

Energy
Networks
Australia

YEAR IN REVIEW 2020-21



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CEO REVIEW



The past financial year has delivered a new pandemic-shaped normal as rolling lockdowns, restrictions and border closures have changed the way we work and live.

The term ‘unprecedented’ has regularly been on the lips of our politicians, health officials and community leaders. And while it is a word that has undoubtedly become tired from overuse, it is hard to escape the fact that it has been an unprecedented year – on a range of fronts.

For the energy sector, the pandemic has required adjustments in service delivery – for example in critical maintenance works – and customer communications. All networks have had to deal with workforce operations challenges posed by ongoing restrictions. Compounding this has been unusual storm events – in WA a severe cyclone severely impacting a part of the state not used to such extreme weather and in Victoria, a storm that wiped out an ‘unprecedented’ amount of network.



The transition to renewables that networks have a crucial role in enabling is accelerating. Across Australia one in five homes now have solar panels on their roofs, and one in 13 homes have battery storage. With more EVs entering the market at more accessible price points, that number will only rise. Networks increasingly are innovating to support the integration of these distributed energy resources to manage system challenges, keep costs as low as possible and ensure customers who want to connect and export their solar can do so.

More and more large-scale industries are setting net-zero emission targets and embracing renewable technologies.

We have also seen an ‘unprecedented’ amount of government investment and intervention in the market, from large-scale batteries, pumped hydro, funding support for interconnection and transmission and development of renewable energy zones. Jurisdictions are increasingly deviating from an aligned national approach to energy policy and setting their own agendas, creating challenges and opportunities for our sector.

New transmission projects are facing social licence challenges in regions that have not seen such developments for many years. The importance of this infrastructure to support an increasingly renewables-based grid has elevated attention on addressing community concerns. Changes to the way impacted residents and communities are compensated are being discussed and are likely to be necessary.

Green gas continues to emerge as a key decarbonisation lever with Australian Gas Networks’ Hydrogen Park SA project becoming Australia’s first to deliver a hydrogen blend in the existing domestic gas network servicing 700 homes in Tonsley, Adelaide. The NSW Government launched an ENA facilitated green gas certification pilot scheme that will for the first time enable gas customers to purchase certified renewable gas. All Australia’s gas networks are now undertaking hydrogen and renewable gas projects and every state has a hydrogen strategy.

These issues have all helped shape Energy Networks Australia’s policy and advocacy focus over the past year.

OUR FOCUS

ENA's focus areas over the past year have included:

- » Adjusting to a Covid-shaped working environment
- » DER integration
- » The value of transmission and interconnection including social licence.
- » Decarbonising gas networks and renewable gas
- » Economic Regulation

This year the secretariat has produced a range of high-quality publications and collateral for ENA's and members' use, targeted at both customers and key stakeholders. This material includes: a factsheet, video and infographic to explain the value of transmission and support social licence; guidelines for the safe depiction of electricity targeted at advertisers and marketers; the Australian Smart Grid Roadmap and Distribution System Operator Vision outlining an agreed path forward for network integration of DER and our annual summer bushfire factsheet.

Other key and influential publications have included the CEPA reports on market operator governance; Gas Vision 2050 update; Frontier Economics' benefits of gas infrastructure report; the NERA report on financeability; Opportunities for SAPS to enhance network resilience and ENA's annual reports collating member entries to the innovation and consumer engagement awards.

A full list of publications is highlighted later in this document.

LOOKING FORWARD

"Living alongside the virus," was a phrase I used when I penned our last Year in Review introduction and undoubtedly that is what we are all doing.

ENA has adjusted well to the new world of work and the associated restrictions that have come with it. We have implemented new and stable online platforms to engage with our members and external stakeholders and to support our internal everyday operations.

Despite the restrictions on meeting face to face, the secretariat has continued to maintain the various committees and working groups and met or exceeded our key performance indicators for meeting with state and federal ministers and departmental staff.

With the significant shift in the past 12 months from a national policy focus to states going-it-alone on energy policy, ENA has also adjusted. With the endorsement of our member CEOs, we are increasing our emphasis on engagement with state and territory jurisdictions and key stakeholders.

We also now have ENA staff based in Western Australia and Queensland providing on-the-ground representation.

As we adjust to the new normal, ENA also continues to work towards its much anticipated - and thrice delayed - EN2021 conference and exhibition, which is set to go ahead in November. 2022 will also see the recommencement of our annual regulation seminar and a new seminar with a focus on innovation across our gas and electricity networks.

Despite the challenges of the past 12 months, it has been uplifting to see the dedication of the ENA team and the way they have adapted to the new world of work to continue serve our members and the network sector. I also greatly appreciate the support and advice I have received from chairs Tim Rourke (until November 2020) and Ben Wilson and all of the ENA Board.

Andrew Dillon
CEO

STRATEGIC GOALS

IN ENDEAVOURING TO ACHIEVE THE ENERGY NETWORKS' VISION OF 'ENABLING AUSTRALIA'S PROSPERITY AND CLEAN ENERGY FUTURE THROUGH THE POWER OF CUSTOMER CONNECTION', ENERGY NETWORKS AUSTRALIA HAS THREE STRATEGIC GOALS:



1. COMMUNITY AND CUSTOMER TRUST



2. POLICY AND REGULATION REFLECTS ALIGNMENT OF CUSTOMERS AND NSPS



3. TRANSFORMING ELECTRICITY AND GAS NETWORKS



ADVOCACY AND CORPORATE AFFAIRS

Energy Networks Australia's advocacy and corporate affairs activities seek to support our members and advocate for their views and priorities within the energy sector, with market bodies and the media.

Our efforts this year have largely been focused on the crucial role of networks to deliver the energy transformation, the value of transmission and interconnection to support renewables and the role of renewable gas to support the transition towards a net zero future.

KEY MESSAGES

- » Australia's electricity and gas grids are the platforms enabling Australia's low-emissions energy transition while keeping supplies safe, reliable and affordable.
- » It is critical energy regulation supports investment confidence and access to low-cost finance. This is essential to keep prices down and enable investments in a transforming energy system.
- » More transmission infrastructure and interconnection between states is essential to support renewable power generation, keep electricity reliable and link markets to keep customer costs down.
- » Networks are adapting to make the electricity grid smarter so it can support increasing amounts of rooftop solar, storage and other high-tech devices, giving customers greater choice about how to manage their energy use.
- » A smarter grid will offer cheaper power prices at different times of the day to allow customers to use technology to save on their electricity bills.

- » Renewable gas can be used for household and commercial heating and cooking and to provide feedstock and high temperature heat for industry. Hydrogen can be made from solar and wind power while also providing back up for variable renewable generation. Replacing our gas supplies with renewable gas allows the transition to net-zero emissions to occur at half the cost of electrifying that heating load.

These messages provide common themes to be utilised in submissions, publications and factsheets and in responding to the media.

