THE GREEN LIST 2024 TOP 100

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Body

They are the foot soldiers in the climate revolution - the policymakers, the manufacturers, the CEOs, the innovators, the investors, the spruikers and advocates who are committed to changing the energy basis of our economy. Our annual list, selected with the help of judges David Scaysbrook, Zoe Whitton, Stephanie Bashir, Simon Currie, Tan Kueh and Tony Wood, celebrates the ideas and work of Australians making a difference in the green space.

LOCAL MANUFACTURING HEROES Marcus Dawe and Sophia Hamblin Wang CEO AND COO, MINERAL CARBONATION INTERNATIONAL Carbon sequestration, or the process of removing carbon dioxide from the atmosphere, can take nature hundreds of years - sometimes longer. At the Mineral Carbonation International (MCi) pilot plant in Newcastle, NSW, it takes just minutes. The clean-tech startup then goes a step further, converting tonnes of industrial CO2 emissions into low-carbon materials that can be used to make products like concrete, paper, paint and glass. Marcus Dawe and Sophia Hamblin Wang are chief executive and chief operating officer respectively at MCi, which wants to lock away one billion tonnes of CO2 by 2040. A recent $14.5m Australian government Carbon Capture Technologies Program (CCTP) grant will help ready the plant to bring the technology to market.

David Griffin CEO, 5B Renewables veteran David Griffin stepped into the chief executive role at 5B late last year, but has a long history with the solar pioneer as a seed investor and board member. Most recently, Griffin was the co-founder and chief executive of SunCable, the originator of the world's largest solar and battery project proposal. 5B's innovative Maverick product is a prefabricated and pre-wired modular technology that unfolds accordion-style for fast installation of solar panels, even on grid-scale projects. "It's preassembled and plug and play," Griffin says. "This allows us to get in and get out faster. It significantly reduces cost and risk in the field and the chance of weather events delaying projects." 5B recently took its first US order, a 69MW project for AES Puerto Rico, and plans to rapidly scale its pipeline under Griffin's lead.

George Peppou FOUNDER AND CEO, VOW If Vow founder George Peppou has his way, the menus of the future will offer meat from animals that wouldn't even be considered by today's diners. Vox takes a novel approach to food production, culturing meat from cells to invent entirely new products. Its woolly mammoth meatball made headlines but was ultimately deemed unsafe to eat, while a cell-based cultured quail parfait is already available in a handful of

restaurants, such as Singapore's Fura. But these cultured meats are far from a gimmick. "How can we meet at least some of the demand for animal protein through production systems that have a small physical and environmental footprint, as opposed to intensifying animal agriculture?" Peppou says.

Neeraj Das FOUNDER AND CEO, ELECSOME About 1.4 million solar panels in Australia will reach their end-of-life in 2025, generating as much as 100,000 tonnes of PV waste every year by the end of this decade. ElecSome founder and chief executive Neeraj Das sees this as a huge opportunity to advance a circular economy around solar panels, calling it "a new kind of mining". At ElecSome's upcycling plant, components such as glass, silicon, aluminium, copper and silver are recovered and transformed into concrete and other construction materials. ElecSome has signed a deal with Italy-headquartered renewables developer Enel Green Power Australia (EPGA) to decommission 1.6 million panels from EGPA's solar farms in the future, and AGL is backing a feasibility study in the NSW Hunter Valley.

Emma Whittlesea HEAD OF PARTNERSHIPS, STRALIS AIRCRAFT Dr Emma Whittlesea has a PhD in low-carbon tourism, a career built on advancing environmental sustainability and a dream of enabling guilt-free travel for a world that, more than ever, wants the freedom to navigate the globe without impacting the planet.

Her job as head of partnerships at Brisbane-based Stralis Aircraft puts Whittlesea in the box seat to help develop emissions-free aviation using hydrogen-electric propulsion to power aircraft.

Stralis was set up by Bob Criner and Stuart Johnstone three years ago to design and build a "green" engine that can be retrofitted into existing aircraft and integrated into new aircraft designs. The company is backed by a range of investors and supported by the federal government's Emerging Aviation Technology Partnerships Program.

At its headquarters at Brisbane airport, the Stralis team is working on a technology demonstrator aircraft - a six-seater Beechcraft Bonanza A36 with a 500km range - and its application to a 15-seater Beechcraft 1900D that will be flown by Skytrans between Brisbane and Gladstone. The goal is to integrate hydrogen-electric propulsion into a 50-seater aircraft with a possible 3000km range.

The company is part of a global clean-tech research and development effort, alongside companies such as Airbus and ZeroAvia, to use green hydrogen to power a new generation of aircraft. Whittlesea says retrofitting planes "reduces certification risk, accelerates adoption timelines, and helps prevent stranded assets".

She adds: "Aside from being cleaner, we believe that the technology will be up to 50 per cent cheaper to operate, and quieter. Hydrogen is produced from water through electrolysis - which is green if you're using renewable energy to power that process. When green hydrogen is used in the hydrogen-electric powertrain system, it only generates water as a by-product."

Hydrogen-electric propulsion, unlike jet propulsion, creates zero carbon dioxide, NOx, sulphates, hydrocarbons, lead, and particulates (soot). The Stralis system is based on new high-temperature fuel cell technology that is six times lighter than existing fuel cells. The patent-pending technology could also be used in other applications, such as rail, marine, heavy haulage, mining and remote microgrids.

Whittlesea studied environmental science at the University of Plymouth in the UK before doing a PhD as a mature-aged student while working in a full-time job. She came to Australia in 2013 and has worked at Griffith University and with the Queensland government in climate transition roles, joining Stralis last year.

Through her PhD and work in sustainable tourism, she realised, "There was a lot of work to do to make travel and aviation more sustainable and less impactful." She is well aware the rise of cheap mass tourism and travel is a challenge. "We don't have readily available low-emission solutions for aviation at the moment, and yet we still have a strong growth trajectory, which increases the scale of the challenge," she says. "We're shifting to renewables in some sectors, like the energy sector, but the transport sector is quite far behind. If you look at the investment going into new and emerging clean aviation technology in Europe and in the United States, in comparison to Australia, it's on a far different scale." She says the federal government's recent aviation white paper, Towards 2050 - which identifies decarbonisation of the sector among its priorities and recognises the role of electric and hydrogen-

powered flight - provides "a big opportunity for Australia, in terms of creating the policy framework to help activate and finance change".

Part of her work in partnerships has been supporting the establishment and evolution of the Hydrogen Flight Alliance, which brings together key stakeholders to advance the hydrogen-electric flight ecosystem in Australia. - HELEN TRINCA

David Doral CO-FOUNDER AND CEO, DOVETAIL ELECTRIC AVIATION Dovetail's hydrogen-electric aviation propulsion system, used to power short-haul flights with zero emissions, was named innovation of the year at the 2024 Australian Aviation Awards. The technology allows planes to be retrofitted to use batteries and hydrogen. This includes a battery-powered version of the ubiquitous Cessna Caravan. "While a lot has changed in the world of aviation, the fundamental structure of an aircraft hasn't changed much," co-founder and chief executive David Doral explains. "Therefore, it makes perfect business and sustainability sense to retrofit capable aircraft with new generation, zero emissions drivetrains that take a significant step towards cleaner air travel." Scandinavian Seaplanes has placed an order and Air Nostrum, the regional airline for Iberia, Spain, is a supporter.

Tania Archibald CEO, AUSTRALIAN STEEL PRODUCTS, BLUESCOPE STEEL Australia's largest steel manufacturer and supplier has earmarked up to $400m to roll out decarbonisation initiatives by the end of the decade. It will partner with Rio Tinto and BHP on the country's first electric smelting furnace (ESF) pilot plant, using renewable energy to produce molten iron from Pilbara ores. "We believe that this collaboration, where we can contribute BlueScope's unique experience in operating an ESF, will be key to cracking the code for Pilbara ores in low emission-intensity ironmaking," says chief executive Tania Archibald. If it goes ahead, the plant could be operational by 2027.

Ed Wilson MANAGING DIRECTOR, WILSON TRANSFORMER COMPANY A lot has changed in the electricity landscape since Wilson Transformer Company founder Jack Wilson started his company in 1933. With grandson Ed Wilson at the helm since 2015, the manufacturer has built a track record of supplying transformer solutions to renewable energy providers, including major wind farm projects at Gullen Range and Ararat, and Australian Solar Flagship projects at Broken Hill and Nyngan. When the world's most powerful battery, the Waratah Super Battery, is switched on in 2025, it will be connected to one of Wilson's Australian-made transformers to help stabilise the grid.

Tom Northcott FOUNDER AND MANAGING DIRECTOR, VECCO GROUP Vecco's integrated mining and manufacturing business spans a vanadium mine and refinery in northwest Queensland and a 3.2ha production facility in Townsville that's slated to be operational by 2026. Vanadium is a critical mineral used in redox flow batteries; its longevity is far greater than lithium, making it a promising technology for large-scale energy storage. The project has been championed by the Queensland government, which is keen to build a vanadium industry in the state's north, and Idemitsu Australia has committed to selling Vecco's vanadium flow batteries domestically. Vecco managing director Tom Northcott was previously general counsel for coal miner Jellinbah Group.

