Plugged in

↳ Derisking New South Wales' energy transition together

→ The Power of Commitment

Plugged in

Connecting with industry to tackle pressing issues facing the energy transition

Australia is currently at a critical juncture in the energy transition. We need a coordinated approach to transition to renewable energy and achieve our Net Zero targets. GHD's *Plugged in* series has brought industry and government experts together to address some of the key challenges, including; the need for early engagement, working together to mitigate supply chain risks and labour shortages, regulatory challenges and streamlining connection approval processes.

A snapshot of our current situation:

In 2023, renewable energy generated close to 40% of electricity in Australia. By 2030, renewable energy will generate 82% of our supply (Dyer, 2023; AEMO, 2024).

Increasing costs of traditional fossil fuels continues to impact household electricity costs and company profits. Investment in the energy transition while supporting ambitious national climate targets and securing electricity supply, will also combat rising costs and support our economy.

We're seeing significant and consistent investment in new renewable energy projects, but many are not yet proceeding past initial business case and are facing delays in the approval process. This is bolstered by increasingly strong opposition from local communiities on energy development and transmission projects.

We need to see earlier engagement with local communities, a greater focus on resourcing and further investment in power generation and storage to support the renewable energy capability in Australia.

> **The *Plugged in* series created a forum for insights and ideas that have expanded our understanding and appreciation of the complex nature of the energy transition. It's clear that collaboration is critical to the success of transitioning the energy market and it's important for industry to continue the conversation as we work toward a greener future.**
>
> Jason Clegg, NSW/ACT Energy Market Leader, GHD

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To make the required changes in Australia, we will need:

3x

Installed variable renewable capacity to triple by 2030

AEMO, 2024

4x

Firming capacity to quadruple by 2050

AEMO, 2024

30%

Australia's clean energy workforce to increase 30% by 2033

Clean Energy Council, 2023

10,000km

Almost 10,000km of new transmission infrastructure by 2050

AEMO, 2024

Social licence to operate

Why early engagement is critical to alleviate uncertainty in the energy transition

With many energy projects stalling due to community opposition and uncertainty, early and authentic community collaboration is crucial to help alleviate some of the opposition around clean energy projects.

Social Licence to Operate (SLO) gained traction in the global mining and extractive industry in the 1990s in response to public pressure for the industry to increase its social accountability. SLO is commonly understood as the 'ongoing acceptance and approval of a project by local community members and other stakeholders that can affect its profitability'. Many studies highlight that meaningful, constructive relationships between companies and stakeholders are vital to establishing or maintaining a Social Licence to Operate.

The situation

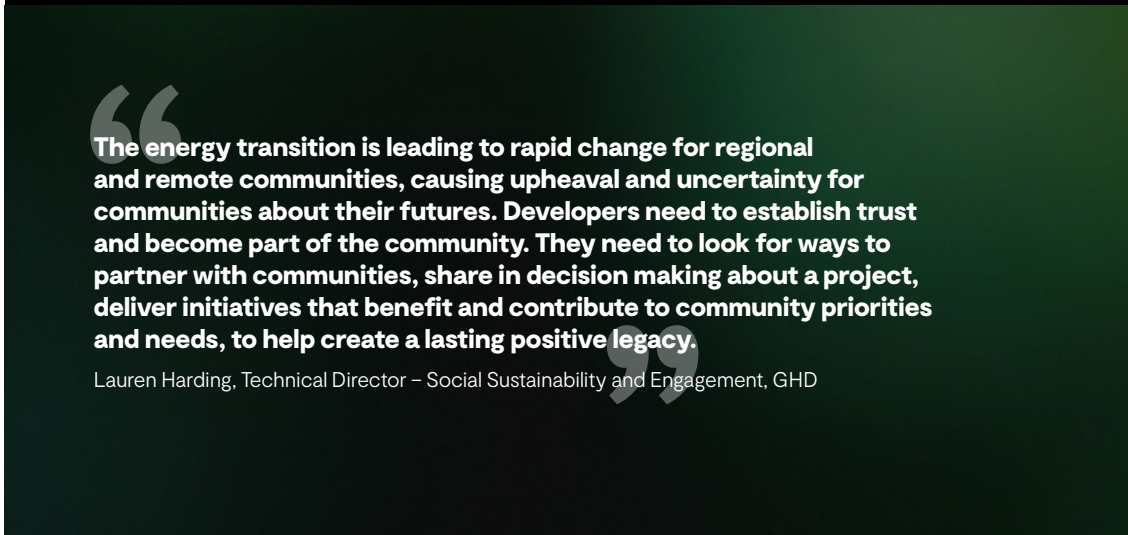
Green energy projects are part of the energy transition story in Australia. Alleviating uncertainty and building community acceptance of new projects are key to a successful transition.

We need a national narrative for energy developments to support peoples' understanding and perceptions of these projects if we are to build SLO.

An analysis of major renewable projects in NSW shows that from determined projects in the state, the number of objections outweigh submissions of support by 130%. It takes between six and 12 months longer to approve projects with objections than those without.