**HYDROGEN
CAN BE MADE FROM
SOLAR AND WIND
POWER**



PROJECTS

The Corporate Affairs team has worked with other streams of the business to develop a range of projects that are designed both to inform and advocate key issues for our members.

Customer facing projects have been promoted through media and owned communication channels (such as our website, digital media, the weekly EnergyInsider newsletter and monthly Energy Networks Update newsletter).

**ONE THIRD OF
STAKEHOLDERS
FELT THEIR VIEW
OF ENA HAD
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THE PAST
12 MONTHS.**

KEY PROJECTS HAVE INCLUDED:

REPTRAK PERCEPTION AUDIT

The secretariat commissioned reputation and insights company RepTrak to conduct an audit to assess reputation of the energy networks industry and ENA. Interviews were conducted with 17 'highly engaged' stakeholders including customer representatives, government, regulators/market bodies and other industry and research groups. This audit is conducted every two years.

Key findings included that 75 per cent of stakeholders felt favourably toward the industry, with consumer groups rating networks highest. 47 per cent of the stakeholders felt their view of the networks industry had become more positive. This positivity was mainly driven by the response to the energy transition.

Stakeholders scored Energy Networks Australia a 75.3 out of a possible 100.0 for reputation with 85 per cent of stakeholders feeling favourable towards ENA, with each stakeholder group reflecting very high levels of favourability. One third of stakeholders felt their view of ENA had become more positive over the past 12 months.

TRANSMISSION SOCIAL LICENCE

Energy Networks Australia members began to raise through various interactions the increase in activism they were experiencing from well organised community groups and external parties opposing new transmission projects. The Western Victorian transmission project and Humelink have been a particular focus for activism. This is likely in part due to a lack of understanding about the importance and value of transmission.

To help address this, ENA worked with our members to create a suite of collateral including a [fact sheet](#), [video](#) and [infographics](#). These are housed on the home page of the ENA website and have featured in our digital media activities. The publications sought to explain concisely the fundamental need for new transmission projects to assist with the energy transformation.



SAFE DEPICTION OF ELECTRICITY

Following a spate of incidents raised by members about the unsafe depiction of electricity in television commercials, ENA developed a factsheet highlighting the 'do's and don'ts' when using electricity or depicting it in advertising. This was targeted at advertisers and marketers and was distributed through the Advertising Council of Australia and the Australian Association of National Advertisers newsletters as well as ENA's social media channels.



HEAT WAVES AND ELECTRICITY SUPPLY

Together with the Australian Energy Council, ENA issued the annual factsheet on heat waves and electricity supply in early December. It explained the potential impacts of extended hot weather including the significant demand on the electricity grid when people are at home using their air conditioners.

CUSTOMER-FACING EDUCATION MATERIALS

COST OF ENERGY FACTSHEET

In the previous financial year, the secretariat issued a range of fact sheets to highlight the value of electricity and gas and the cost of running various appliances. With the emergence of Covid-19 and stay-at-home regulations ENA extended the series to include a working from home factsheet.

The factsheets were also translated into five other languages. These factsheets continue to be used and accessed through the ENA website. The popularity of the NEM based factsheets also led to a WA specific factsheet.





MEDIA COVERAGE FOR THE YEAR

The past year has seen a significant amount of media coverage for ENA in both industry and mainstream media.

From 1 July 2020 to 30 June 2021, ENA recorded 918 items in earned media, 511,968 impressions on social media and 222,905 page views on our website

The two primary drivers of media coverage were the summer heatwaves factsheet and the AEMC rule changes on distributed energy resources.

Earned media

918 items

Impressions

511,968

Page Views

222,905





COMMUNICATIONS TOOLS

ENA uses a diverse range of channels for advocacy and to communicate messages and information.

The weekly **EnergyInsider** (EI) newsletter produced with the Australian Energy Council continues to be one of our most popular engagement platforms. The newsletter is distributed to more than 4,300 subscribers and features up to two ENA-authored articles. The content is aimed at being topical and informative for both an expert and general audience.

This year the Corporate Affairs team has sought to increase readership of EI via our social media platforms utilising more engaging imagery, often using pop culture references to make the articles more relatable and encourage a wider audience. This has proven successful, with consistently higher open and click through rates recorded for EI posts than we were seeing 12 months ago.

A key finding of the Reprtrak Perception Audit was that EI was viewed as a trustworthy source of information suitable for time-poor stakeholders. The newsletter contributed to ENA's strong result in its overall communication.

The daily Energy News Brief continues to be a bespoke service provided by ENA (also jointly with the Australian Energy Council). This is distributed to about 2500 member personnel and affiliates. The audit also noted that stakeholders found the brief highly valuable.

Each month, the **Energy Networks Update** is distributed to more than 6,700 recipients. This newsletter collates reports, fact sheets, media releases, submissions, EI articles and other collateral, such as videos, that have been produced that month. This year a new 'Innovation Zone' has been added to the update which highlights the innovative ways networks are engaging with customers and implementing new technologies.

The refreshed ENA key messages have been developed with member input on common issues to ensure consistency in communications.

Twitter and LinkedIn are the primary social media channels for the secretariat. The secretariat regularly posts original content and actively reposts content from members via these channels.



EnergyInsider

17 June 2021

It's dark, it's still – it's dunkelflaute

Dunkelflaute (dunk-el-flout-eh) is a German word meaning 'dark lull' and is a phenomenon energy professionals need to know about. It describes extended events with minimal wind or sunshine in highly-renewable electricity systems. Guaranteeing electricity supply during extended periods of low renewables output is a challenge Australia will have to confront. [Read more.](#)

For more, contact [Chris Gilbert](#), Energy Networks Australia

Gas and hydro: Back-up in action



The first quarter of 2021 for the National Electricity Market's spot market was notable mostly for its lack of notability. However in a measure of how the NEM can turn, the Q2 Queensland average price to date is \$135.83/MWh, versus \$42.64/MWh over Q1. Here we look at how the market almost always successfully responds to the NEM's giant variations, and in particular, its large and growing reliance on hydro and gas-fired generation to keep the lights on. [Read more.](#)

For more, contact [Ben Skinner](#) and [Carol Train](#), Australian Energy Council



Canberra will really be feeling the chill this electricity prices set to soar from July 1 thanks government's renewable energy target. With a push to switch off gas for households to reach a emissions target in the territory, customers will face the cost of electrifying the grid. We take a look at how to switch from gas to electrification isn't as easy as it seems. [Read more.](#)

COMMUNICATIONS AND CONSUMER ENGAGEMENT

Energy Networks Australia manages a Communications and Consumer Engagement Working Group comprising a network of professionals from member organisations in a variety of areas such as communications, media, consumer engagement, corporate affairs, public relations, customer innovation, brand management and government relations.

This group typically meets bimonthly on a variety of topics to share information, resources and to hear from guest speakers.