RENEWABLES Damien Nicks MANAGING DIRECTOR AND CEO, AGL ENERGY Australia's largest energy company is in delivery mode, armed with a plan to accelerate decarbonisation that's broadly supported by its biggest shareholder, Atlassian billionaire Mike Cannon-Brookes' Grok Ventures. "All of us now are about how do we deliver on this transition," confirms AGL chief Damien Nicks. Under Nicks, the "how" includes almost doubling its pipeline of cleanenergy and firming projects to 6.2GW and fast-tracking the closure of its Liddell, Bayswater and Loy Yang A coal-fired power stations, with the latter the last to close by 2035. AGL is also backing new technologies that could optimise recycling for lithium batteries and solar panels.

Luan Atkinson and Mark Urbani CEO AND CTO, RENEWABLE METALS Rechargeable batteries have transformed electronics but eventually, even they reach the end of their lives. West Australian recycling startup Renewable Metals has developed a novel technology to recover more lithium, nickel and copper from batteries; unlike traditional recycling methods, it doesn't create waste by-products. Following a deal with European Metal Recycling, Renewable Metals will build a demonstration plant in Birmingham by mid-2025. Chief executive Atkinson is a former McKinsey consultant, banker and funds manager, while co-founder and chief technology officer Urbani leads delivery of the battery-recycling technology

Jason Willoughby CHAIRMAN, SQUADRON ENERGY The lack of control and regulation in the renewable energy sector has led to a backlash against some operators in rural communities, but Squadron Energy chair Jason Willoughby says he'd be happy to see more rules.

He says Squadron, owned by Nicola and Andrew Forrest through their investment vehicle Tattarang, is "very open" to the idea of a voluntary developer rating system to overcome a lack of planning. The system was recommended in a major report last year by then Energy Infrastructure Commissioner Andrew Dyer who strongly criticised the "free for all" approach to building of solar and wind farms and transmission lines.

Says Willoughby: "We're really supportive of that - to have some structure and to make sure communities are engaged with properly. We look at it and say, well, there isn't any regulation in place, but we will demonstrate what is possible, set the bar high and bring the industry with us to say this is what the community expects, and this is what can be achieved. It's quite a fractured industry, and we have to really engage with communities." Squadron is the biggest renewable energy company in the country, with solar and wind interests, including three wind farms in NSW, two in Victoria and others under construction outside Rockhampton in Queensland, and near Wellington in NSW. It majority owns another company, Windlab, which has been criticised by conservationists and scientists who say a wind farm planned for the Upper Burdekin in north Queensland will harm threatened species.

Willoughby recognises the need to address community concerns but says: "The urgency around the energy transition has never been greater. Often we focus a lot on the climate imperatives, but there's an economic imperative that's really important. The reality is, we've still got 63 per cent of our electricity generation coming from coal-fired plants, and they're becoming increasingly unreliable, and what that means is when they are out of service, prices will increase." Failure to shift to renewables will lock in price increases over the next five to 10 years, but at the same time "we need to make sure regional Australia really benefits from the energy transition".

Willoughby grew up on a farm in the Central West of NSW and understands the lack of regional transport, infrastructure and other services, such as the internet, which are taken for granted in the city. The energy transition is an opportunity to address some of these "pinch points".

Willoughby spent two years as Squadron chief executive before becoming chair this year. He had been chief executive of CWP Renewables but switched when Squadron bought it in 2022 for more than $4bn. He previously worked for 12 years at General Electric.

After more than 25 years in the sector, he is aware of the huge shift in attitudes around climate change. "We are so forward-looking about what's next, we sometimes forget to look back and see what we've achieved," he says.

"Back in 2011-12, I was involved in investing in the very first utility-scale solar project. It was in Geraldton, in WA, and it was 10 megawatts. At the time, it was just like, 'Wow, look at this.'" Yet over the past six years, Australia has moved from having 20 per cent of renewable generation in its electricity supplies to 40 per cent. Squadron provides "firmed renewables" to corporate Australia, selling to companies including Woolworths, the CBA, Transurban and NestlÃ© Australia. "Corporates are looking for renewable energy as part of their ESG [environmental, social and governance] requirements, and that's the market we're looking to serve, not residentials," says Willoughby.

He says that while wind, solar and battery storage provide the answer, "the last five or so per cent of that electricity mix is going to be gas". Squadron has an LNG import terminal at Wollongong to bring gas into NSW and Victoria "to firm up the renewables and get the reliability and the certainty that people expect". - HELEN TRINCA

Stewart Upson MANAGING PARTNER AND CO-PRESIDENT, INFRASTRUCTURE, BROOKFIELD ASSET MANAGEMENT Brookfield's plan to acquire Origin Energy was ultimately unsuccessful, but the Canadian investment giant quickly bounced back this year with a bid to buy French renewables company Neoen. This will result in Brookfield becoming the largest owner and operator of renewable energy in Australia. Brookfield is among the world's biggest investors in renewables, with almost 34GW of generation across five continents; its Australian interests already include Victorian electricity transmission network AusNet and Queensland renewable energy developer and operator X-Elio. The Neoen deal is expected to be made through Brookfield's $10bn Global Transition Fund II, which is dedicated to a net-zero transformation.

Kate Vidgen GLOBAL HEAD OF INDUSTRIAL TRANSITION AND CLEAN FUELS, MACQUARIE GREEN INVESTMENTS At Macquarie Green Investments, Kate Vidgen is driving the development of innovative solutions to help traditional and hard-to-abate industries accelerate their decarbonisation. She oversees more than 105GW of projects in development or operation, spanning green hydrogen, carbon capture and storage, renewables and low-carbon transport. Vidgen is the chair of Macquarie's Climate Solutions Taskforce, a member of the Australian Clean Energy Regulator Board and sits on a number of Macquarie Green Investments asset boards, including Atlas Agro, a green ammonia for fertiliser developer; sustainable aviation fuel (SAF) manufacturer SkyNRG; and the Hydrogen Chemistry Company in the Netherlands.

Louis de Sambucy DIRECTOR OF INTERNATIONAL DEVELOPMENT, NEOEN French renewables company Neoen's international development director Louis de Sambucy is powering ahead on an ambitious Australian energy and storage pipeline, with 48 projects in development that would generate 10GW of power. The owner of the landmark Tesla big battery Hornsdale Power Reserve, Neoen, set to be acquired by Brookfield, is progressing plans to build the country's biggest battery, Goyder North, with eight times the storage capacity of the current largest battery. De Sambucy is also leading plans to provide gridstabilising capacity in a battery to AEMO in regional Western Australia, due to be operational next year.

Tom Metcalfe CEO, CLEAN CO QUEENSLAND The Queensland government's clean energy company wants to service 20 per cent of the state and is aiming to have an additional 5GW of wind and solar in construction or operation by 2030, while also growing gas, hydro and storage. Power industry veteran Tom Metcalfe relocated from the US to Brisbane in 2022 to lead the way. Clean Co is underwriting Neoen's Kaban wind farm and Central Queensland Power's 372MW Moah Creek wind farm. It's also transforming Ipswich's Swanbank power station into a clean energy hub, where it's exploring the installation of Australia's largest grid-connected sodium sulphur NAS Battery Energy Storage System (BESS) to complement the lithium-ion battery already under construction.

Matt Rebbeck CEO, RES AUSTRALIA Matt Rebbeck has dedicated almost three decades to the UK-headquartered RES Group, rising through the ranks from technical manager to lead its Asia-Pacific arm, where he's responsible for 2GW of projects, with another 10GW in the pipeline. RES has one of the longest track records of any developer in Australia, more recently winning an offshore wind licence in Victoria, and announcing a new wind project in NSW, plus a new solar project in the state. Rebbeck has already delivered many other major projects for RES, including Ararat Wind Farm, which was Australia's third-largest wind farm in terms of planned capacity when building began in 2015.

Cameron Garnsworthy MANAGING DIRECTOR, SUNCABLE AUSTRALIA Progress for Australia's long-distance solar cable venture has gathered pace, with managing director Cameron Garnsworthy checking off a number of significant milestones since joining in January. This includes getting the green light to develop the Australian part of the project, which spans a 12,000-hectare solar farm, an 800km transmission line to Darwin and a wind turbine and battery storage component that's yet to be finalised. Still to come for Garnsworthy: convincing Singapore to take about half the clean energy generated by SunCable when the project is completed in 2035.

Rachel Watson COUNTRY MANAGER, AUSTRALIA, OX2 European renewables developer OX2 entered the Australian market in May last year with the acquisition of solar developer and operator ESCO Pacific. The Swedish-headquartered business grew its pipeline and has recently acquired its first onshore wind project north of Perth, which will match the 1GW capacity of its solar energy and storage portfolio. Rachel Watson joined OX2 from Pacific Hydro, where she oversaw the development of new wind and solar farms and led an expansion into batteries and other technologies as chief executive.

Richard Petterson CEO, TINDO SOLAR To call Tindo Solar a small player in the solar energy sector in Australia would be an overstatement. The Adelaide company provides just one per cent of the solar panels on the nation's rooftops; the other 99 per cent are imported, mainly from China.