Of the 107 renewable projects that have been determined since 2005, 20% were referred to the Independent Planning Commission (IPC) for determination. Projects referred to the IPC take an average of 3.4 years to be determined, in comparison to 1.5 years if determined by the NSW Department of Planning, Housing and Infrastructure.

It is evident the significant impact community sentiment has on renewable energy projects and how critical SLO is to enable a faster transition.



> **The energy transition is leading to rapid change for regional and remote communities, causing upheaval and uncertainty for communities about their futures. Developers need to establish trust and become part of the community. They need to look for ways to partner with communities, share in decision making about a project, deliver initiatives that benefit and contribute to community priorities and needs, to help create a lasting positive legacy.**
>
> Lauren Harding, Technical Director – Social Sustainability and Engagement, GHD

What our panel discussed

Communicate authentically

Developers need to have direct conversations, listen and ensure a genuine approach when engaging with communities. Getting the right people on the ground to talk to the community and keep the conversation going should be a priority. If done well, projects will be in a much better position to progress effectively.

Build trust

Establish genuine relationships by reaching out to the community and have direct conversations with them. Listen and understand the range of community concerns. Work with communities to create trust and make time for a just transition. It takes time to build trust and ongoing effort to maintain. Working with the community to build trust early will lead to support of the project and assist in managing community opposition.

Consider the broader community impact

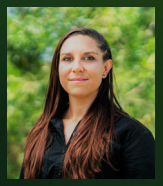
It's important to engage early and be honest with communities about the impacts of a project. Large developments can affect the social fabric of a local community. Be respectful of the diverse views within a community and understand the division that these projects can cause within communities. This includes the landowners directly impacted by new projects and their neighbours.

Respect First Nations communities' connection to Country and the impact of projects on their culture

First Nations communities have a spiritual connection to Country and feel a responsibility to care for our land, water and skies. Some communities will be consulted on multiple projects at any given time and need the opportunity to consider what these projects will mean for Country. It's important to understand that not all groups will want to be involved. Consult with First Nations' communities, but do not expect them to give you their time or cultural knowledge in kind.

> **The race to rapidly decarbonise Australia's electricity network puts social licence and due process at risk. We need to find the right approach which takes everyone along the journey and facilitates a smooth and timely transition. Slow is smooth, smooth is fast. Social licence takes time to build but ensures projects will be delivered with less bumps along the way.**
>
> Ruby Heard, Director, Alinga Energy Consulting

Thank you to our panelists and GHD facilitators:



Ruby Heard
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Nicole Brewer
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Panelist
Enel Green Power Australia

Jacqueline Crompton
Panelist
Endeavour Energy

Glen Conway
GHD Host

Leon Filewood
GHD Chair

The resource availability dilemma

Managing supply chain risk in project delivery

To effectively navigate the energy transition and remain competitive globally, collaboration between government and industry on a national scale is crucial. Australia faces intense competition and a rapidly evolving energy landscape, necessitating a multi-faceted approach to the energy supply chain.

The situation

Addressing climate change drives the transition amidst rising fossil fuel costs and investment in new projects. Australia is unlikely to out-invest or incentivise the energy supply chain to gain global leadership.

Australia needs to see a 30% increase in the clean energy workforce by 2033 to meet national targets (Treasury, 2023). Almost one-third of our clean energy workforce was born outside of Australia. While migration will assist in the short term to transfer knowledge, medium to long-term solutions are needed if we are to compete with overseas markets vying for the same material and resources (Jobs and Skills Australia, 2023).

Clean Energy Council's *Skilling the Energy Transition* (2022) report declared that by 2035, three-quarters of clean energy jobs could be based in regional Australia. This calls for greater focus on enabling a more diverse skilled workforce to meet the demands of the transition.

Resourcing challenges are only reinforced by the recent calls for increased investment in power generation, storage and transmission. It continues to highlight the urgency of bolstering renewable energy capabilities and addressing power reliability risks.

> **The energy transition in Australia demands unprecedented collaboration between government and industry to develop a resilient supply chain, including innovative approaches to procurement, and a strategic focus on regional and First Nations communities. As we navigate this complex shift, we must build a future-ready workforce and engage our ports' crucial role, all while fostering a culture that embraces the opportunities in clean energy.**
>
> Richard Fechner, Executive General Manager, GHD Advisory

What our panel discussed

Government-industry collaboration

To effectively navigate the energy transition and remain competitive globally, a collaboration between government and industry on a national scale is necessary to help us avoid competing for the same resources and to make long-term policy commitments.

Workforce development

We must co-design a future workforce that is diverse and inclusive, involving regional communities, women, First Nations people and other underutilised groups. By leveraging the energy transition, we can address regional skill shortages and ensure equitable benefits. Shifting perceptions to view local energy careers as viable is also important.

Innovative procurement

Traditional procurement methods need rethinking to accommodate the unique demands of new energy projects. It will involve being innovative in our procurement and contracting frameworks, and understanding that the risk tolerance has changed for new future energy projects.

Port infrastructure

Our ports, crucial for over 95% of goods, must support the energy transition by facilitating the movement of resources and products essential to the evolving energy landscape.

