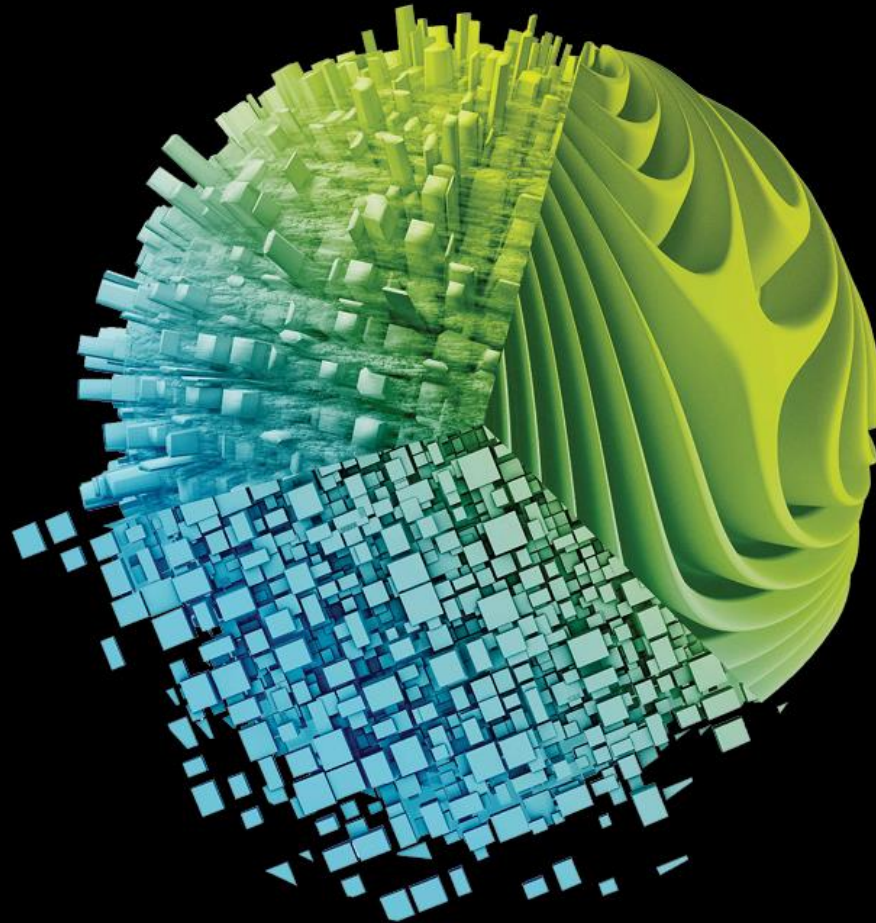


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AFR Infrastructure Summit
2021 Summit Highlights

November 2021

Dear AFR Infrastructure Summit participant,

It was a great pleasure for Deloitte to deliver the AFR Infrastructure Summit last week in association with the Australian Financial Review.

We are in a period of unprecedented spend for infrastructure. We have a strong investment pipeline and infrastructure agenda in Australia. COVID is of course having far reaching impacts on Australian society and the economy and we are witnessing a social and economic renaissance with a lot of changes in how we work, travel, purchase and connect. We had a lot of complex discussions around delivery of projects, disruption, emissions and skills shortages but we are also coming together as an industry and as a nation to find solutions. We heard too about exciting projects and initiatives that will change the way we live for the better, and help us to build a brighter future.

Infrastructure is changing, expanding with new asset classes and evolving with more complex yet crucial projects that will act as an enabling force in building tomorrow. We have so much exciting innovations happening even now with new technology and in building resilient critical infrastructure that will create a sustainable future. And we will meet all of those challenges and opportunities together as an industry in order to rejuvenate and fortify our regions, cities and country.

I would like to share with you some of my insights from the Summit in this [short video](#).

We were pleased to feature some of our key solutions at the summit. You can [visit our website](#) to learn more on each of these areas.

Thank you to all of our speakers and panellists, and to you - our participants – for attending both in person and virtually. I look forward to seeing how we can collectively drive the role of infrastructure to revitalise, rebuild and reimagine the future.

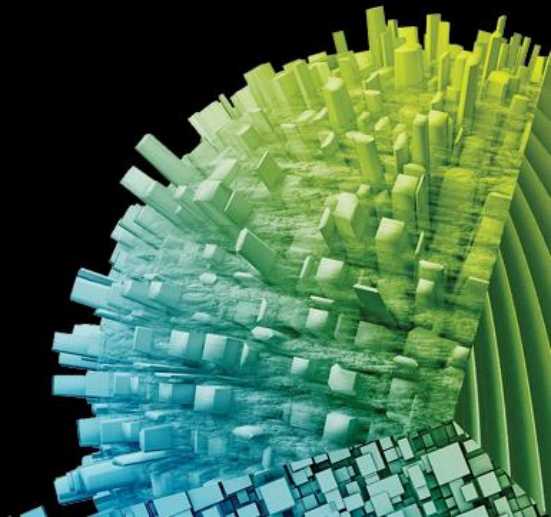
Regards,



[Luke Houghton](#)