But Richard Petterson, chief executive of the company launched almost 15 years ago and which employs more than 65 people, has plans to scale up and in the process add to Australia's manufacturing skills. The company

makes Australia's only locally manufactured panels but uses many imported components, and some critics argue there is no point trying to build a local solar manufacturing industry here.

The federal government disagrees and this year announced a $1bn Solar Sun Shot program to drive local manufacturing. Tindo is looking for support, and if it receives funding, plans to scale up capacity sevenfold to produce about 1.9 million panels a year. It also plans to stimulate local supply chains by swapping to local components, such as aluminium and silica and junction boxes where possible.

Petterson says Tindo panels are of better quality and more suitable to Australia's extreme climate than those sourced overseas. "The original vision was to make a solar panel that was really high quality, long lasting and suitable for Australian conditions," he says. "That was 15 years ago, and that's stood us well over the test of time." He says many imported panels are not hardy enough for Australia's severe weather conditions. And conversely, Tindo's emphasis on durability is an advantage in the global market; it already exports panels to Vietnam and Petterson's goal is to find other overseas markets. "The good thing about that is that if they're made for Australian conditions, they'll also perform really well around the world," he says.

Petterson joined Tindo as chief executive in 2022 after a long career as a senior executive and board member. He spent five years at Queensland Urban Utilities, the government water and wastewater agency, and says there are similarities with his current role. "For solar, the core of the water sector is serving people," he says. "And I think that's also the core of the renewable sector, serving people and the planet.

"I had a love for the idea of taking the skills and capabilities I built up in the water sector and applying it to the manufacturing sector. It's a really natural step, if you think about water and power - they're both essential services." Petterson is passionate about local production. "Australia has been letting go of its manufacturing for 30 years, and every time we let go of another product, we lose expertise and capacity to make things," he says. "And then, every time we try to make something from the low base we have, it's comparatively more expensive than countries that have invested in manufacturing. We need to decide if we want to be a manufacturing nation." He says it's also a question of secure supply; Australia will need more and more solar panels as the demands for renewable energy increase and we need to understand the sovereign risks in relying on overseas supply chains.

He's optimistic about the future of renewables in Australia, not just because of the Albanese government's support, but thanks also to partnerships with researchers at institutions such as the University of NSW and the University of South Australia. "We're active participants in advancing the solar cause," says Petterson. "That then translates into how we think about our products, and what products we bring to market." - SOPHIE NORTON

INNOVATION Mike Smith FOUNDER, ZERO CO Entrepreneur Mike Smith is on a mission to "solve the plastic problem" and he's not afraid to pivot when a better solution comes along. Smith's Zero Co makes household and personal care products and is based on a refill model. The company has developed new recyclable, paper-based refills to house liquid and powder products; these capsules are fitted into Zero Co's reusable pump packs and spray bottles that are made from 80 per cent recycled materials. Smith uses his high profile to lead large ocean clean-up projects worldwide, which Zero Co says have removed more than 45 million water bottles worth of waste from oceans, rivers and beaches since 2020.

Vince Allen CO-FOUNDER AND CEO, SUNDRIVE The SunDrive co-founder pioneered a shift to copper-based solar cells instead of the industry-standard silver, making them significantly cheaper to produce, more efficient and potentially allowing Australia to reclaim a greater share of the solar manufacturing industry. Earlier this year, SunDrive signed a memorandum of understanding with AGL to build a solar manufacturing hub in the Hunter Valley as part of the federal government's $1bn Solar SunShot initiative. The Blackbird and Australian Renewable Energy Agency (ARENA) backed startup also counts Mike Cannon-Brookes, Malcolm Turnbull and Canva co-founder Cameron Adams among its investors.

Anthony Musumeci CO-FOUNDER AND CEO, EARTHODIC Earthodic aims to solve the common challenges of paper packaging: it can be fragile and susceptible to water damage. The Brisbane startup has developed a bio-based coating that's applied to paper and cardboard to make it resistant to both water and oil, and increase its strength by up to 15 per cent, while still being suitable for repulping and recycling. It can be used as packaging for

food, agriculture and household products. The coating is certified 100 per cent bio-based carbon by the USDA BioPreferred program. Earthodic recently closed a $US5.3m seed funding round led by US investor FTW Ventures, and will establish a US base at the Innovation Center at Western Michigan University.

Ryan Fritsch CEO, NOVECO SURFACES Old wine bottles make good tiles, a regional NSW startup has found. Noveco Surfaces, a startup spun out of the University of NSW, says tiles made from recycled glass are stronger, safer and better for the environment than their ceramic counterparts. It's also a solution to the major problem of recycled glass still ending up in landfill, despite being placed in yellow-lidded recycling bins. The reason is because not all glass is equal, says chief executive Ryan Fritsch, who formerly held responsibilities in AB InBev's recycling departments: most goes to landfill and the rest is, at best, used for road base. Noveco's technology allows different types of glass to be combined in tile production. This year, the company raised $7.75m through a partnership with the National Australia Bank to expand into the benchtop market.

Paul Binsted CHAIR, ENERGYCO Paul Binsted's influence can be felt along the eastern states. As chair of the Energy Corporation of NSW (EnergyCo), he's tasked with leading the transformation to renewable energy across the state's five Renewable Energy Zones in the Central-West Orana, New England, South West, Hunter-Central Coast and Illawarra regions. He's also chair of the Queensland government-owned electricity supplier Stanwell, which has its own roadmap to achieve a steady and reliable supply of clean energy by 2035.

Rose Amal SCIENTIA PROFESSOR, UNIVERSITY OF NSW Rose Amal's obsession with solar energy began at a young age. At four years old, during frequent blackouts in her home town in Indonesia huddled around a candle, she would wonder aloud to her older brother, "Why can't we just bottle the sun's light to use at night?" Fast forward to today and Amal is still focused on sunlight and the ways it can be "bottled up" for a greener future through her work at the University of NSW where she is a professor of chemical engineering. She also heads the Particles and Catalysis Research Group, and is co-director of the ARC Training Centre for the Global Hydrogen Economy (GlobH2E).

Yet, when Amal first arrived in Australia as an international student 40 years ago, she anticipated a career in the oil and gas industry - a stark contrast to her current path.

Fortunately for Australia's green future, Amal says "life had other plans." She received a scholarship to pursue her PhD at UNSW in collaboration with the Australian Nuclear Science and Technology Organisation. She spent a year at ANSTO before joining the UNSW chemical engineering faculty in 1992.

Now recognised as a pioneer and leading authority in fine particle technology, photocatalysis, and functional nanomaterials, her research and leadership are at the forefront of Australia's green future.

Over the years, her work has focused on developing catalysts to harness solar energy for sustainable chemical processes and working in photocatalysis to degrade pollutants in water using sunlight.

Currently, Amal's research centres on harnessing solar energy through advanced catalysis to support Australia's transition to a net-zero economy. "We are developing novel catalysts that can efficiently convert water, air and waste into valuable chemicals and fuels like hydrogen, ammonia, hydrogen peroxide and methanol, using renewable sources," Amal says.

Alongside her lab work, Amal is passionate about helping the next generation of chemical engineers. "Mentoring the next generation of bright minds remains a central part of my mission," she says. "If I can inspire just 10 of these bright minds, that could help push the boundaries for a green future. That is how change happens." While Amal acknowledges there has been great progress in renewables - through the adoption of solar and wind power, as well as advances in green chemicals and sustainable fuels - she says there is still much to be done. "Australia is not there yet; we're moving in the right direction, but there is a lot more work to do," she explains.

"As a country, we still face challenges like economic disparities, technological gaps in energy storage, and industries that are hard to abate, such as maritime, aviation and chemicals." Amal says there are limits to change if the right policies are not in place.

"In chemical engineering, we are making crucial progress with innovations in solar energy conversion and catalysis," she says. "But the importance of supportive policies cannot be overstated. There is a real need for stronger, more consistent policies that actively promote sustainable practices and technologies. Right now, those policies can be quite hit or miss." But there is no option other than to change. "The question is not whether a zero-emission economy is possible, but rather how to make it possible. We only have one livable planet; we need to make it work. We will continue pushing the boundaries of what is possible. The journey ahead is about more than just technological advancement; it is about shaping the future of our planet." - ALEXANDRA HILL

POLICY Heidi Lee CEO, BEYOND ZERO EMISSIONS Modelling by think tank Beyond Zero Emissions (BZE) in 2021 found that "Australia has the potential to grow a new green export mix worth $333bn a year by 2050, which is almost triple the value of our fossil fuel exports," says chief executive Heidi Lee, a former architect and sustainable designer. She leads BZE's mission to produce practical, scalable strategies that will inspire business and communities to thrive in a rapid transition to decarbonisation. Under its Renewable Energy Industrial Precincts program, BZE advocates for transforming clusters of heavy industry into clean energy hubs where businesses can benefit from access to low-cost renewable energy and other efficiencies.

Daniel Westerman CEO AND MANAGING DIRECTOR, AUSTRALIAN ENERGY MARKET OPERATOR At the Australian Energy Market Operator (AEMO), chief executive and managing director Daniel Westerman must carefully balance present and future priorities, keeping Australia's largest energy markets running smoothly while also developing an ambitious 25-year roadmap to transition the market to net zero by 2050. His profile rose in mid-2022 after exercising his considerable powers to suspend the National Energy Market in order to stablise the grid. Westerman has been critical of Opposition Leader Peter Dutton's plan to develop nuclear reactors, favouring gas instead. "Even on the most optimistic outlook, nuclear power won't be ready in time for the exit of Australia's coal-fired power stations," Westerman says.