[ENA'S
COMMUNICATION]
"IS PRETTY GOOD. AND
I MEAN I LIKE THEIR
REGULAR MATERIAL
THAT THEY PUT UP
ON THE WEBSITE. THEIR
ARTICLES, ALL OF
THAT KIND OF STUFF IS
REALLY GOOD."

RepRack Perception Report 2021

Guest speakers over the year included representatives from:

- » AER on the KPMG report into the [Consumer Challenge Charter](#) and communications priorities and plans for 2021
- » AEMO on engaging with the electricity and gas Networks' Customer Councils on the 2022 Integrated System Plan (ISP)
- » Ethnic Communities Council of NSW on Continuing cultural connection: CALD best practice in a consumer-centric energy market.
- » Advertising Council Australia and Australian Association of National Advertisers on the Australian advertising self-regulatory system - understanding the way advertising peak bodies oversee the advertising industry and how this relates to depictions of energy / power in advertising.
- » IAP2 on current leading best practice in stakeholder engagement
- » ENA and Telstra on the MOU with the telco industry through the Communications Alliance
- » ECA on key energy consumer trends and

- » Australian Energy Foundation on consumer trends behind solar adoption.

In addition, this working group held two consumer advocacy forums in February and June 2021. The themes for these were electrical safety in the community and key energy consumer trends.

Engagement with consumer advocates remains a priority for ENA as we work to promote the sector's efforts to enhance customer outcomes from the energy transformation.

Several key consumer advocates are involved on the judging panels for the ENA annual awards program, in addition to being consulted on a variety of initiatives.

Members have shared campaigns, collateral and experiences on a variety of topics including media monitoring, power outages, safety campaigns, energy literacy, changing the conversation on solar, preventative bushfire & storms campaign and developing a network sector resilience narrative.



ENERGY NETWORKS AUSTRALIA INITIATIVES

ENERGY VISION 2050 – NETWORKS DELIVERING NET ZERO

The energy vision project kicked off in June with the endorsement of the CEO Forum and ENA's Policy and Strategy Committee.

This project seeks to develop a shared vision about how our transmission, distribution and gas networks will work together in a more interconnected smart electricity and gas grid to deliver net zero by 2050. The vision is intended to serve as an agreed statement of the future roles of networks and provide recommendations for the regulatory structure required to deliver that in the long-term interests of customers.

Crucially, it is intended that the draft energy vision and a supporting issues paper form the basis of a consultation and co-design process with customer groups and market bodies to determine a final agreed, optimal vision and supporting narrative.

KNOWLEDGE SHARING SESSIONS

ENA continues to work with its members to ensure their needs are met while the industry learns to work and operate within the Covid-present world. The Corporate Affairs team has established regular catch ups and knowledge sharing sessions with the market bodies AEMO, AER and the AEMC.

This has encouraged an open dialogue between the bodies and ENA at a middle to senior management level and provides a forum where issues can be raised and addressed in a less formal setting.

In the past financial year, ENA's General Manager Corporate Affairs relocated to Western Australia, becoming GM Corporate Affairs and WA. This has ensured we have been able to increase the amount of engagement with our WA members.

RENEWABLE GASES IN NETWORKS

The launch of Australian Gas Networks' Hydrogen Park, South Australia project commenced delivering renewable hydrogen to customers. This is the first of a range of projects that will commence in the next 12 to 18 months – demonstrating industry's readiness to decarbonise gas networks.





GAS VISION 2050 UPDATE

An update to Gas Vision 2050 was published in September 2020. Titled “*Delivering a clean energy future*”, the report outlined how decarbonising the gas sector could be achieved at half the cost by continuing to use gas infrastructure and switching to decarbonised fuels instead of electrifying the services provided by gas. A webinar was held following the launch of the report and was attended by 413 participants.

A WEBINAR WAS HELD FOLLOWING THE LAUNCH OF THE REPORT AND WAS ATTENDED BY 413 PARTICIPANTS.

NATIONAL GAS DECARBONISATION PLAN

A detailed plan is under development for the gas distribution networks and pipelines. The purpose of this plan is to support Gas Vision 2050 and the plan has three objectives:

- » Enable blending of 10 per cent renewable gas by 2030;
- » Enable 100 per cent renewable gas supply to new residential developments before 2030; and
- » De-risk a full network conversion to 100 per cent renewable gases before 2050.

Significant industry consultation has been completed to develop the plan. It is supported by a detailed action tracker to monitor progress against meeting each objective for both hydrogen and biomethane.

FUTURE FUELS CRC

Gas Committee members (Australian Gas Infrastructure Group, Jemena Gas Networks, AusNet Services, ATCO Gas, Evoenergy and TasGas) continue to support and be actively engaged in all aspects of the Future Fuels Cooperative Research Centre. Now in its third year, the FFCRC has completed both a performance and a strategic review.

This showed that the overall performance of the FFCRC is viewed as positive and that it is achieving its stated objectives. The review also noted the potential for exploring opportunities to establish a successor organisation. The FFCRC has 82 projects in train, with 25 projects completed.

Roadmaps for the different research streams have been developed. These are working documents to provide end-user direction to new research proposals.

Three new state safety regulators have joined FFCRC.

HyResource – a website providing single source information on key hydrogen related project, organisation, policies and projects was launched in October 2020. This is a collaborative project with the National Energy Resource Australia, CSIRO, Australian Hydrogen Council and FFCRC.



NATIONAL HYDROGEN STRATEGY

Energy Networks Australia continues collaborating with the Australian Hydrogen Council to progress the actions of the National Hydrogen Strategy. An industry stakeholder workshop on hydrogen certification was followed by the release of a consultation paper in June 2021 seeking input to the proposed hydrogen certification scheme.

Stakeholder consultations have also been held on the legal review of the National Gas Law in relation to its applicability to hydrogen and on the National Hydrogen Infrastructure Assessment report. Oakley Greenwood was commissioned to provide a report to identify the implementation issues related to blending of hydrogen and other renewable gases.

BIOENERGY ROADMAP

ENA collaborated with the Renewable Gas Alliance and Bioenergy Australia to provide information to the development of the [ARENA Bioenergy Roadmap](#).

THE BLOCK SPONSORSHIP

Channel Nine's home renovation TV series 'The Block' returned to screens in August 2020. The Gas Committee sponsored the integration of natural gas appliances during the renovations for the 2020 season, set in Melbourne's bayside suburb of Brighton.

Channel Nine estimated that our \$500,000 sponsorship delivered \$1,050,000 of value through advertising spots, successful full-segment product integrations and additional integrations. 2020 audiences were up slightly overall at a national level with large increases in 'catch-up' viewership, aided by COVID and lockdown restrictions.





RENEWABLE GAS CERTIFICATION PILOT

A joint project was commenced with ENA, GreenPower and Jemena to develop a renewable gas certification program that would complement the hydrogen certification program. The project was announced by the NSW Minister for Energy and Environment, Matt Kean MP on 1 June 2021.