Global Lead Partner - Infrastructure & Capital Projects

Deloitte



AFR Infrastructure Summit 2021 session highlights

DAY 1

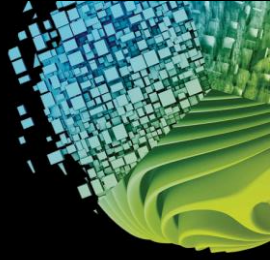
- ❑ **Opening Keynote**
Paul Fletcher, Minister for Communications, Urban Infrastructure, Cities and the Arts
- ❑ **Panel: The big picture**
Infrastructure health check and the effects of the pandemic
- ❑ **Panel: How does Australia go electric?**
What infrastructure does Australia need and are we falling behind?
- ❑ **Panel: The future of Australia's gateway infrastructure**
How does our tourism related infrastructure need to evolve and do we have the capacity we need?
- ❑ **Panel: Hotspots: what do savvy investors have their eye on?**
What is driving the boom and investor expectations?
- ❑ **Panel: How regional infrastructure is driving an economic and social renaissance**
Is the shift to the regions long-term and is it sustainable?
- ❑ **Panel: Creating resilient infrastructure**
Sustainability, resilience and cybersecurity

DAY 2

- ❑ **Keynote**
Catherine King, Shadow Minister for Infrastructure, Transport and Regional Development
- ❑ **Panel: Does Australia have the capacity and capability to deliver the infrastructure it needs?**
Pressure points such as skills shortages, border closures, unsolicited proposals
- ❑ **Panel: How technology is powering the delivery of the next generation of infrastructure**
Smart infrastructure and the role of technology
- ❑ **Panel: Changing cities and urbanization: What are the structural trends driving the future of our cities?**
A glimpse into the current state and future of our cities

Opening Keynote

Paul Fletcher, Minister for Communications, Urban Infrastructure, Cities and the Arts



Deloitte.

OPENING KEYNOTE



WESTERN SYDNEY AIRPORT
ON TRACK

TO BE COMPLETED LATE 2026...
SERVING 10MIL CUSTOMERS
BY 2032!



IT MUST BE A **SUCCESSFUL BUSINESS**... FIRST RUN BY GOV'T, THEN AIMED TO BE SOLD TO PRIVATE SECTOR

#AFRInfrastructureSummit

WESTERN PARKLAND CITY POLICY LEVERS:

- ✓ GREAT AIRPORT
- 👁️ PLANNING VISION OF 3RD CITY
- 🚆 RAIL LINK
- ✈️ CONNECTION TO AIRPORT
- 📍 NEW CITY CENTRE (BRADFIELD)
- 😊 HIGH LIVEABILITY
- 📄 ATTRACTING JOB-GENERATING BUSINESSES (200k)
- 🖥️ EDUCATION & TRAINING MODELS

WESTERN SYDNEY CITY DEAL

CO-ORDINATING 3 LEVELS OF GOV'T

THE AIRPORT IS NOT JUST AN INFRASTRUCTURE PROJECT...

IT'S A MAJOR PIECE OF **POLICY ARCHITECTURE**

(ECONOMIC, COMPETITION & REGIONAL DEV.)

GRAPHIC RECORDING by ZAHRA ZAINAL

[Click here to view the session recording](#)

Opening Keynote

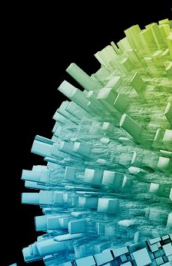
Paul Fletcher, Minister for Communications, Urban Infrastructure, Cities and the Arts

Session highlights

- Australia has a **\$110 billion** infrastructure agenda.
- The new **\$5.3B Western Sydney airport** – as the centerpiece of Sydney’s new Western Parkland city, and a coordinated effort across federal, state and local governments is almost **25% complete**, on track to open late **2026**.
- Airport to create an **estimated 28,000 jobs by 2031**. 200,000 jobs expected for Western Parkland city (Bradfield) over the next 20 years.
- Airport owned and operated as a government business enterprise but viable for sale and **future private ownership**.
- Three **policy levers** are in play – building the **airport**, a new, **30-minute city vision**, and **\$11 billion**, 23 kilometers of new **rail infrastructure**.
- The airport is a central part of a major policy architecture and powerful model of good public policy.

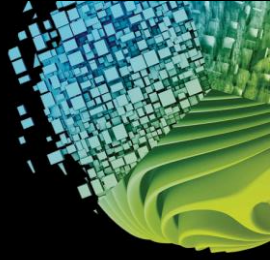
““ *Western Sydney Airport can boost economic growth, regional development and liveability in Western Sydney.* ””

““ *While the most major impact of the new airport will be filled in the regional economy of Western Sydney, Its impact will extend across the national economy.* ””