> **While the energy transition is creating 'once in a lifetime' opportunities in regional Australia, understanding skills needs and meeting workforce demand are challenges. There needs to be a focus on enhancing awareness of ongoing job opportunities in clean energy.**
>
> Adam West, Industry Innovation Specialist – Electrotechnology and Renewable Power Generation, TAFE NSW

Thank you to our panelists and GHD facilitators:

Emily Scivetti
Panelist
Oceanex Energy

Amir Jesmi
Panelist
Gamuda Australia

Catherine Blaine
Panelist
Port Authority of NSW

Adam West
Panelist
TAFE NSW

Helen Barbour-Bourne
GHD Host

Richard Fechner
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Managing regulatory pathways

Connection, regulatory challenges and future proofing projects

Regulatory pathways and connecting to the grid are critical areas for the growth of storage and generation projects. However, the intricate and challenging processes involved in grid connection, including the rigorous analysis and modelling needed to ensure system security, reliability, and quality of supply, continue to impact the sector. Industry is looking forward to recent improvements and innovations in regulatory frameworks designed to streamline these processes.

The situation

A significant challenge exists in connecting generation and storage to enable the transition to renewables. While the capacity in NSW continues to increase year-on-year, we need to continue to increase the delivery rate if we are to achieve the transformation forecasted in the *AEMO 2024 Integrated System Plan (ISP)*. Therefore, exploring ways to improve the connection process is critical.

In NSW, there has been a substantial change to the framework supporting the development of renewable energy zones (REZs). Changes include provisions like the allocation of access rights and group processing of connection applications which are designed to streamline the connection process. AEMO and others are working to implement ongoing improvements to the connection process.

It remains to be seen whether the changes are sufficient to address the critical connection process risks developers feel.

> **Our sector is going through an unprecedented change where nobody has the answers to the complex problems we face. The only way to navigate the energy transition is to have safe forums like *Plugged in*, where people can come together to share perspectives and debate our difficult problems.**
>
> Brad Hopkins, General Manager Commercial, AEMO Services

What our panel discussed

Government-industry collaboration

A key element for a successful connection process is the early engagement between proponents, network service providers and AEMO. Early engagement is crucial to foster greater collaboration. Regulatory bodies such as AEMO and EnergyCo have recognised the need to improve collaboration and implement revised processes, particularly in NSW REZs.

Connection reforms

We are seeing reforms aimed at streamlining the grid connection process, which is important in a resource-constrained world. However, there remains a lack of appropriate incentives to foster pre-emptive development of the network to provide the capacity when required to connect new renewable and storage projects.

Streamlining the batch application process

The new batch application process will enable connection projects to be assessed in parallel. While the impact on a single project's connection timeline will be modest, the new process should be able to significantly accelerate connection when viewed at a portfolio level. The new batch applications are expected to have a considerable impact on project timelines in the REZs.

Planning for future connection demands

We must plan big for tomorrow as our renewable energy and transmission capacity needs continue to expand. Planning and developing the transmission network for a conservative load forecast won't service future needs. It results in inflexibility and delays in the development of crucial renewable generation and storage projects, delaying the energy transition. It's necessary to start making provisions for the future in a way that manages risk and limits pressure being applied to consumers. Overall, we need a greater network capacity and the investment to make it happen.

> **Transforming the power system to 100% renewable requires efficient grid connection processes and a network planning and development framework that facilitates the necessary network expansion. This can only be achieved through the continued collaboration of all stakeholders.**
>
> David Bones, Business Group Leader – Power Advisory, GHD Advisory

Thank you to our panelists and GHD facilitators:

Brad Hopkins
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AEMO Services

Mark Jacobs
Panelist
Yancoal Australia

Navin Subash
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Australian Energy Market Operator

Helen Barbour-Bourne
GHD Host

David Bones
GHD Chair

What now?

To effectively navigate the energy transition and remain competitive globally, collaboration between government and industry on a national scale is crucial. Australia faces intense competition and a rapidly evolving energy landscape, necessitating a multi-faceted approach to the energy supply chain.

Together, government and industry can achieve remarkable feats, but it requires us to connect, collaborate and commit to ensure a sustainable future for Australia. Thank you to everyone who *plugged in* to the conversation as we strive to derisk the energy transition together.

Get in touch

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Additional resources

AEMO, *Connections Scorecard*

AEMO 2023, *Connections Reform Initiative*

AEMO 2024, *Integrated System Plan: For the National Electricity Market, A roadmap for the energy transition*

Andrew Dyer (Australian Energy Infrastructure Commissioner) 2023, *Community Engagement Review Report* on behalf of the Department of Climate Change, Energy, the Environment and Water

Clean Energy Council 2022, *Skilling the Energy Transition*

Jobs and Skills Australia 2023, *The Clean Energy Generation: workforce needs for a net zero economy*

Lauren Harding and Lauren Xuereb (GHD) 2024, *Social licence for a sustainable waste future*

NSW EnergyCo 2024, *Central-West Orana Renewable Energy Zone Access Rights Application Process Guidelines*

Treasury 2023, *Our Roadmap for a dynamic and inclusive labour market*

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