Research was completed to gain insights from industrial and commercial customers on renewable gas options and identified key characteristics and design principles of a renewable gas certification scheme. The pilot of the program, being run by GreenPower, is intended to operate from early 2022.



INTERNATIONAL COLLABORATION

Regular information exchange meetings are held with Energy Networks Association (UK), Gas Goes Green Programme (UK), Northern Gas Networks (UK), Oxford Institute of Energy Studies (UK, Institution of Gas Engineers and Managers (UK), and the International Renewable Energy Agency (Germany).

INDUSTRY GUIDELINES

Energy Networks Australia develops and publishes industry guidelines in consultation with its members.

To date:

- » Five guidelines were withdrawn in the past financial year as part of a review and withdrawal process started in December 2019 to maintain the currency of ENA guidelines, reduce liability and associated risks.
- » There are 26 current guidelines (43 guidelines at the start of the review process in December 2019).
- » A guideline for energised low voltage work was published in July 2020.
- » One guideline was revised and will be published by Q3 of 2021.
- » Three guidelines are under revision.
- » Two new guidelines are in development on stand-alone power systems and wind turbines proximity to transmission lines: and
- » Two gas guidelines are planned.



POLICY AND REGULATION

INFLATION REVIEW

ENA's sustained advocacy was a contributing factor in the AER's decision to undertake an inflation review. Our evidence-based contributions during the review were substantial and promoted the achievement of long-term efficient investment for customer benefit.

ENA is pleased the AER has updated its inflation methodology by implementing a five-year glide-path to better recognise the interaction between market outcomes and the regulatory environment in a low return, low inflation economic environment. This adjusted approach provides a better recognition of inflation expectations, driving more efficient investment signals to the long-term benefit of consumers.

FINANCEABILITY

Financeability refers to a business's ability to meet its financing requirements and to raise new capital efficiently.

ENA has continued to promote the role of financeability in a low-return environment to ensure and promote the ongoing sustainability and consistency of regulatory decisions. A sound financeability framework provides an 'early warning' to ensure financially sustainable decisions. It also helps protect customers from inefficient increases in the cost of debt.

ENA published a discussion-starting report from NERA Economic Consulting that details the role of financeability assessments in the regulatory framework in customer-facing language. The report has assisted to inform stakeholders around the customer benefits associated with promoting and maintaining financeability.

While the AEMC decided not to make a specific rules derogation for the financeability of one particular Integrated System Plan project, ENA will continue to support the role of financeability to protect consumers in the regulatory framework in future reviews.

**ENERGY NETWORKS
AUSTRALIA WILL
CONTINUE TO
SUPPORT THE ROLE OF
FINANCEABILITY TO
PROTECT CONSUMERS
IN THE REGULATORY
FRAMEWORK IN
FUTURE REVIEWS.**



REGULATORY FRAMEWORK INNOVATIONS

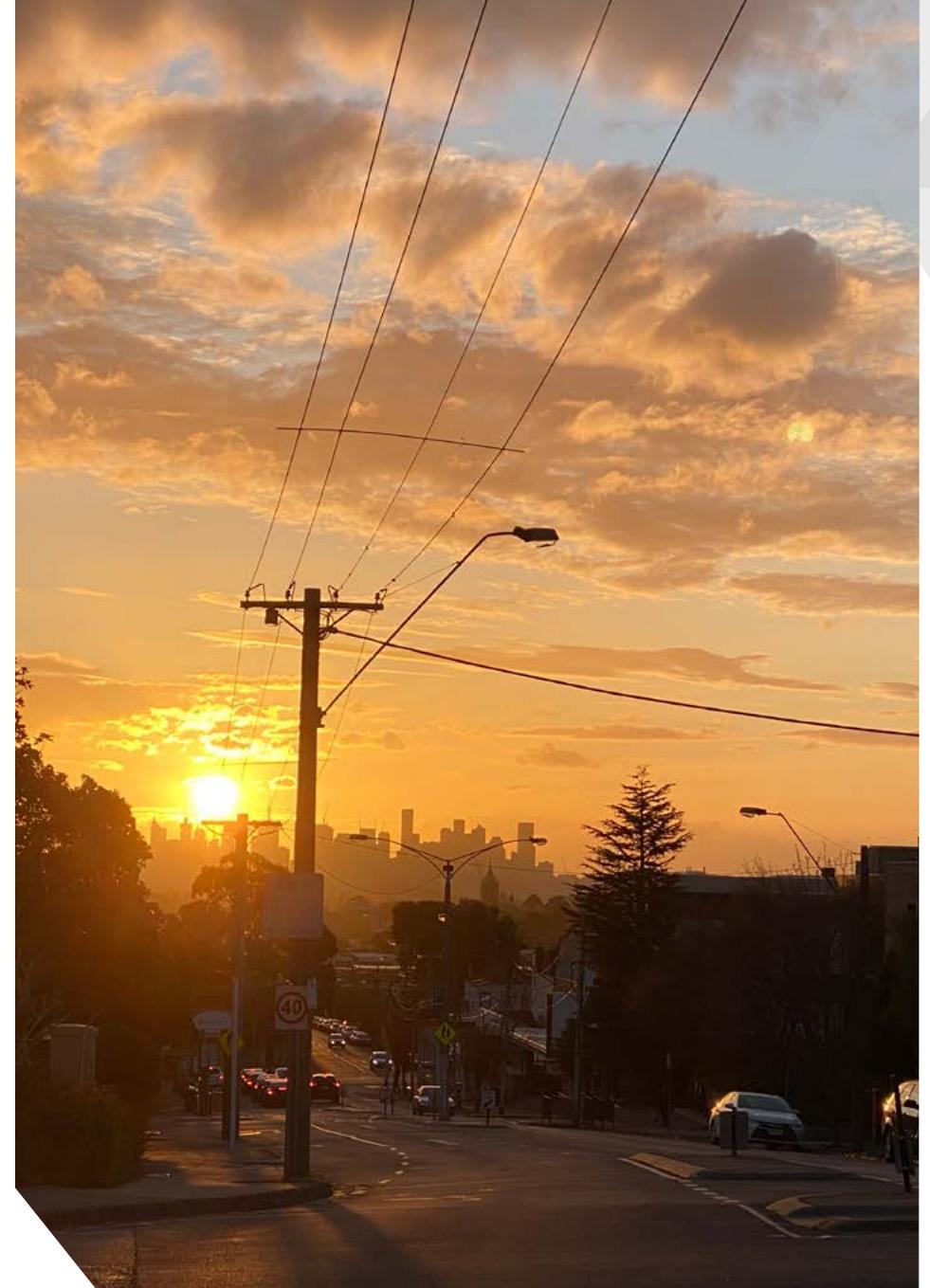
ENA continues to work closely with the AEMC and AER to ensure the regulatory framework supports innovative service offerings for customers. ENA's strong commitment to enabling the customer-driven transition to distributed energy has been evident through the AEMC's review of access, pricing and incentives for distributed energy resources. Our robust collaboration with the AEMC and other stakeholders has been influential in the recognition of export services and the progression of equitable pricing reforms.