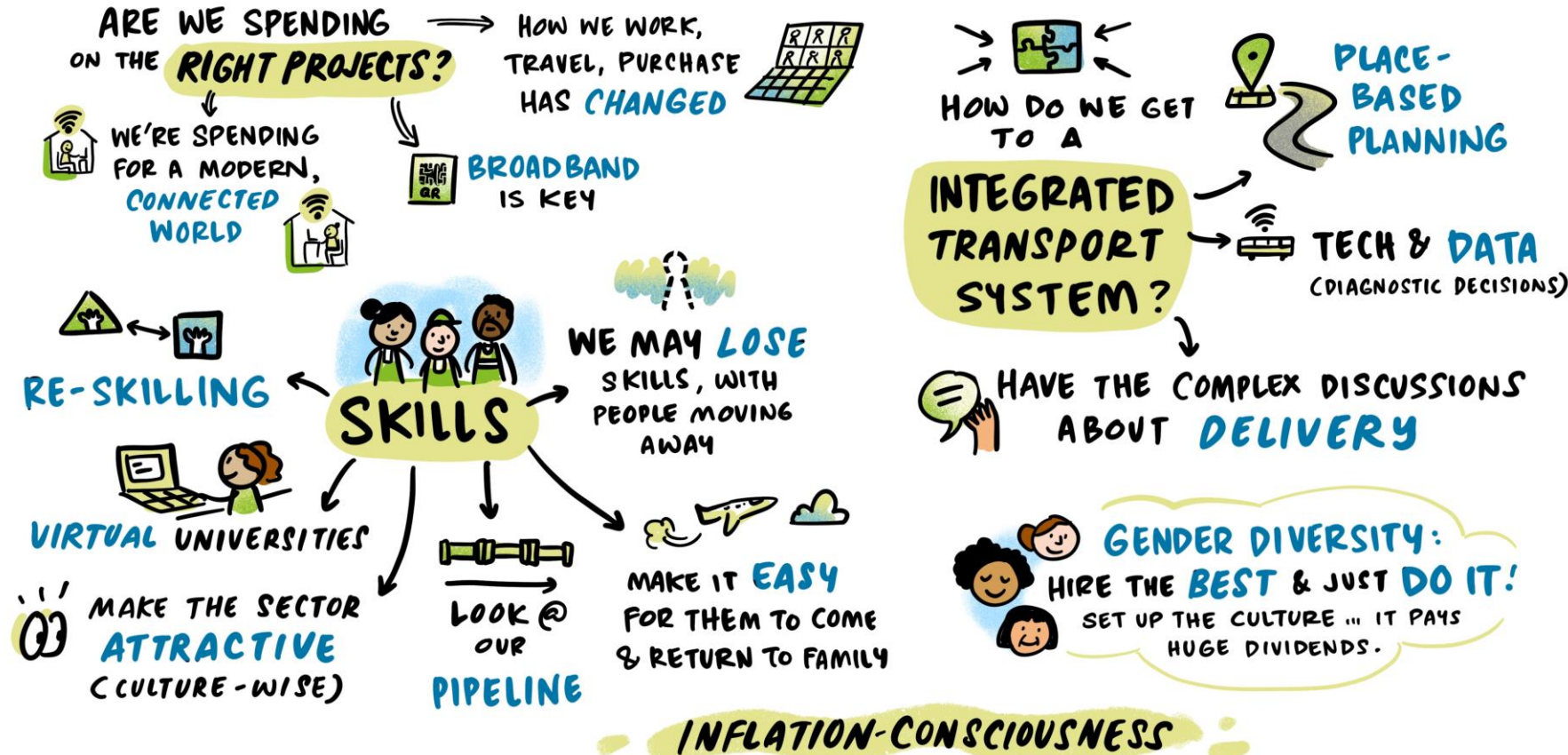
Panel: The big picture

Infrastructure health check and the effects of the pandemic



Deloitte.

PANEL: THE BIG PICTURE



[Click here to view the session recording](#)

#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

Panel: The big picture

Infrastructure health check and the effects of the pandemic

Panellists

Scott Charlton
CEO Transurban

Romilly Madew
CEO, Infrastructure
Australia

Paul Broad
Managing Director & CEO,
Snowy Hydro

Jenny Wiggins
Infrastructure Reporter,
The Australian Financial
Review

Session highlights

- Need to **design infrastructure** around the **new modern world** as tomorrow's world is dramatically different to the past. How we work, travel, purchase, use green and blue space and waste.
- **Telecommunications** and the use of **data** are some of the critical elements to consider.
- Pandemic **broke the mindset** that we can't work collaboratively and efficiently from home and resulted in a **structural shift** of a move to the regions.
- Frustration on the **high costs of toll** roads - need to have network pricing, integrated service with a holistic model and **network wide approach**.
- **Skills shortages** and 'the great resignation'. Global infrastructure pull and immigration once borders open. Not just about people leaving but about **training** and **cultural issues**, only 2% are women on construction sites.

“

Connectivity is the world.”

Paul Broad

“

*We are in a new world.
Business as usual, has changed.*”

Romilly Madew

Panel: How does Australia go electric?

What infrastructure does Australia need and are we falling behind?

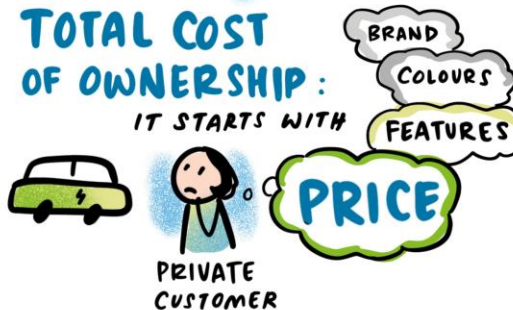
Deloitte. PANEL: HOW DOES AUSTRALIA GO ELECTRIC?



CREATE AN ENVIRONMENT FOR E.V ADOPTION:

WE NEED AN **OLYMPIC-STYLE BID IN LEADERSHIP**

PRICE PARITY IS DEFINITELY COMING... (2024 - 26)



CHARGING: DECOUPLED FROM FUEL & DISRUPTIVE!

FUEL & UTILITIES A PLAYER, ALSO RETAIL & RESIDENTIAL

AUSTRALIA IS BEING SEEN AS A "NICE-TO-HAVE" MARKET BY EV MAKERS

ELECTRIFICATION

IS AN EXCITING OPPORTUNITY FOR THE WHOLE COUNTRY...

BREAK DOWN THE GREEN TAPE TO MAKE IT HAPPEN!

MANUFACTURING BATTERIES IN AUS... WE'RE WELL-PLACED FOR IT. LOTS OF GLOBAL CAPITAL LOOKING FOR CLEAN INVESTMENTS

DISRUPTIONS TO SUPPLY CHAINS AFFECTS BOTH EV & CHARGING PORT MAKERS

#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

[Click here to view the session recording](#)

Panel: How does Australia go electric?