Tom Arup HEAD OF STEWARDSHIP, SOVEREIGN ENGAGEMENT, PRINCIPLES FOR RESPONSIBLE INVESTMENT Over the past two years, Tom Arup led a successful Principles for Responsible Investment (PRI) pilot program supporting investor-led collaborative engagement with sovereigns on climate change, focused on the Australian system. Attracting 25 international investors with a total of $US8 trillion under management, the pilot will be used as a model for the UN-backed PRI to help investors engage collaboratively with other sovereigns. "The ESG-focused engagement of investors with corporates in which they hold equity is well established, but collaborative engagement with sovereigns among their debt holders is a relatively new phenomenon," says Arup, who is PRI's lead for sovereign engagement stewardship.

Erwin Jackson MANAGING DIRECTOR, POLICY, INVESTOR GROUP ON CLIMATE CHANGE Erwin Jackson's decades-long career deftly facilitates relationships between climate policy and finance. Advocating on behalf of members of the Investor Group on Climate Change (IGCC) - a network of 100-plus institutional investors and industry groups who manage more than $35 trillion globally - Jackson has been vocal in calling for greater clarity and transparency around mandatory climate disclosures and standards for corporate climate transition plans, together with clear policies and roadmaps to support the transition. "Australia has an opportunity to be bold, not because it should, but because it must," Jackson wrote in a recent submission. "The purpose behind a target is not just to meet it; it is to drive ambition and innovation."

Francesca Muskovic NATIONAL POLICY DIRECTOR, PROPERTY COUNCIL OF AUSTRALIA When Francesca Muskovic was a young aerospace engineering graduate, she was convinced she would go overseas to design Formula One cars - a far cry from her current contributions to Australia's sustainable future.

Muskovic is now the national policy director at the Property Council of Australia, where she leads the national policy and advocacy agenda on sustainability, cities and housing for the property industry. However, when Muskovic started her career, she initially worked at a consultancy firm focused on using complex technical software to model airflow in and around buildings.

Like many, she took some time off to travel - "proper backpacking," as she describes it - including time spent living in India, where she volunteered for an environmental non-profit focused on the water quality of the Ganges. This experience fundamentally changed her worldview and set her on a new path: sustainability.

Back home, she took a job as policy manager for the Green Building Council of Australia, which provided her with a front-row seat to discussions in 2007 about Australia's climate future. This included the creation of initiatives, such as advocating for a carbon price under Kevin Rudd's government and the City of Sydney's collaboration with Danish architect and urbanist Jan Gehl to develop a long-term strategic plan, Sustainable Sydney 2030.

"It was a really formative time to be working in an industry where the sustainability of the built environment was taking off," she says. "There was a focus on industrydriven benchmarks like Green Star, and a vibrant policy conversation was taking place. There was a lot of good thinking and debate on how to make the country more sustainable. I was hooked; I wanted to have an impact." At the Property Council, she has been instrumental in working toward a zeroemissions economy, negotiating with energy ministers nationwide to implement a series of policy commitments that began in 2019. These commitments included the national construction code, which set minimum requirements for new commercial and residential buildings in 2022, with another policy uplift planned for commercial buildings in 2025.

"We've come a really long way in the property sector. Much of that progress is due to collaboration," she says. "While there's been political turmoil over the past decade regarding climate action, our industry has been steadily creating policy frameworks.

We've accomplished quite a bit." The sector's progress is not widely reported, but as Muskovic notes, that isn't necessarily a bad thing. "This progress shouldn't be controversial. It's simply about keeping pace with what the science tells us we need to do," she says.

Muskovic admits there is still much work to be done, especially on an individual residential level, where Australia needs to "play catch-up". "The individual level is where the most significant work still needs to happen. That's where a lot of policy and government support should be focused," she says.

She emphasises governments need to assist individual households with tackling the upfront costs of making their homes greener. In addition to the economic perspective, Muskovic believes governments must improve how they communicate the benefits of greener properties to individuals. "Governments need to help tell the story of why a greener household is beneficial. They should start promoting that idea more broadly." Although Muskovic acknowledges Australia's residential sector lags behind in the rollout of renewables - especially compared to European countries like Germany, which invests around 20 billion euros a year in upgrading residential homes for energy efficiency - she remains hopeful and continues to work toward a better future.

"You have to be optimistic. It's no longer a question of whether this will happen, but whether it will happen quickly enough," Muskovic says.

In the next five years, she hopes for greater intersectionality between public policy, environmental considerations and human impact when addressing emissions reduction, particularly in the property sector.

"We want to ensure we're buying products and services that consider not only the carbon impact but also the human impact when addressing emissions reduction. We must ask ourselves, have these products been made by people who are paid fair wages and who work in good conditions?" - ALEXANDRA HILL

Behyad Jafari CHIEF GROWTH OFFICER, SPLEND Thirty-nine-year old Behyad Jafari spent almost eight years running the advocacy body, the Electric Vehicle Council, before joining Splend, a subscription business that finances EVs, hybrids and conventional cars for rideshare and delivery drivers. The startup, founded in Sydney in 2015, has received $40m from the Clean Energy Finance Corporation (CEFC) to develop its business model.

Why did you make the move from the peak body to Splend this year? I'd spent the past decade working on industry leadership, being a spokesperson, championing industry, and I was quite keen to get stuck into the other side. You

make a lot of promises when you're an industry association CEO about what can be done, and I was eager to go ahead and do it.

Is that what's happening now - practical implementation?

That's certainly the case across the clean energy industry. There's still very important work for governments and policymakers but there's an enormous amount of work for the industry itself to do - the implementation of the promises of clean energy.

At Splend, we're facilitating this transition for rideshare workers; we're not only talking about reducing transport emissions, which itself is very important, but doing that by reducing operating costs, which for these workers means they get more take home pay at the end of the week. I'm a son and nephew of rideshare drivers, and I know that it's not just a line in a spreadsheet, it means food on the table.

So EVs are very much part of the model?

The economics make perfect sense for rideshare drivers who drive 1000km a week, four or five times more than the average driver. Moving to zero emissions has a magnified impact: our drivers say they're regularly being asked questions from their passengers about electric vehicles. So it also has this great ambassadorial role.

How does it work?

The product is called FlexiOwn - it's a flexible lease and it can be cancelled at any time and handed back to us, so technically, the passengers are buying it off of us over time, but with the flexibility of being able to cancel it.

Is there still a resistance to EVs in Australia?

There's a growing understanding, but a need for more education about electric vehicles.

Certainly over the past few years, there's been an excitement and enthusiasm for them as a new technology but it's not like a mobile phone. This is the second most expensive thing most people own, other than their house; it's a big decision to make. The more we can keep providing the evidence, providing that assurance, building up supporting infrastructure, the more confident people are in being able to make that switch.

Are we missing out on cheap EVs in Australia?

Probably the biggest thing that I did in my previous job was that we implemented one of the largest transport reforms in Australia's history, the New Vehicle Efficiency Standard [which encourages makers to supply more EVs]. It was essentially bringing us into line with every other developed country in the world; because we didn't have those standards in place, Australia had been missing out. Car companies were telling us, very frankly, that "the reason why you're missing out is because you don't have similar standards in place". The standards take effect mid next year but just in the time they've been legislated, we've seen cheaper prices and more choice for Australian drivers overall. It's a very clear win for us.

What about the cheaper Chinese EVs?

The other big change is the number of new, particularly Chinese, carmakers entering the market and proving they can build high quality vehicles at lower prices. These companies are facing protectionist tariffs in the USA and the European Union, so we're the beneficiaries of that right now. Consumers are voting with their wallets.

China is now the largest source of electric vehicles for Australia, and these aren't just cheaper vehicles, they're more affordable, very high quality ones. You can buy an MG now for about $31,000. A decade ago when I started the council, the average electric vehicle was $130,000.

What about the problems of recharging an EV in a country like Australia? There are a number of companies in Australia installing charging stations. Without a doubt we need to keep building more. There's been great progress;

we've been growing the number of charging stations by 50-75 per cent every year. You can drive anywhere you want in Australia in an electric vehicle, it's just that for longer trips you need to plan ahead. What you want is to get to an ideal situation where you don't have to plan ahead, you just expect that you'll run into one and you'll be okay.

There's enough charging to get you where you need to go today, but now you want enough charging so that it's a no-brainer. - HELEN TRINCA

Martijn Wilder CHAIR, NATIONAL RECONSTRUCTION FUND CORPORATION The federal government's $15bn National Reconstruction Fund (NRF) was formed last year to invest in local manufacturing and support industry as it transitions to net zero. It targets seven priority areas including renewables and medical science; hard-to-abate industries like transport; and value-add opportunities in agriculture and resources. Inaugural chair Martijn Wilder is a respected expert in sustainable finance: he's the founder and chief executive of climate change advisory and investment firm Pollination and was also the Australian Renewable Energy Agency chair and a Clean Energy Finance Corporation founding director.

