

Victoria and Tasmania

Level 3
271 Spring Street
Melbourne 3000 Australia
GPO Box 2117
Melbourne VIC 3001
Telephone 03 9662 3544
Email info@ceda.com.au

Western Australia

Level 5
105 St Georges Terrace
Perth WA 6000
PO Box 5631
St Georges Tce
Perth WA 6831
Telephone 08 9226 4799
Email info@ceda.com.au



committee for economic development of australia