What infrastructure does Australia need and are we falling behind?

Panellists

Behyad Jafari

Chief Executive, Electric Vehicle Council

Luke Todd

Founder and Managing Director, Nexport Mobility

Jane Hunter

CEO, Tritium

Simon Evans

Senior Reporter, The Australian Financial Review

Session highlights

- We need to get **more competitive** as other nations are with our investments in the **supporting infrastructure**.
- We need vehicles that people **want to buy** and **price parity** with fuelled vehicles.
- We need a **coherent national framework** to allow public confidence, in terms of the grid and taxation reform.
- By **2025 EV's will cost less** (total cost of ownership).
- Issue that **manufacturers are not prioritizing AU** as a market, directed at EU/US and other larger markets.
- **Charging stations** will become **de-coupled from the forecourts**. Seeing the change in other countries where new and disruptive models are emerging.
- Battery production. Need to look at the full value chain, not just mining of raw materials. Excitement about this new **mining boom** but need **to look at the full value chain**.
- **Hydrogen market** attention is only in Australia. Relevant only for shipping and aviation, **not for passenger vehicles**.
- Does Australia need to have something **really descriptive (national policy framework)** in terms of banning petrol and diesel and a clear pathway by 2030?

“ What Australia needs to be doing much more of is really creating what I would call more of a Olympic style bid to get manufacturing back here...to really ramp up our leadership in the electric vehicle sector. ”

Behyad Jafari

“ So it is really important to see a national framework put in place and that will also allow what we need in terms of the grid. ”

Jane Hunter

Panel: The future of Australia's gateway infrastructure

How does our tourism related infrastructure need to evolve and do we have the capacity we need?

Panellists

Marika Calfas
CEO, NSW Ports

Peter Doyle
Partner - Energy &
Infrastructure, Gilbert +
Tobin

Margy Osmond
CEO, Tourism and
Transport Forum

Lyell Strambi
CEO, Melbourne Airport

Jenny Wiggins
Infrastructure Reporter,
The Australian Financial
Review

Session highlights

- **Airlines** need a date to be fully back, it's a network business, need for border certainty. NSW have 60M of funds to attract airlines back.
Melbourne airport was at 1% capacity during COVID but went ahead with 350M investment. Opportunity to do work with the reduced capacity.
Forecasts for airports. Domestic will come back very quickly and potentially increase. International unknown.
- **Shipping**, global issues impacting Australia. Issues such as congestion, industrial action and labour issues due to COVID outbreaks. Any issues here then exacerbate. Demand has also increased. Network doesn't have the capacity. East West trade lines are also prioritized if delays. We are only 1% of the market. Can improve in areas of productivity and ports continue to invest landside. Need infrastructure to connect, resilience improvements and tech improvements.
- **Cruise sector** should bounce back, again initially domestic.
- Themes such as the importance of making the most of the infrastructure that we have and the importance of reducing carbon emissions. Question of how to get there, how to transition.

“ You don't just turn the tap back on. ”

Margy Osmond

“ It's the tide that floats all boats. ”

Lyell Strambi (on airports)

Panel: Hotspots – What do savvy investors have their eye on?

What is driving the boom and investor expectations.

Deloitte. PANEL: HOTSPOTS: WHAT DO SAVVY INVESTORS HAVE THEIR EYE ON?



[Click here to view the session recording](#)

#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

Panel: Hotspots – What do savvy investors have their eye on?

What is driving the boom and investor expectations.

Panellists

Matina Papathanasiou

Founding partner - Global Infrastructure, QIC

Nik Kemp

Head of Infrastructure, AustralianSuper

Kyle Mangini

Global Head of Infrastructure, IFM Investors

James Riddell

Partner, Deloitte

Session highlights

- Batteries, renewables and energy transition some of the best returns.
- Lots of opportunities to invest in the sub sectors of 'the emission pie'.
- Clients have a preference for sustainable investments. *ESG is just good business.*
- How and where to play. To find relative value you need a broad reach. Pockets of value, no single geography or industry.
- Can't look at returns in isolation. Need to look at range of assets, platforms, team to grow the portfolio.
- Public to private transactions (such as Syd airport). There is a lot of capital which is a catalyst for transactions. For some infrastructure it makes sense not to be listed as good not to have short-term pressures like yields.
- Re-definition of what constitutes infrastructure. Largely COVID related with trends of tech and telecommunications and the huge boom in the related infrastructure needed to support the demand.

“ We have a fantastic opportunity to be a global renewable superpower. ”

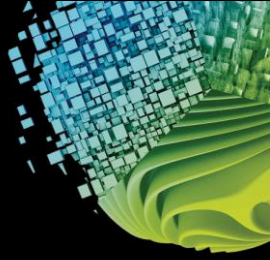
Matina Papathansiou

“ In order to find value in this market, you really need to have a really broad reach. ”

Nik Kemp

Panel: Regional Infrastructure – Driving an economic and social renaissance

Is the shift to the regions long-term and is it sustainable?



Deloitte.

PANEL: REGIONAL INFRASTRUCTURE : DRIVING AN ECONOMIC AND SOCIAL RENAISSANCE



[Click here to view the session recording](#)

#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

Panel: Regional Infrastructure – Driving an economic and social renaissance

Is the shift to the regions long-term and is it sustainable?

Panellists

Lawrie McKinna

Chair, Regional
Development Australia
Central Coast

Nicole Lockwood

Deputy Chairperson,
Infrastructure WA

Evan Tattersall

CEO, Rail Projects Australia

Mark Ludlow

QLD Bureau Chief, The
Australian Financial Review

Session highlights

Central Coast

House prices are skyrocketing, less than 1% of rentals available. Businesses looking to scale back offices. 80k new residents by 2040 with 72K jobs needed. Need increased rail support and housing.