Following ENA's extended advocacy to facilitate deployment of stand-alone power systems (SAPS), we have engaged with the AER in developing supporting ring-fencing guidelines for SAPS and batteries. Appropriate ring-fencing guidelines will kickstart each respective market, bring forward the customer benefits of innovative network technologies and future-proof a transitioning energy system.

RATE OF RETURN

ENA has been working intensively with the AER and consumer representatives in the early stages of the 2022 Rate of Return review. Following the 2018 Rate of Return review, we advocated for a more front-loaded process of engagement and discussion for this review to ensure adequate time to investigate relevant key areas prior to the draft instrument.

This first-of-its-kind process has allowed ENA to engage even more closely with the AER and consumer representatives, lending time for enhanced consideration of evidence and finding areas of common understanding across consumer, network and investor representatives. ENA will continue to work with stakeholders in pursuit of a rate of return that promotes the long-term interests of customers in efficient levels of network investment by providing an appropriate and commercially sustainable return on investments made.



ENERGY NETWORK TRANSFORMATION



INNOVATION

FUTURE NETWORK FORUMS

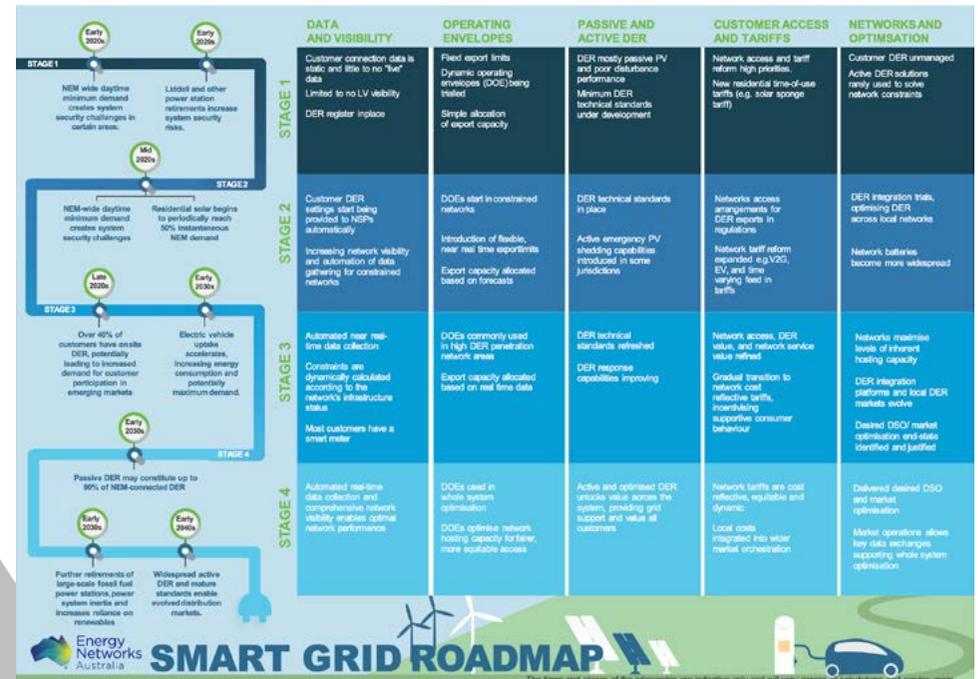
Occurring twice a year, the Future Network Forum is an informal gathering of future networks and system planning engineers and managers. As a result of our work on the Distribution System Operator (DSO) Vision project and other involvement in the wider industry, ENA is helping to coordinate knowledge sharing among the various innovation efforts and initiatives being undertaken by our members.

Future topics include energy storage, electric vehicles and smart meter applications.

AUSTRALIAN SMART GRID ROADMAP

In collaboration with our members ENA has developed a pragmatic, yet ambitious roadmap for the capabilities that support what Australian customers will expect from members and the wider industry.

This builds on the learnings of the previous Open Energy Networks (OpEN) and Electricity Network Transformation Roadmap (ENTR) projects as well as taking a holistic view of current industry developments.



AUSTRALIAN STRATEGIC TECHNOLOGY PROGRAM (ASTP)

A long-running initiative of the ENA Asset Management Committee and the Australian Power Institute, the ASTP has a project researching the impacts of electric vehicles (EVs) on distribution networks. Two knowledge sharing webinars have been conducted so far and several webinars will be delivered towards the end of the project.

In addition, we are developing a scope for two projects expected to commence in Q1 of 2022.

The projects are:

- » Probabilistic Weather Forecasting for Electricity Networks; and
- » Non-Destructive Testing for Condition Assessment of Wooden Poles.

Several knowledge-sharing workshops on each topic have been conducted throughout the year. ASTP's future program of work focuses on integrating and planning for EVs.

IN ADDITION,
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Q1 OF 2022.

DISTRIBUTION SYSTEM OPERATOR (DSO) VISION

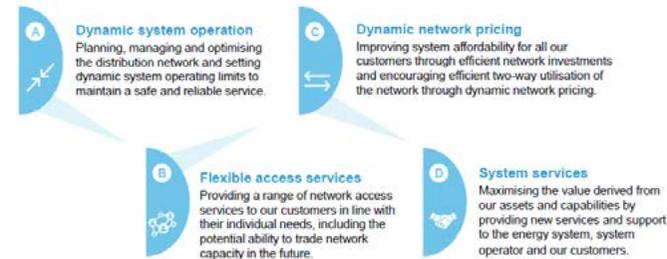
In late 2020 it became apparent that a need for an ambitious, innovative and achievable future for distribution network service providers (DNSPs) was required to build consensus among our membership and to progress advocacy with market bodies, customers and wider industry. In December 2020, the Policy and Strategy Committee supported the formation of the DSO Vision working group with representation from every DNSP.

Key achievements of the DSO working group

- » Achieved broad consensus of the key elements that make up a DSO across our membership and throughout Australia.
- » Directly engaged with the ESB, customers and market bodies and influenced their thinking on a variety of significant issues and outcomes.
- » Acts as an ongoing sounding board for members to contribute and share knowledge in the areas of technological, economic and regulatory innovation.

Network businesses have been contemplating what our future role is as distribution system operators (DSOs)

As a DSO we will dynamically manage capacity and operate the network to maintain an efficient, safe and reliable service while optimising value to our customers, the energy system and supporting the renewable energy transition. We will do this by:



What a DSO doesn't do:

- » **Run energy markets.** The focus is instead on supporting DER participation in local and NEM energy markets as they evolve.
- » **Aggregate and bid customer resources into energy markets.** The focus is instead on supporting traders to do so through a flexible and reliable network service.