Tony Chappel CEO, NSW ENVIRONMENT PROTECTION AUTHORITY The NSW Environment Protection Authority (EPA) has a remit to regulate environmental impact that covers a broad territory, from keeping governments on track to encouraging households to be more sustainable. In the past 12 months, the EPA has made NSW the first state to regulate greenhouse gas emissions as pollution, cracked down on illegal asbestos in waste and campaigned about the dangers of household recycling for batteries. "The EPA is committed to supporting industry, business, our regulatory partners and the community in transitioning to a more sustainable and prosperous future," says chief executive Tony Chappel, who joined the EPA in 2022 after three years as an executive at the Australian Energy Market Operator.

Katie-Anne Mulder CEO, QUEENSLAND RENEWABLE ENERGY COUNCIL The Queensland Renewable Energy Council (QREC) is a dedicated industry association for developers, investors and suppliers of renewable energy projects in Queensland. The challenge of coordinating the efforts of its members is the remit of the industry body's chief executive, Katie-Anne Mulder. She champions regional Queensland as an important part of the solution and has been vocal in taking the QREC's mission to the regions in a series of community forums.

Gabrielle Kuiper STRATEGY CONSULTANT "Given how fast we need to decarbonise, we need as much innovation in renewable energy technology as possible," says Dr Gabrielle Kuiper, who champions approaches big and small. The academic-turnedconsultant is an expert on distributed energy resources (DER), such as solar panels, EVs and home batteries, who has long championed the need for a set of national standards for DER. She's equally vocal about practical approaches that can help households optimise their DER, such as installing newly electrified heat-pump hot water systems. "It is possible to treat a home hot water system like a thermal battery, storing heat in hot water until it is needed," Kuiper says.

Paul Simshauser CEO, POWERLINK QUEENSLAND Professor Paul Simshauser works at the juncture of energy and economics, and is a long-time contributor to policy debates through his published academic research. He's a professor of economics at Griffith University's Centre for Applied Energy Economics & Policy Research and chief executive at the Queensland government-owned Powerlink, whose annual updates on the state of the energy market are keenly anticipated by industry. At Powerlink, Simshauser oversees the development of renewable energy zones in Queensland and the delivery of the CopperString 2032 project, which will connect north-west Queensland to the clean-energy grid.

Matt Kean CHAIR, CLIMATE CHANGE AUTHORITY The former deputy NSW Liberal leader, treasurer and energy and environment minister is a long-time champion of progressing the transition to renewable energy in NSW. He hit the ground running after he was appointed chair of the Climate Change Authority (CCA) in August, working on the progress report on reaching 2030 targets and delivering the long-awaited report on the technology and emissions pathways that will best support Australia's transition to net-zero. Kean sees his role and that of the CCA as taking "a pragmatic approach to ensuring that we deliver for families, we deliver for our economy, but we protect the environment and build bipartisan consensus where possible."

Kristin Tilley AMBASSADOR FOR CLIMATE CHANGE "When you look at climate change and global decarbonisation, if that is not done in an effective and accelerated way, the reality is many other global pressures will be exacerbated," says Australia's ambassador for climate change Kristin Tilley, pointing to food security and geopolitical tensions as examples. Since coming to the role in 2022, Tilley has integrated Australia's climate ambitions into diplomatic relations, with a specific focus on the Pacific and Southeast Asia. She regularly champions the opportunities for Australia in leading the transition, whether in agriculture or clean energy. Tilley spearheaded Australia's push to host COP31 in 2026.

Mark Twidell NON-EXECUTIVE DIRECTOR, AGL, AND INDUSTRY PROFESSOR OF PRACTICE, UNSW ENERGY INSTITUTE Professor Mark Twidell's 35-year career as an inspiring and decisive leader earned him a 2024 Clean Energy Council Award. At the Energy Institute he helps UNSW leverage its capabilities and industry partnerships to play a leading role in Australia's net-zero economy. He previously led Tesla's energy business in Asia-Pacific and served on the boards of the Australian Renewable Energy Agency and Commonwealth Government Solar Flagships Council, and as deputy chair of the Clean Energy Council. Twidell made headlines in 2022 when he joined the board of AGL as part of sweeping Grok Ventures-backed leadership changes at the energy giant.

Carol Schwartz CHAIR, THE CLIMATE COUNCIL Philanthropist, investor and business leader Carol Schwartz has a long track record of advocating for issues she believes in, from gender equality to business and governance. Her solutions-focused approach supports the Climate Council's efforts to catalyse action at scale, by engaging community, industry and government alike. "We cannot transform our economy into a renewable energy super power without engaging and supporting Australian communities, particularly those most affected by the transition and those who may not be able to afford the changes that are necessary," Schwartz says. Through the Trawalla Group, the family office she established with husband Alan, Schwartz has made significant investments in carbon-reduction initiatives.

HYDROGEN Jehan Kanga FOUNDER AND CEO, RUX ENERGY Scientist Dr Jehan Kanga's startup is focused on hydrogen storage for use in maritime, rail and road energy distribution networks, and heavy industry. Rux Energy is involved in several heavy transport and maritime decarbonisation projects, working with universities and research institutions in Australia, the UK and Singapore. Jehan previously worked in clean tech at KPMG Australia and has a doctorate in chemistry from the University of Sydney. The company uses porous nanomaterials to coat storage tanks and in October was awarded a $3m grant under the federal government's Cooperative Research Centres Projects for work on technology it claims is cheaper and more energy efficient that other storage methods.

Paul Barrett CO-FOUNDER AND CEO, HYSATA Paul Barrett is trying to crack one of the big obstacles of green hydrogen: the high cost of production. His company Hysata has developed a new electrolyser, the device used to split water molecules into their component elements of hydrogen and oxygen, which is 20 per cent more efficient than existing technology and can be used at scale. It has the potential to transform hard-to-abate industries. "With high-efficiency, intrinsically low capex and a mass-manufacturable design, Hysata aims to drive down the levelised cost of hydrogen," Barrett explains. The Illawarra-based startup set a new record for clean tech in Australia this year when it raised US$111.3m ($170m) in a Series B.

Paul Hodgson DIRECTOR, CENTRE FOR HYDROGEN AND RENEWABLE ENERGY Paul Hodgson wants regional Queensland to become a major player in the development of green hydrogen and other types of renewable energy. At Central Queensland University he leads the Centre for Hydrogen and Renewable Energy, guiding research and building on the university's existing partnerships with industry. He's well-placed to deliver on this mission, having previously been interim chief executive at the Scaling Green Hydrogen Cooperative Research Centre where he secured $163m in cash and in-kind support from almost 100 partners, including CQ University. Hodgson also helped establish a network of regional hydrogen clusters while at National Energy Resources Australia.

Joanna Kay EXECUTIVE GENERAL MANAGER, ZERO CARBON HYDROGEN AUSTRALIA The next 12 months are pivotal for green hydrogen in Australia as many projects reach their final investment decision, says Joanna Kay. "Australia holds a substantial project pipeline; about 20 per cent of global developments are based here, valued at

$235 billion or more," she says. "This is about more than opportunity; it's about securing Australia's role in the global green industrial revolution." A well-respected leader who advised on the new National Hydrogen Strategy, Kay champions hydrogen policy and innovation, driving the development of the domestic market while positioning Australia as a global frontrunner.

TECHNOLOGY Richard Kirkman CEO AND MANAGING DIRECTOR, VEOLIA ANZ Water, waste and energy management giant Veolia notched up 170 years of business last year, but it continues to innovate future-facing solutions for ecological transformation. Its OnTrack service partners businesses with a consultant to guide them in meeting sustainability goals. "We have a varied customer base from a local grocer through to big customers and Blue-Chip clients," says chief executive and managing director of Australia and New Zealand Richard Kirkman, who has a PhD in Environmental Policy focusing on Infrastructure for the Circular Economy. "Everybody can have something that improves their sustainability," he says.

Craig Wood CEO AND DIRECTOR, VAST Vast tackles the challenge of solar energy - the variability of the sun's rays - head on, by using concentrated solar power (CSP) technology, which allows solar energy to be captured and stored for later use. Next up: using CSP to power the production of green methanol. To this end, Vast and Germany-based Mabanaft will receive up to $19.48m from the Australian Renewable Energy Agency (ARENA) to build a solar methanol plant (SM1) near Port Augusta, South Australia. "Solar methanol, produced at plants like SM1, has the potential to make a huge difference to the transport sector where it has proven difficult to decarbonise fuel sources," says Wood.

Matthew Van der Linden FOUNDER AND CEO, FLOW POWER As founder and chief executive of Flow Power, Matthew Van der Linden's goal is to empower businesses and organisations - including Sydney Opera House and Westpac - to directly purchase renewable energy at competitive rates. His kWatch platform allows real-time monitoring for large energy users, as well as the ability to remotely power down noncritical operations, optimising energy consumption. Flow Power's own solar farms include the recently opened Newstead Community Energy Project in Victoria. "The Newstead Energy Project is the first of its kind for Victoria and a powerful template for how community, government and industry can work together to propel the energy transition forward," says Van der Linden.