West Australia

COVID highlighted the need for better connectivity. Crucial to get jobs to regional areas to go from a services only, to a sustainable economy. Need to accentuate different economic zones and not just rely on mining. Need depth of economy, access to overseas workers, water security and better telecommunications.

Victoria

Skills shortages but there was shortage across Victoria and Australia pre COVID. Need consistency on forward outlook to allow for better planning. Pre COVID, there was already the pressure of population growth driving huge projects, both in the metropolitan and regional areas.

““ *If you want to have a complex and sustainable economy, you've got to have opportunities for people to be able to move throughout their career.* ””

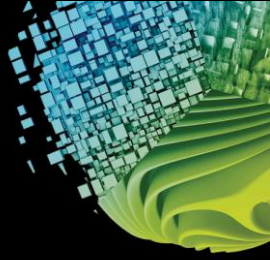
Nicole Lockwood

““ *So at least from the construction industry perspective where we're probably seeing we're over the worst and looking to a better period coming forward.* ””

Evan Tattersall

Panel: Creating resilient infrastructure

Sustainability, resilience and cybersecurity



Deloitte. PANEL: CREATING RESILIENT INFRASTRUCTURE



[Click here to view the session recording](#)

#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

Panel: Creating resilient infrastructure

Sustainability, resilience and cybersecurity

Panellists

Alexander Danne

Partner, Head of Energy & Infrastructure, Gilbert + Tobin

Michelle Price

CEO, AustCyber

Theo Psychogios

Partner, Deloitte

Ainsley Simpson

CEO, Infrastructure Sustainability Council

Martin Kelly

Property Reporter, The Australian Financial Review

Session highlights

- Pre COVID, companies were **10-15%** prepared, now just **25%** prepared. **For every 1 incident reported** there are **9 unreported**. Australia is a massive target with **3 trillion** flowing through our superannuation system alone.
- **3 bad actors**, criminals, government and opportunistic individuals.
- **Surge in demand** for the Infrastructure Sustainability Council to **evaluate assets**. 4 fold in 4-5 years.
- **Energy: 56%** reduction in materials emission, **43%** reduction in lifecycle energy or **23M tonnes CO2**.
- **Implications of the SOCI act**, legal framework for critical infrastructure **increased from 3 areas to 22**, expanding the sectors in scope and **lowering the size threshold**. Convergence of **IT and OT**. Need to understand the risks on a converged basis and take an **all hazards** approach.
- **Energy has 2 digital risks, cyber security** and **infratech**. Vulnerability to have these assets operated offshore.

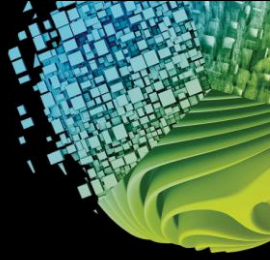
“ It is in the top five of the most reported topics in the country. ”
Michelle Price (on cyber)

“ Assets and the people who manage them, particularly board level will be culpable legally for the non-performance of their assets. ”
Theo Psychogios

**Key Message –
Back up your data!**

Keynote Address: Catherine King

Shadow Minister for Infrastructure, Transport and Regional Development



Deloitte. KEYNOTE ADDRESS: CATHERINE KING

INFRASTRUCTURE IS A **KEY ENABLING FORCE** FOR THRIVING


CURRENT GOVERNMENT

INVESTMENT PIPELINE
ON-GOING PROBLEMS WITH DELIVERY

\$5BIL OF PROJECTS NOT LIKELY TO BE BUILT

QUALITY OF SPEND



COMMUTER CAR PARKS

OUT OF 48:
4 BUILT, 6 CANCELLED
[COST: \$25k - 211k PER]

OUR INVESTMENT:

EVERY PRIORITY IDENTIFIED BY



EVIDENCE-BASED DECISION MAKING



PUBLIC TRANSPORT

INVESTMENT (RAIL PROJECTS)



HIGH SPEED RAIL

IN VIC:



BIZ CASE: TRACKLESS TRAM



INFRASTRUCTURE AUS

WE'D PICK UP WHERE WE LEFT OFF

RECONSIDER IA'S ROLE & PURPOSE



INDEPENDENT REVIEW

FIRST STEP: HIGH SPEED RAIL AUTHORITY
UPDATED BIZ CASE



WE'LL MEET THE CHALLENGES & OPPORTUNITIES

NET ZERO OPPORTUNITY:
NEW TECH IN TRANSPORT
REDUCING EMISSIONS A KEY GOAL

#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

[Click here to view the session recording](#)

Keynote Address: Catherine King

Shadow Minister for Infrastructure, Transport and Regional Development

Session highlights

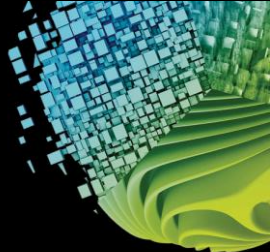
- **Transport and infrastructure can help build equity** into the heart of communities across Australia. Building a better, more connected nation.
- **Road and rail funding has peaked** as a share of GDP in the forward estimates.
- Significant **reliance on equity funding** represents risk to the ongoing budgetary position (according to the Parliamentary Budget Office).
- **Skills shortages** with **100K jobs** likely to go unfilled over the next **3 years**.
- The quality of the federal government's infrastructure spending is causing some problems.
- Labor will pick up where it left off on infrastructure development and delivery.
- **Infrastructure Australia** has been **sidelined** by the federal government.
- It's time to reconsider **Infrastructure Australia's purpose**. An Albanese government will commence an **independent review** into its focus, priorities and, if necessary, legislation.
- Nothing captures the imagination more than high speed rail.
- As a first step, a labor government will establish a **high speed rail authority** to develop a business case for a **link** between **Sydney** and **Melbourne**.
- Labor takes **climate change** and **transport** seriously and will invest in new technologies.