RESEARCH INITIATIVES

NETWORK SERVICE PROVIDER MODELLING AND FORECASTING PROJECT

To ensure that we continue to be well-informed on key issues we commissioned a study of some of our members' modelling and forecasting capabilities. This work is to better understand the current and emerging landscape and to inform our advocacy on these issues on behalf of members.

OTHER RESEARCH INITIATIVES

Energy Networks Australia is also undertaking research projects on vegetation management, distributed energy resources (DER), climate change impacts on networks, non-destructive testing and others.

These projects are being planned and will commence in FY21/22.

REGULATORY SUBMISSIONS

There has been a sharp increase in the number of rule changes, submissions and consultations in the field of energy network transformation. This is driven by factors such as uptake of variable renewable energy generation, focus of consumers and governments and the media.

The number of high consequence rule changes and reports is growing and is expected to continue. This includes AEMO's DER minimum technical standards rule change, Energy Security Board (ESB) Post 2025 review, delivery of essential system services for a stable power system, ESB Two-sided markets work, transmission and access, ARENA's Distributed Energy Integration Program (DEIP), Wholesale Demand Response rule change and many others.



RESILIENCE

In October 2020, ENA published a [report](#) on the potential for stand-alone power systems (SAPS) to improve electricity network resilience in areas prone to natural hazard events.

Specifically, the report identifies the potential for a positive business case for network investment in resilience-based SAPS by examining three case studies.

“DER AND THE INNOVATION THAT’S OCCURRING THROUGH THOSE SORT OF RENEWABLES, AND SOLAR CELLS ON ROOFTOPS, BATTERIES AND ALL THAT...ENA HAVE DONE SOME REALLY GOOD RESEARCH IN THAT AREA.”

RepRack Perception Report 2021

In April and May 2021, ENA and the CSIRO delivered workshops for our members on understanding and using climate change data and information. The workshop provided members with information on the following:

- » Background on climate change science and its impacts in Australia.
- » Understanding and interpreting climate change data, models, and projections.
- » Using climate change data and information to undertake risk assessments for network decision-making.

The workshops were delivered in-person in Canberra, Sydney, Brisbane, Hobart and Adelaide. Another workshop in Perth is planned for later in 2021. The workshops were attended by members and external stakeholders including regulators, customer advocates, utilities, and state government departments.





ACTIONABLE INTEGRATED SYSTEM PLAN FRAMEWORK

The actionable Integrated System Plan (ISP) rules framework commenced on 1 July 2020. In late August 2020 the AER released the final ISP suite of guidelines to support the forecasts and the cost benefit arrangements in the ISP and the TNSPs streamlined regulatory investment test. The AER also finalised a guidance note on 31 March 2021 to highlight key considerations for the AER's assessment of contingent project applications and how the staged investment process works in practice. ENA is working with AEMO as several new features are integrated into the development of the 2022 ISP.

As part of the actionable ISP rules framework the ESB decided to reallocate the AEMO National Transmission Planner (NTP) costs from market participants to TNSPs, however no appropriate transitional arrangements were put in place. ENA worked with AEMO on an urgent rule change to remedy the situation and clarify arrangements, with a final rule taking effect on 29 October 2020.

The ESB made further amendments in the actionable ISP rules framework to cater for renewable energy zones identified in the ISP to improve coordination of transmission and generation investments. These amendments require the jurisdictional planning body to develop and consult on a REZ design report with a range of stakeholders to enable better coordination with generation developers and to give local communities the opportunity to present information relevant to the REZ design report. These new REZ planning rules apply to REZs identified in the 2022 ISP and beyond.

COORDINATION OF GENERATION AND TRANSMISSION INVESTMENT

Transmission and access have been absorbed into the ESB's post 2025 market design project to ensure that all the interactions and interdependencies with the other post 2025 streams are considered in the overall design and rules development. While the ESB has separately consulted on a number of options for coordination and management of access in REZs, these have been developed further in the recent ESB's April 2021 options paper.

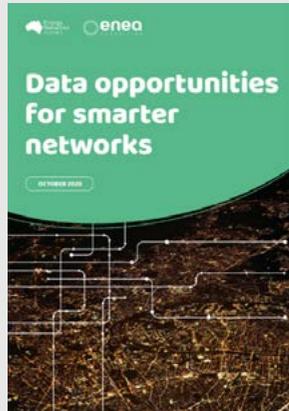
NSW has legislated to enable development of its Electricity Infrastructure Roadmap and is progressing the task of developing the underlying regulations, including coordination of REZ connections and management of access for Central West Orana. Victoria is also progressing the framework for its REZ Development Plan and underlying infrastructure development to support REZs. ENA will continue to work with the ESB and state policy makers on the access models and the development of rules and regulations over the next year.

As the penetration of variable renewable generators increases the ageing synchronous generators are retiring or operating less, essential system services are no longer provided as a by-product of energy. ENA supports TNSPs delivering optimal levels of system strength to maintain the power system in investment timeframes.

PUBLICATIONS FOR 2020-2021



As well as publications highlighted in other parts of this document, Energy Networks Australia commissioned the following reports and publications during 2020-21.



[CLICK](#)

DATA OPPORTUNITIES FOR SMARTER NETWORKS

This report was an in-depth analysis of our membership's past, current and existing use of data in their BAU operations. It took inputs from both electricity transmission and distribution members to create the top ten data use cases for networks. The report also produced a nuanced "point-in-time" benchmarking of data practices by interviewees and made several recommendations highlighting specific areas that should be considered for the future.



[CLICK](#)

CEPA: GOVERNANCE AND REGULATION OF MARKET/SYSTEM OPERATORS

In partnership with The Australian Energy Council and Cambridge Economic Policy Associates (CEPA), ENA published a report that provided insights on the current governance arrangements for the market and system operator roles in the National Electricity Market (NEM). The report demonstrated what good governance looks like and assessed whether current arrangements were in support of good governance.

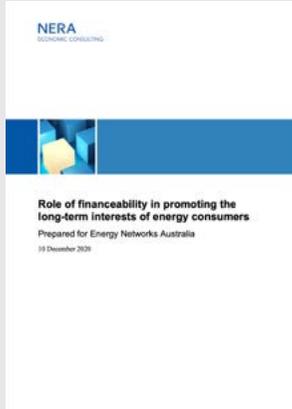


[CLICK](#)

CEPA: AEMO BUDGET AND FINANCE COMMITTEE

Following its 2020 review of stakeholder engagement, the Australian Energy Market Operator (AEMO) has introduced a new budget and finance sub-committee. ENA and the Australia Energy Council engaged CEPA to provide advice on the potential arrangements for the committee and its accountability.





[CLICK](#)

NERA: ROLE OF FINANCEABILITY IN PROMOTING THE LONG-TERM INTERESTS OF ENERGY CONSUMERS

In conjunction with NERA, ENA published an introductory report that details the role of financeability assessments in the regulatory framework in customer-facing language. The report has helped educate stakeholders to understand what financeability is and is not, and the customer benefits associated with maintaining financeability.