Ian Mackinnon PROFESSOR EMERITUS, QUEENSLAND UNIVERSITY OF TECHNOLOGY For decades, Professor Ian Mackinnon has built vital connections across university departments and between academia and industry, facilitating the development of innovative solutions for energy, transport and other sectors. He is the founder and former executive director of the Institute for Future Environments at Queensland University of Technology, where his research spanned renewable energy, the use of hydrogen, and efficient utilisation of water. Mackinnon was a founding member of Queensland's Hydrogen Task Force, formed by the Palaszczuk Government in 2021 to accelerate the development of green hydrogen supply.

Frank Calabria CEO AND MANAGING DIRECTOR, ORIGIN ENERGY Under Frank Calabria's leadership, Origin has set ambitious goals for energy transition, including accelerating its exit from coal-fired generation and boosting investment in renewable energy and storage, with a goal of achieving net zero emissions by 2050. He sees the energy transition as a huge opportunity for the retailer, which has this year expanded the storage capacity of its Eraring large-scale battery energy storage systems (BESS). Adopting the Kraken software developed by UK energy retailer Octopus has been another strategic step towards streamlining customer billing and leveraging the energy storage capacity of customers' home batteries and electric vehicles. Origin has pulled back on green hydrogen, but Calabria says hydrogen could still play a role in future energy needs.

Rob Waterworth CO-FOUNDER AND CHIEF SCIENCE AND INNOVATION OFFICER, FLINTPRO Former consultant Dr Rob Waterworth developed his FLINTpro software as a scalable monitoring tool that leverages remote sensing data to provide insights for policy development and land management. As reporting regulations become mandatory and expand globally, the software as a service (SaaS) allows companies to measure and manage their climate and natural capital, integrating data on greenhouse gas emissions, deforestation and biodiversity impact. Last year, FLINTpro moved into the US market with a new headquarters in Denver, Colorado,

and the company is eyeing the UK and Europe. As FLINTpro's chief science and innovation officer, Waterworth continues to develop scientific models for the platform.

Pete Wheale GENERAL MANAGER, AUSTRALIA, SOUTHEAST ASIA AND NEW ZEALAND, NEXTRACKER Nextracker's solar tracking technology monitors and reports on the capacity of solar farms and has been used on some of the country's largest solar projects, including Stubbo Solar Farm (520MWd) and Western Downs (460MWd). The systems' compatibility with a wide range of soil types and uneven terrains allows them to analyse and diagnose issues in real time, optimise energy harnessing, and mitigate the risk of extreme weather events. Wheale relocated from Nextracker's California headquarters in 2016 to set up the Sydney office and took the helm as general manager in 2022.

Nick Carter CEO AND MANAGING DIRECTOR, AKAYSHA ENERGY A veteran of the renewables sector, Nick Carter has held senior positions at Toyota, AGL, Tesla, and Macquarie Capital. Now at the helm of Akaysha Energy, he's spearheading the development of very large-scale battery energy storage systems (BESS) in Australia, with a pipeline of 10 projects totalling 10GW of energy storage. When it opens next year, Akaysha's Waratah Super Battery on the NSW Central Coast will be the world's largest grid-scale battery. The BlackRock-owned Akaysha has attracted $3bn of investment, including a record A$650m financing deal announced in July for the instruction of its Orana BESS project.

IMPACT Monica Richter PROJECT DIRECTOR, MATERIALS AND EMBODIED CARBON LEADERS' ALLIANCE Social ecologist Monica Richter works across both the Materials and Embodied Carbon Leaders' Alliance (MECLA) and WWF-Australia's Low Carbon Futures program to encourage the uptake of low- and zero-carbon solutions among corporates. A recent WWF report calls on federal and state governments to do more to decarbonise the domestic iron ore and steel industry and collaborate with major trading partners in Asia to unlock a "green iron key" for Australia. "With the right investment environment, Australia could be the key to transforming Asia's steel industry and our construction sector," Richter writes. This dovetails with her work as project director at MECLA, which brings together researchers, industry and government to develop and share ways to reduce embodied carbon in the construction industry.

Blair Palese CO-FOUNDER, CLIMATE CAPITAL FORUM "I've always been focused on finding the most impactful ways to bring about positive change," says Blair Palese, co-founder of the Climate Capital Forum. She has a long history of bringing together investors, business leaders, activists and other stakeholders for climate action. As a co-founder of 350.org, she helped spearhead the divestment movement; now, she's calling for "new strategies and policies and profound economic reform" to match the climate programs in the US Inflation Reduction Act, to rapidly accelerate Australia's decarbonisation. "Australia must move at speed and scale to make the most of the opportunities through our vast and affordable renewable energy resources and enviable wealth of rare earth minerals," says Palese, who is also managing editor of Climate & Capital Media.

Matina Papathanasiou BOARD MEMBER, UNITED NATIONS RISK REDUCTION INVESTMENT ADVISORY BOARD After a long career as one of the founding partners of QIC Global Infrastructure, industry-leading finance executive Matina Papathanasiou now sits on the UN's Risk Reduction Investment Advisory Board, focused on adaptation financing to build resilient infrastructure. "I believe infrastructure will play a critical role in climate adaptation - scorching temperatures, raging bushfires and flooding rains demonstrate we must adapt," Papathanasiou says. She's also director of cleanenergy developer and generator Tilt Renewables, which has a portfolio of wind, solar and battery projects in development across Queensland, NSW, Victoria, South Australia and Western Australia.

Ross Garnaut PROFESSORIAL FELLOW, THE UNIVERSITY OF MELBOURNE, AND DIRECTOR, THE SUPERPOWER INSTITUTE Very few have played as prominent a role in leading the strategy around decarbonisation as Professor Ross Garnaut. The economist has had a front row seat to policy debates for decades, as an academic, government adviser, author and, more recently, one of the largest shareholders in Zen Energy, the renewables energy and storage developer run by his son Anthony. In his new book, Let's Tax Carbon, he makes the case for economy-wide carbon pricing in the form of a carbon solutions levy, to be introduced from 2030 to fund

a green premium for zerocarbon energy. "The [renewables] superpower industries will grow rapidly if they have access to premiums corresponding to the social cost of carbon," he writes.

Shemara Wikramanayake CEO, MACQUARIE GROUP Under Shemara Wikramanayake's leadership, Macquarie Asset Management's Green Investments has amassed a portfolio of more than 110GW of green energy projects in development and invested or arranged $2.2bn in green energy assets in the 12 months to September this year. Late last year it built on its renewables strategy to launch onshore energy business Aula Energy, with the aim of developing, constructing and operating large-scale wind, solar and integrated batteries across Australia and New Zealand. Wikramanayake is also a commissioner of the World Bank-led Global Commission on Adaptation and was founding chief executive of the UN Climate Finance Leadership Initiative to drive funds to climate goals.

Andrew Forrest EXECUTIVE CHAIRMAN, ***FORTESCUE*** ***Fortescue***'s founder and executive chairman Dr Andrew Forrest says the iron ore producer will stop burning all fossil fuels by the end of the decade and has dispensed with a net-zero target in favour of being "real zero" (reached without carbon offsets) by 2030, committing US$6.2bn ($9.3bn) to achieve this plan and calling on other hard-to-abate industries to follow. Forrest's clean energy company Squadron Energy develops and operates solar, wind and firming projects and while his ambitious plans to scale up green hydrogen have recently faced setbacks, he remains optimistic. "I truly believe in the power that green hydrogen will unlock for decarbonising hard-to-abate industry," Forrest says.

Kelly O'Shanassy CEO, AUSTRALIAN CONSERVATION FOUNDATION A firm believer in "people power", Kelly O'Shanassy's decade-long tenure at the Australian Conservation Foundation (ACF) has seen her galvanise and grow its supporter base to more than 600,000. She's steered the ACF through successful campaigns to safeguard land and waterways, halt the proposed Jabiluka uranium mine, reduce waste and boost recycling. ACF is putting pressure on the federal government to reform nature laws and protect biodiversity and species conservation. "This decade is critical to halt the loss of nature," O'Shanassy says. "This year alone, more than 30 more species were added to the threatened species list, totalling more than 2200 species that are threatened with extinction. Australians hope and expect that our government will take the necessary action to protect the wildlife and natural wonders that make Australia such a special place."

Lesley Hughes COUNCILLOR AND DIRECTOR, CLIMATE COUNCIL OF AUSTRALIA Professor Lesley Hughes wrote one of the first academic papers showing the impact climate change had already had on multiple plant species. The topic was to become her life's work, guiding decades of research into how climate change affects ecosystems and species, and what this means for conservation efforts, as a professor of biology at Macquarie University. As director of the Climate Council, an independent organisation that provides expert and evidence-based advice on climate change to government, media and community, she applies the same lens to her work as an advocate.

Saul Griffith CO-FOUNDER AND CHIEF SCIENTIST, REWIRING AUSTRALIA When Dr Saul Griffith speaks at town hall meetings around Australia he attracts hundreds of people eager to hear from the "electrify everything" guy and to tell him how they are already saving on energy, thanks to renewables.

"It's pretty extraordinary," says Griffith, the Australian engineer, inventor and advocate with a global reputation, who is focused on building community support - street by street - in the battle against climate change.