“When it comes to nation building infrastructure no one project offers benefits or captures the imagination quite like high speed rail.”

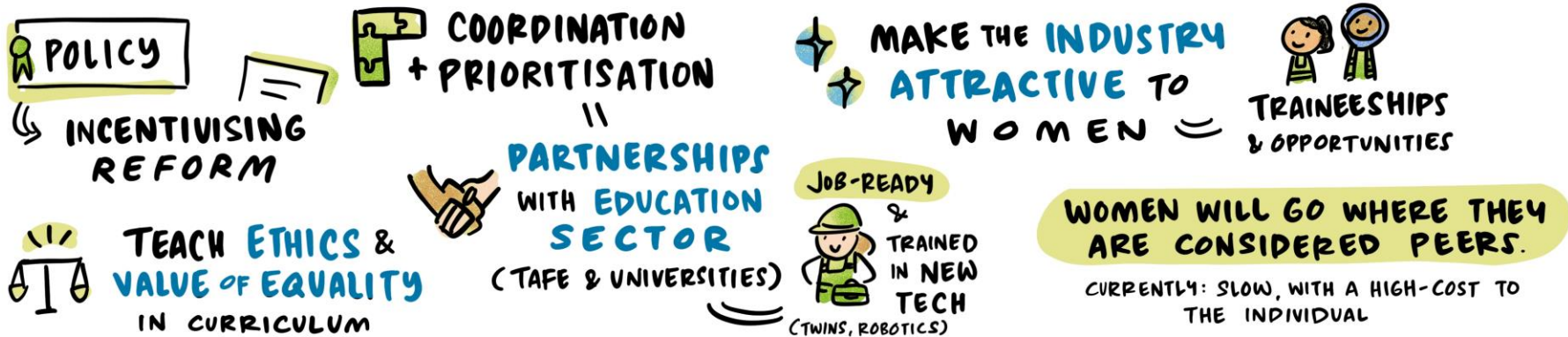
“We have a unique opportunity to break with the old ideas of the past.”

Panel: Does Australia have the capacity and capability to deliver the infrastructure it needs?

Risk management, skills shortages, border closures, unsolicited proposals

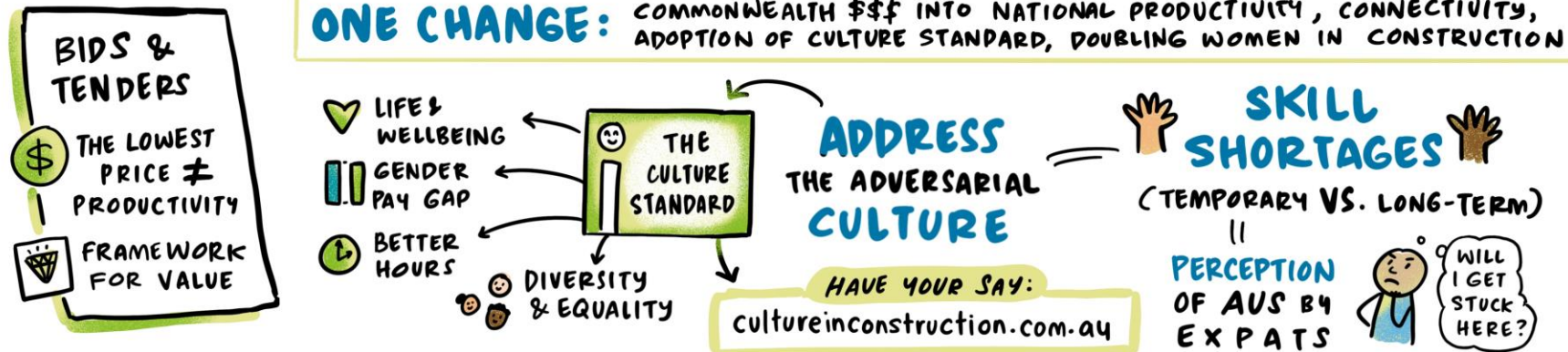


Deloitte. PANEL: DOES AUSTRALIA HAVE THE CAPACITY AND CAPABILITY TO DELIVER THE INFRASTRUCTURE IT NEEDS?



[Click here to view the session recording](#)

ONE CHANGE: COMMONWEALTH \$\$\$ INTO NATIONAL PRODUCTIVITY, CONNECTIVITY, ADOPTION OF CULTURE STANDARD, DOUBLING WOMEN IN CONSTRUCTION



#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

Panel: Does Australia have the capacity and capability to deliver the infrastructure it needs?

Pressure points such as skills shortages, border closures, unsolicited proposals

Panellists

John Davies

CEO, Australian
Constructors Association

Marion Terrill

Transport and Cities
Program Director,
Grattan Institute

Steffen Faurby

MD, TAFE NSW

Jenny Wiggins

Infrastructure Reporter,
The Australian Financial
Review

Session highlights

- Commonwealth should **focus** on the **national economy** but much of what it does is beyond this.
- **Opportunity** for federal government **to coordinate** and **incentivize reform**, currently 'asleep at the wheel' and relying on industry to lead the economy forward.
- **Skills shortage** is not just COVID related and is **piecemeal**. Need skills in carpentry, robotics mgt, digital twins, smart digital to add to classic tracks. **Females** are **underrepresented**, need to make it more attractive. Need to **rethink training**, for example, upskilling with **micro training** programs for companies.
- **ACA** working on initiatives such as **culture standards** with the intent that it would form part of procurement for major projects. Another is a **framework** to better **define value for money** on projects.
- Unsolicited projects – **Competition** is **fundamental** to get a good deal for taxpayers.
- **Sharing of technology** and need to address the fundamental barriers, need **transparency** to improve widespread adoption.