2019-2020 – YEAR IN REVIEW



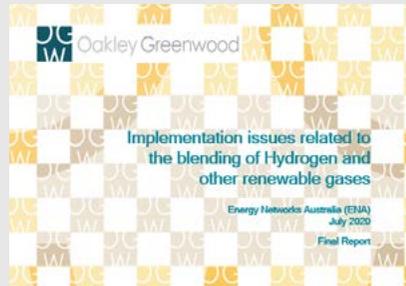
2020-2021 – BUSINESS PLAN



[CLICK](#)

OPPORTUNITIES FOR STAND-ALONE POWER SYSTEMS TO ENHANCE NETWORK RESILIENCE

Following funding from ARENA, ENA examined opportunities for stand alone power systems to enhance network resilience.



OAKLEY GREENWOOD

Implementation issues related to the blending of hydrogen and other renewable gases (July 2020)



GAS APPLIANCES - MARKET ANALYSIS

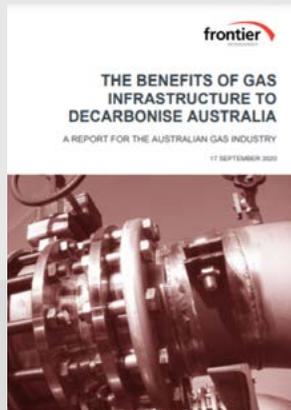
ENA engaged Sagacity to undertake private gas market appliance research to identify trends in appliances, energy usage and perceptions. This research showed that most customers still had positive feelings towards gas as an energy source and their gas appliances, among other findings. This research has informed member marketing strategies both at a national level and in individual regions.



CONSUMER ENGAGEMENT REPORT 2021

ENA's network innovation and consumer engagement reports collate all member entries into our annual awards series. These reports are published annually, the Consumer Engagement Report in partnership with Energy Networks Australia.

[CLICK](#)



FRONTIER ECONOMICS: THE BENEFITS OF GAS INFRASTRUCTURE TO DECARBONISE AUSTRALIA (SEPTEMBER 2020)

Frontier Economics has been engaged by Australian gas industry associations to undertake a study on the benefits of gas infrastructure to decarbonise Australia. The objective of this study was to determine and document an estimate of the value of gas infrastructure in 2050



NETWORK INNOVATION REPORT 2021

[CLICK](#)

[CLICK](#)

ENERGY NETWORKS AUSTRALIA EVENTS

Unfortunately, due to COVID-19, no face-to-face events were held during the year. Energy Networks 2021 Conference and Exhibition (EN2021) was postponed and will now be held in Brisbane between 9 and 11 November 2021. The 2020 Regulation Seminar and the 2020 Annual Dinner were both cancelled.

IN SPITE OF COVID-19, WE STILL CONDUCTED OUR ANNUAL AWARDS IN A SUCCESSFUL ON-LINE FORMAT.



“I THINK [THE AWARDS] ARE A GREAT INITIATIVE TO CONTINUE TO DRAW OUT AND SHOWCASE THE CONSUMER AND INNOVATION PIECE. IT’S A JOURNEY I THINK AS AN INDUSTRY THEY’RE STILL ON AND HAVING AN AWARDS PROGRAM I THINK THAT IS REALLY SMART.”

INDUSTRY INNOVATION AWARD

The Industry Innovation Award was hotly contested in 2020 with eleven applications. The winner was SA Power Networks - Advanced VPP Grid Integration Trial. Shortlisted firms were:

- » Energy Queensland - Smart solar export in real-time via Dynamic Operating Envelopes;
- » TransGrid - Unmanned aircraft (drone) power line stringing program; and
- » Western Power - Autonomous Grid modelling and solution.



2020 Winner
Industry Innovation Award



2020 Finalist
Industry Innovation Award



2020 Finalist
Industry Innovation Award



2020 Finalist
Industry Innovation Award



CONSUMER ENGAGEMENT AWARD

The Customer Engagement Award, jointly run with Energy Consumers Australia (ECA) is celebrating its fourth year. Of the fifteen submissions, Australian Gas Networks was the winner for its Customers at the Centre of our planning.

Shortlisted firms included:

- » Australian Gas Networks - Partnering with Communities on the Future of Gas
- » AusNet Services - Customer Forum: A Trial of the 'New Reg' Process
- » Evoenergy - Citizens' Jury
- » Jemena Electricity Networks - COVID community response





2020 Finalist
Consumer Engagement Award



2020 Finalist
Consumer Engagement Award



2020 Finalist
Consumer Engagement Award



2020 Finalist
Consumer Engagement Award





**2020
Winner**
Industry
contribution
Award



INDUSTRY CONTRIBUTION AWARD

Endeavour Energy Deputy Chief Executive Officer and industry veteran Rod Howard received the ENA Industry Contribution Award for 2020.

Mr Howard was recognised for his extraordinary 47 years' service at Endeavour Energy and his significant contribution to the industry and its transformation. An on-line awards ceremony hosted at Endeavour and attended by Mr Howard's family, was held to announce and present the award.

Energy Networks BRISBANE 9-11 NOVEMBER 2021



CONFERENCE + EXHIBITION

EN2021 PLANNING

We plan to hold Energy Networks Australia's flagship biennial conference and exhibition event at the Brisbane Convention and Exhibition Centre as EN2021 between 9 and 11 November 2021.

EN2021 promises to be an exciting event, with colleagues in the industry and supply chain stakeholders keen to participate in all aspects of the program and social events. The program, launched on 28 June 2021, addresses the cutting-edge issues relevant to these extraordinary times and high-profile speakers from across the energy industry. Delegate registrations are already ahead of schedule with early bird rates in place until 17 August 2021.

The Exhibition Hall will be full of vibrant exhibits and poster sessions. The exhibits will include a number of industry displays; the Hydrogen Zone with a couple of hydrogen fuelled vehicles, an electric vehicle and a helicopter.

The social program includes:

- » site visits to innovative business and research centres;
- » welcome reception which includes a fashion parade of the latest trends in safety gear;
- » happy hour drinks which includes the announcement of the winner of the inaugural student poster competition;
- » gala dinner, a highlight of the social calendar; and
- » farewell drinks where we will announce the destination for EN2023.

An extensive program was developed under the guidance of the Program Development Committee, which comprises representatives of member businesses, CSIRO and secretariat staff. The call for abstracts brought forward a rich array of submissions, of which more than 100 are speakers on the program and 30 will display their work / research in a poster display area in the exhibition hall.

The program comprises domestic and international keynote speakers, four plenary panels and sixteen concurrent sessions. The themes of the four plenary sessions are:

- » Data to enable the energy transformation
- » Greening gas - challenges and opportunities
- » The energy future: who pays?
- » Network report card: the customer journey

Topics of the concurrent sessions include: data transforming asset management, low emissions, post 2025, the gas evolution, big data, regulation, a smarter safer grid, battery storage, virtual & hybrid power plants, customer centric innovation, hydrogen, microgrids, decarbonising networks, pricing reform, electric vehicles, distributed energy resources etc. There will be many opportunities for socialising and networking in the program, including the gala dinner which will be a feature of the event and also when the Industry Awards will be presented.