"It's because they're interested in where the world is going. And a huge number of the people you talk to at those events tell good stories, 'oh, we've done this, and we're already saving thousands of dollars a year'," he says. Griffith has been on this green journey for a while now, and he's played a key role in huge policy and practical changes in the US, Australia and New Zealand, but the 50-year-old can barely suppress his frustration at how slow the revolution has been. "We should all be ashamed," he says. "We're watching the hurricanes, we watch the fires, we're all failing." A lack of leadership; allowing ourselves to be distracted by the Coalition's talk of a nuclear solution; and the denialists who are "cynically exploiting a 15 or 20 year old headline", anger Griffith, even though he says that Australia is on the right trajectory in the transition to a decarbonised economy.

He has worked with politicians on both sides of politics to lobby for policy change, such as a loans scheme for households to help them electrify. In October this year, his not-for-profit, Rewiring Australia, was named as part of a

$5.4m electrification trial in NSW. The Australian Renewable Energy Agency (ARENA) will partner with Rewiring Australia, Brighte and Endeavour Energy to support the electrification of 500 homes in northern Illawarra.

"If Australia electrified the whole domestic economy, we'd save $1.7 trillion by 2050; any Australian household that electrifies their car, their cooking, their heating (will save)," Griffith says. "It's also true for small business, it's also going to be true for schools and churches ... because electricity is much, much cheaper than petrol or natural gas. And it's true in Victoria and Tasmania and Queensland, and Western Australia." Griffith, who has a PhD from the Massachusetts Institute of Technology, accepts that some people will have to borrow money to electrify but says: "If we invest in ourselves as a country, and we have some self-confidence, we save a tonne of money." The problem is that many people either don't want to take out a loan to fund a change in their household appliances, or they just can't get a loan.

There's a big policy opportunity here: "The government has traditionally figured out how to finance things. We have created a huge amount of public policy that helps Australia get into the property market."

He says both sides of politics are considering schemes: "I believe we will see some versions of these things in the next 12 months. There are a lot of mechanisms by which you could get there. In the US, they use tax cuts and tax incentives. That doesn't work for everyone because you have to pay enough tax to get the tax cut. So we could look at using the value of your property or an income contingent loan like HECS." Griffith acknowledges that with both major parties averse to giving rebates on electric vehicles ("even though it is the most impactful thing that any individual Australian can do to reduce their emissions") the loans would more likely be given for heat pumps for heating houses and water, and for more rooftop solar and batteries.

He recognises too that while the domestic economy will save money from electrification, it will be a cost for some sectors of the industrial economy.

Yet technology is "on the near horizon" to ease the pain.

But the author of the 2021 book, Electrify: An Optimist's Playbook for our Clean Energy Future, says that industries simply must invest in changing their processes.

"They're not going to be able to do the things the way they've done them for 70 years," he says. "That's fine. If they don't invest, they will miss out in the same way that China is now crushing the American economy in the production of batteries and solar. If we don't move first, if we let China get to green steel before we do, we lose." Despite his frustration, Griffith says we've made a lot of progress and federal Labor is "moving everything in the right direction". He's optimistic too that there will be market and regulatory reform in the next 18 months.

He says the Australian Energy Regulator is designed to defend coal plants and natural gas whereas, "if you're a punter in the street, you invest in solar, in a battery, and then they change the feed-in tariffs, and then you start losing money".

"We literally are not designing the energy market or the regulations in favour of Australian people," he says. "This is the reason we're doing all the community work.

"If you engage communities to let them know what's happening, you let them know what the prize is, then you create the political pressure that's going to give the government permission to go further.

"The reason governments aren't going anywhere is because they still don't necessarily believe the Australian public gives a f ... , they're still scared of taking away the ute, they're still scared of taking away the gas stove.

"You have to show pull from the community ... that's why we're now working with 50 communities around Australia on electrification, advocacy and education, and we hope to expand that to 1000 communities in the next couple of years ... you've got to engage the people to create the political noise, to get the policy done." - HELEN TRINCA

Dan Brown PARTNER AND GLOBAL CO-HEAD, ENERGY INDUSTRY, ASHURST Energy and infrastructure lawyer Dan Brown helps companies like Akaysha Energy and BlackRock's Climate Infrastructure franchise navigate

the compliance and regulatory side of developing, delivering and operating large-scale energy projects. He's also a respected thought leader, co-hosting the Nearing Net Zero podcast with fellow Ashurst partner Elena Lambros, where he uses the platform to dissect and discuss developments driving the decarbonisation movement across the region. Having grown up in a Central Queensland mining town and worked in the mines himself before embarking on his law career, Brown says he draws on his lived experience to more deeply understand clients' decarbonisation priorities.

Michael Poulton CEO, COMMITTEE FOR BALLARAT Michael Poulton left a career coaching elite athletes to take up the reins at community organisation Committee for Ballarat. He's a driving force behind the Ballarat Energy Network (BEN), which has its sights on becoming the country's first community-owned energy network powered by 100 per cent locally generated clean energy, and is lobbying the federal government for policy changes to see the plan to fruition. BEN's first pilot project focuses on commercial and industrial businesses in and around the Ballarat West Employment Zone. "If we share local energy generation using smart metering and flexible management, store it for when needed and trade the excess, we will create a new decentralised network model," Poulton explained in a recent update.

Anne Kennedy CHAIR, ZERO EMISSIONS NOOSA Community leader Anne Kennedy is considered a trailblazer on the Queensland Sunshine Coast, where she's chair of the not-for-profit Zero Emissions Noosa (ZEN). The grassroots organisation was founded in 2017 to inspire and educate the local community as it aims for net zero in the Noosa LGA by 2026, and runs events like the annual Noosa EV & Electrify Everything Expo. In partnership with Noosa Council and Yarra Energy Foundation (YEF), ZEN received government funding for one of the state's first community batteries, facilitating the take-up and storage of more rooftop solar in the area.

John Connor CEO, CARBON MARKET INSTITUTE The Carbon Market Institute (CMI) is an independent association of about 150 member companies across the carbon chain from primary producers, Indigenous organisations, carbon service providers, banks, advisory firms and emission intensive companies. Its mission is to support best practice in decarbonisation and market-based climate solutions. Its chief executive since 2019 has been John Connor, a well-known climate action advocate with a career spanning three decades. He spent 10 years at policy think tank The Climate Institute, then two years in Suva supporting Fiji's COP23 Presidency, before zeroing in on investment implementation at CMI.

You've been working at this for three decades, and suddenly it feels as tough as it's ever been to sell the green revolution. How's your optimism?

I am a professional optimist and try to keep things moving forward. The transition to a clean economy is hard.

It is a political economy shift, not just a theoretical economic shift, so it's not totally surprising that it's tough. That we keep getting side swiped by other issues is a disappointment, but my job is to keep moving forward.

Have we done enough consultation, for example with farmers, about the impact and cost of infrastructure like transmission lines?

We are talking about a multi-decadal change with real challenges and opportunities at local levels. So to get a durable transition, government and industry need to invest in social support and licence. That's happening but we need to learn and build while dealing with criticism and detractors.

So the move to a decarbonised economy is an unstoppable revolution? Well, it has to be. The cost of doing nothing is just too great. There are certainly naysayers, but I look back to a time when we were pushing for a 5 per cent renewable energy target and now we are having days at 70 per cent renewables across the national electricity marketâ€¦So whilst it's clear we are in the middle of a climate crisis and a biodiversity crisis, I've also had the experience to be able to look back and see how far we've actually travelled.

What would you identify as the biggest challenges to the transition in the shorter term?

I think it is understanding that we need to double down on key reforms, not tear them down. We've got a lot of false binaries out there, for example around carbon markets. Some say it's an "either or": you're either decarbonising or you're doing offsets, credits for climate action elsewhere. We need both. Carbon markets are changing from offset neutrality to net zero alignment. That means companies must have a fair dinkum decarbonisation plan but, as plans are developed, they should also be investing in net zero solutions. That's something the public hasn't understood.

What do you think about nuclear power as an option?

Australia's coal-fired plants are expiring through the 2030s and there's no way we can get a solid nuclear option up in that time. Too many people have made the perfect the enemy of the good. There are things that we can do right now, using the technology available right now. In terms of reducing emissions, it matters more what we do in the next decade than the last decade to 2050. In the long term, who knows, we may need to look at these things, if these small modular nuclear reactors come up, but nuclear is not an option for the current crisis. - HELEN TRINCA

CARBON Adam Townley CEO AND FOUNDER, AUSTRALIAN INTEGRATED CARBON Established by chartered accountant Adam Townley in 2014, Ai Carbon works at the intersection of carbon and finance. The nature-based carbon project developer partners with farmers, First Nations communities, government agencies and other landholders, providing them with the tools and expertise to unlock natural capital through carbon farming and the trading of high-quality carbon credits. Ai Carbon's portfolio spans more than 40 projects across eight million hectares and includes Rio Tinto and Mitsubishi among its shareholders.

Guy Hudson CO-FOUNDER AND CEO, LOAM BIO Loam Bio's Carbon Builder product harnesses the power of microbial fungi to optimise plants' ability to store carbon. Added at the time of planting, it draws carbon into the soil, sequestering it as stable carbon. The Grok Ventures-backed agtech startup also offers landholders an entry into the carbon market via its Second Crop projects. "Climate leaders like Shopify work with us to remove CO2 from the atmosphere and we work with farmers to provide that supply to those companies," explains founder and chief executive Guy Hudson, who previously ran agrifood tech accelerator Sparklabs Cultiv8.