“ We have 3400 additional carpenters that we need in the next three years. We need 2300 more electricians, we need 1500 more plumbers. ”

Steffen Faurby

“ You often see this mismatch between what the states are doing and what the Commonwealth is doing. ”

Marion Terrill

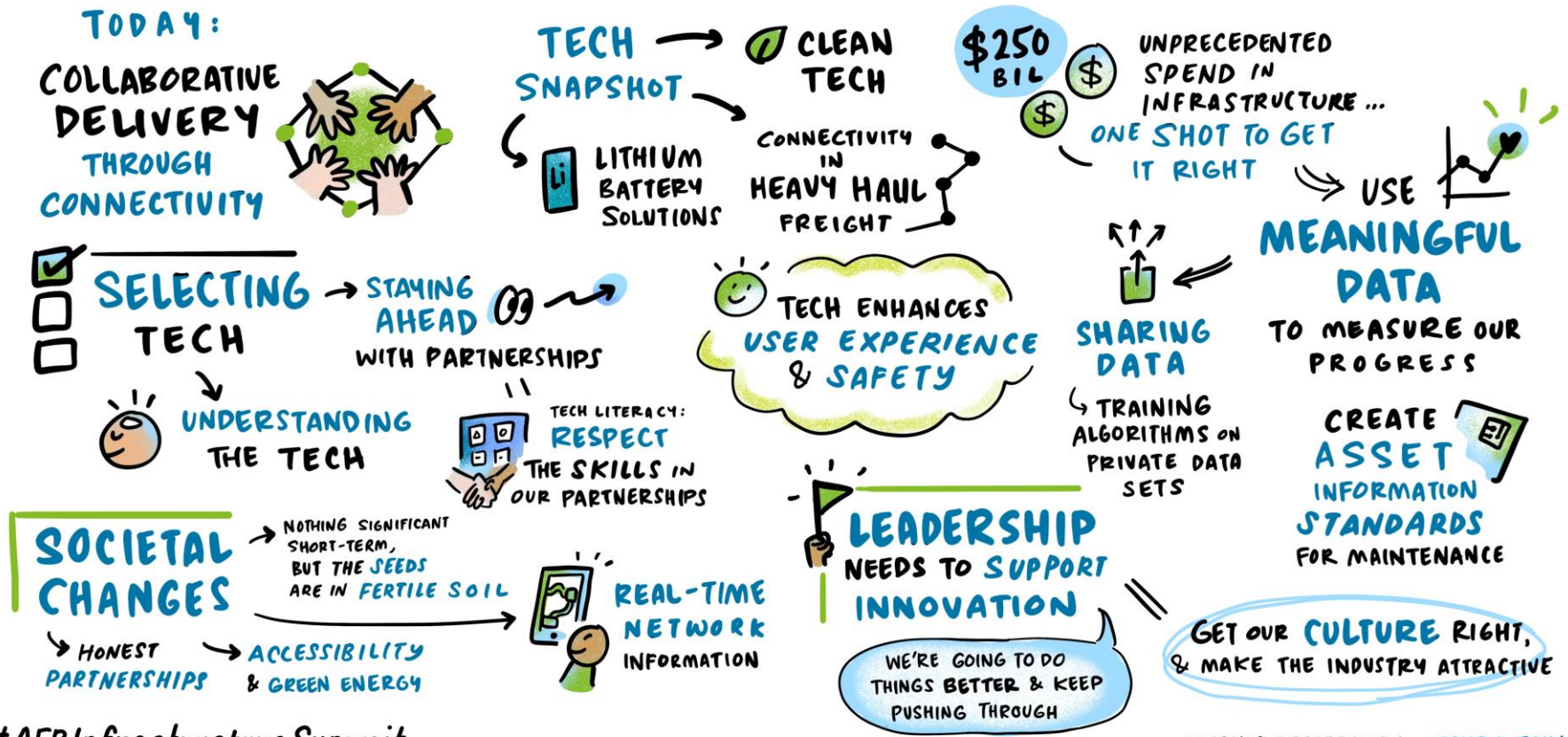
“ We need to be driving improvements in productivity, and not just going for the lowest possible price at the tender box. ”

John Davies

Panel: How technology is powering the next generation of infrastructure

Smart infrastructure and the role of technology

Deloitte. PANEL: HOW TECHNOLOGY IS POWERING THE NEXT GENERATION OF INFRASTRUCTURE



#AFRInfrastructureSummit

GRAPHIC RECORDING by ZAHRA ZAINAL

Panel: How technology is powering the next generation of infrastructure

Smart infrastructure and the role of technology

Panellists

Rob Spittle

Partner, Deloitte

Wendy McMillan

Senior Regional VP, ANZ,
Wabtec Corporation

Pascal Perez

Director, SMART
Infrastructure Facility,
University of Wollongong

Doug Moss

Managing Director, UGL

Jessica Sier

Technology Reporter, The
Australian Financial Review

Session highlights

- 250B will be spent on infrastructure assets over the next 4 years.
- Technology is underpinning Australia's transformation and will allow us to use existing infrastructure more effectively.
- Connectedness, the interface between different assets, needs different thinking and more collaborative tools.
- Type of tech, clean tech crucial, sustainable, shared data, diagnostics and interoperability.
- Tech literacy, as projects become larger and more complex.
- Have the roadmap, need a way to monitor what we do.
- Reliable open data sources needed. With cloud computing information can be shared securely and made available to the right people at the right time. With visibility decisions become effective. Data can optimise design, maintenance and operation. We are in an information revolution.
- Societal changes and trends. Need collaboration and partnerships, to "go under the hood" with partners for effective planning.
- Need culture change, upskilling to cope with the tech revolution, leadership, support for innovation and willingness to do things differently.