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GOVERNANCE

CEO FORUM

The CEO Forum, which comprises CEOs from all Energy Networks Australia full members, provides strategic guidance for the activities of the Board, secretariat and member committees. The CEO Forum met in September 2020 by video conference and in March 2021 as a hybrid event.

BOARD

The Energy Networks Australia Board comprises Ben Wilson (Chair), Frank Tudor (Deputy Chair), Tim Rourke, Rob Stobbe, Guy Chalkley, Richard Gross, John Cleland, Stephanie Unwin, Paul Simshauser, Rod Duke and Ed Kalajzic.

Paul Simshauser, CEO of Powerlink Queensland, Rod Duke, CEO of Energy Queensland and Ed Kalajzic, CEO of Western Power joined the Board in November 2020. Lance Balcombe resigned from the Board in March 2021.





Ben Wilson (Chair)



Frank Tudor (Deputy Chair)



Tim Rourke



Lance Balcombe



Guy Chalkley



Rod Duke



Paul Simshauser



Richard Gross



Rob Stobbe



Stephanie Unwin



John Cleland

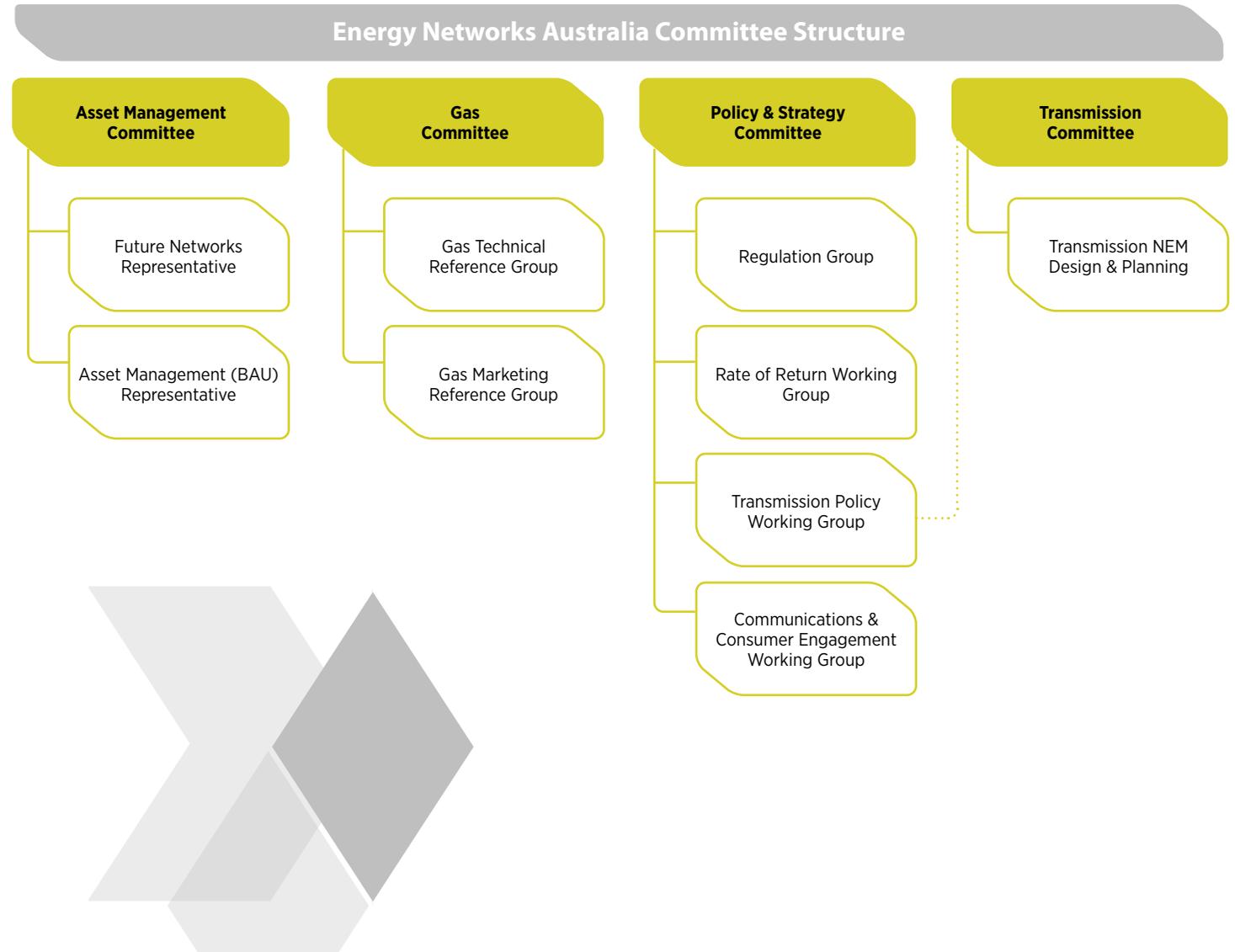


Ed Kalajzic

COMMITTEE STRUCTURE

The Board is supported by several corporate governance and policy committees including:

- » The Remuneration Committee chaired by Ben Wilson.
- » The Finance Audit and Risk Management Committee chaired by Guy Chalkley.
- » The Policy and Strategy Committee chaired by Richard Gross.
- » The Asset Management Committee chaired by John Cleland.
- » The Gas Committee chaired by Frank Tudor.
- » The Transmission Committee chaired by Paul Simshauser.



MEMBERSHIP

As at 30 June 2021, Energy Networks Australia members were:

- » ATCO Gas Australia Pty
- » Ausgrid
- » AusNet Services
- » Australian Gas Networks & Multinet Gas Networks (part of the Australian Gas Infrastructure Group)
- » CitiPower, Powercor & United Energy Australia
- » ElectraNet
- » Endeavour Energy
- » Ergon Energy & Energex (part of the Energy Queensland group)
- » Essential Energy
- » Evoenergy
- » Horizon Power
- » Jemena Limited
- » Power and Water Corporation
- » Powerco Limited NZ
- » Powerlink Queensland
- » SA Power Networks
- » TasGas Networks
- » TasNetworks
- » TransGrid
- » Unison NZ
- » Western Power

AFFILIATES

The affiliate program launched at the beginning of 2019 offers businesses, government bodies, academia and supply chain partners a new way to support the work of Energy Networks Australia. Our affiliates at 30 June 2021 were:

- » Adapt Australia
- » Aeropower
- » Amokabel
- » Boston Consulting Group
- » Ecojoule Energy
- » Energy Users Association of Australia
- » KPMG
- » Logsys Power Services
- » Oakley Greenwood
- » Orion
- » Spark Infrastructure
- » Vinci Energies

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