“What is the art of the possible with information?”

Rob Spittle

“We've got one shot at it as a nation, as taxpayers, all of us want to make sure that governments and industry will deliver what we need.”

Pascal Perez

“Projects are becoming larger, more complex, more reliant on technology.”

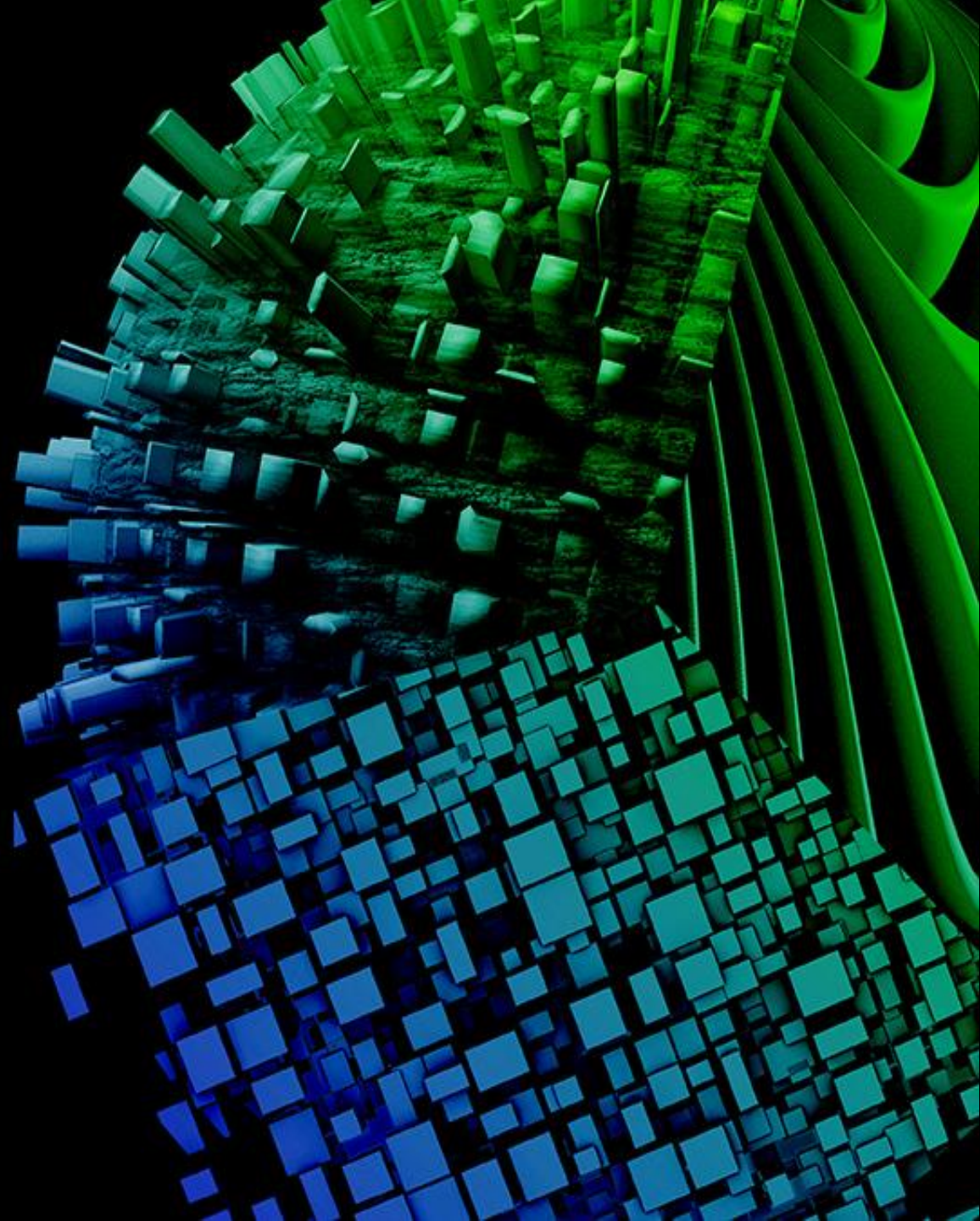
Doug Moss

The Deloitte logo, consisting of the word "Deloitte" in a white, bold, sans-serif font, followed by a small green dot.

The six faces of a critical infrastructure leader

Build organisational resilience
using an 'all hazards' approach

[Click to download the report now](#)



Intelligent Major Capital Projects



IMCP
Processing



Contacts

Keep in touch



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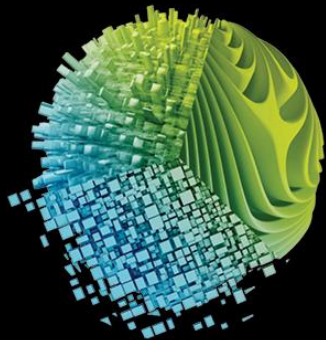
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David Alonso

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Revitalise. Rebuild. Reimagine.