Ben Stuart CCO, XPANSIV Ben Stuart co-founded CBL, now the world's largest exchange platform for trading carbon offsets and other environmental commodities, later merging it with US-based environmental commodity platform Xpansiv. Xpansiv added Australian Carbon Credit Units (ACCUs) to its trade platform in 2022, and has since traded more than 3.5 million tonnes of ACCUs. With mandatory climate reporting for corporations soon to begin, Stuart sees massive opportunity for carbon markets, noting "the benefit of being transparent, proactive and demonstrating willingness to differentiate will drive the most action come 1 January, potentially even prompting a wave of voluntary reporting by those not captured by the initial mandatory requirements."

Frank Jotzo PROFESSOR, AUSTRALIAN NATIONAL UNIVERSITY Professor Frank Jotzo's research on decarbonisation strategies and climate change economics has helped set the policy agenda for national and state governments, as well as international organisations from the World Bank to Indonesia's Ministry of Finance. He's a professor of environmental economics and climate change economics at the ANU Crawford School of Public Policy, and Head of Energy with the ANU Institute for Climate, Energy and Disaster Solutions. For the past year Jotzo has led the Carbon Leakage Review, assessing the risks of carbon leakage - where production shifts to countries with weaker or no policies - for Australian industrial activities and examining policy options to address them.

AGRICULTURE Jo Sheppard CEO, QUEENSLAND FARMERS' FEDERATION Advocacy and education are twin priorities for the Queensland Farmers' Federation (QFF), especially in helping farmers manage the energy transition. Under Jo Sheppard, the QFF has partnered with the state government to produce the Queensland Renewable Energy Landholder Toolkit and has established a phone service with up-to-date information on opportunities around dual-land use and other energy matters. "Queensland Farmers' Federation continues to work across our agricultural peak body membership to support farmers to navigate the risks and leverage the opportunities ahead to work towards a sustainable future for agriculture and regional communities," she says.

Natalie Collard CEO, FARMERS FOR CLIMATE ACTION Since joining Farmers for Climate Action as chief executive last year, Natalie Collard has championed its 8200 members as an important part of the climate conversation. "We're really keen to keep working with farmers, governments, councils, everyone that wants to work

with us to be part of the solution," she says. Collard's cross-sectoral experience - including stints leading Australian Dairy Farmers, and Food and Fibre Great South Coast - is a strength. She was awarded Woman in Renewables of the Year by the International Global Solar + Energy Storage Organising Committee in 2018 for her work as chair of Women in Renewables (Australia) and EGM Industry Development at the Clean Energy Council.

Cullen Gunn CEO AND DIRECTOR, KILTER RURAL Kilter Rural invests in Australian farmland, water and ecosystems assets, using a regenerative agriculture model to balance production with protection, including transparent annual targets for improvements in natural capital. Its Murray-Darling Basin Balanced Water Fund exemplifies this approach, with 10 to 40 per cent of water owned by the fund donated to wetlands and other ecosystems, and the remainder sold to farmers in the South Murray-Darling Basin. "Our philosophy is based around an inherent belief that if you want to produce food and fibre sustainably into the future, you actually have to protect the natural capital assets on which you rely," says executive director and chief executive Cullen Gunn, who helped establish the company 20 years ago.

Karin Stark DIRECTOR, FARM RENEWABLES CONSULTING "Farmers play a critical role in the energy transition," says Karin Stark, whose consultancy offers strategic guidance for producers, growers and communities to move towards using renewable energy sources. She also founded the National Renewables in Agriculture Conference and Expo, and has co-authored an Agrivoltaics Resource Centre report calling for the federal government to design best-practice guidelines for successful agrivoltaic adoption. Stark, who is based on a cotton and wheat farm in Narromine, NSW, knows firsthand the challenges of high energy costs. In 2018, when energy costs were her farm's biggest hurdle, she took bold action by installing what was then Australia's largest solar-diesel hybrid irrigation pump.

Alasdair MacLeod EXECUTIVE CHAIR, MACDOCH GROUP, AND CHAIRMAN, MACDOCH FOUNDATION Alasdair MacLeod is a strong advocate for regenerative farming. He spearheaded Macdoch's Farming for the Future program, which collected data about on-farm natural capital from 113 livestock businesses across the country to show its relationship to farm productivity, profit and resilience. The results were published this year with an aim of embedding natural capital in mainstream farm valuation and management practices. MacLeod is also chairman of Soils for Life, a not-forprofit that encourages greater uptake of regenerative farming principles.

Hugh Killen CEO, IMPACTAG AUSTRALIA Hugh Killen reckons agriculture is experiencing a "purple patch" in terms of the broader Australian community's attitudes to the bush. "I think it's been a really good five or six, or even 10, years," says the boss of the agricultural asset management and advisory firm ImpactAg Australia. "The general public looks to us as farmers and feels we're doing the right thing by them, in terms of being stewards. I also think, in many regions, we're now seeing real rural and regional towns starting to flourish.

"So when I think about the farm of the future, it might have less people on it, but it might have different people on it. We have 20 to 30 people running around on our farms, chasing cattle and driving tractors and doing their stuff, but in our office, we have environmental scientists, data scientists, we have finance people, all living regionally and supporting Australian farms." Killen spent 25 years in global financial markets before managing the huge pastoral Australian Agricultural Company. This year, he was appointed chief executive at ImpactAg in Australia. Killen lives in Armidale where he runs cattle on his own property; he's convinced agriculture offers one of the big solutions to decarbonising industry through better farming practices and the creation of carbon offsets.

ImpactAg was launched in the US in 2009 and began here in 2010 with a mission to transform land use through investing in and managing properties, as well as advising landowners on carbon sequestration and other practices. It sources global capital from investors attracted by the "safe haven" of Australia and relatively cheap land prices, prepared to wait several years for a return on investment in "green" farming.

Killen cites the example of a European family office, which has just invested $170m in small farms here, where there will be a five to seven year wait for a payoff. The properties include macadamia farms in Bundaberg, an irrigation block in Queensland, a mixed farming operation at Cootamundra and farms near Forbes in NSW.

This year ImpactAg launched a joint venture with Macdoch Australia, the family office of Alasdair and Prue MacLeod. ImpactAg has assets worth about $1bn covering more than 250,000 hectares and, as part of the new

partnership, it will take over management of Macdoch's 8000ha beef cattle operation, the Wilmot Cattle Company. The new company, ImpactAg Australia, is chaired by Alasdair MacLeod.

Killen says there is a lot of work to do to rehabilitate our farms: "Ninety eight per cent of the world's food production is actually still soil-based and if you think about it from an Australian perspective, two thirds of Australian ag land is degraded. That's not so much the cattle - it's the application of synthetic fertilisers, lack of rotation and a few things like that." He says that while Australian farmers are "super innovative" and following, in many cases, strong best practices in terms of farming principles, they are still doing extractive farming - high volume output. "I've just done a soil test on a farm we're looking to buy and the soil is basically like substrata, it's dead, but it raises crops because of the inputs put into it," he says. "So it's an imperative that we start to transition farms.

"We buy farms that are productive and make them more productive. We think about things like, is there a soil carbon play? And we put that soil carbon play on top of the production, which adds more return. And we think about things like reforestation, and what are the methodologies around environmental plantings; that adds another per cent or so to the return. What we're doing is we're giving that farm a new future that's actually higher returning than it was just as a farm back in the day." Killen agrees it's a difficult moment in the battle against emissions with the high cost of living and the cost of inputs and energy, which is "through the roof, irrespective of the energy transition". But he's adamant the transition has to happen, and "politics shouldn't be allowed to get in the way of it". - HELEN TRINCA

FINANCE Ken Henry CHAIR, NATURE FINANCE COUNCIL Former Treasury secretary Dr Ken Henry chairs the federal government's Nature Finance Council, tasked with coordinating the policy to commercialise emerging nature markets and position Australia as a global leader in nature finance. He's been vocal in calling for the government to invest billions of dollars in the establishment of a nature repair market, which will encourage large-scale corporate participation in naturepositive activities such as land protection. Henry also sits on the board of Accounting for Nature, which is developing a rigorous accounting-based framework for capturing and measuring environmental data to be used in company reporting.

Brynn O'Brien EXECUTIVE DIRECTOR, AUSTRALASIAN CENTRE FOR CORPORATE RESPONSIBILITY A shareholder advocacy group, the Australasian Centre for Corporate Responsibility (ACCR) researches and assesses the climate transition plans of major companies. It uses this information to help large institutional investors navigate the opportunities and risks inherent in the energy transition and, as a shareholder itself, to hold corporations to account and advocate for change. Under executive director Brynn O'Brien, the ACCR brought a "greenwashing" case against Australian oil and gas producer Santos in 2022, and this year campaigned to improve transparency around climate-related activity and reporting on greenhouse gas emissions reduction targets at Japan's Nippon Steel.

Sonya Sawtell-Rickson CIO, HESTA The $88bn HESTA superannuation fund was among Australia's first to commit to net zero by 2050; last year it achieved its 2030 interim decarbonisation target of 33 per cent, eight years ahead of schedule. Chief investment officer Sonya Sawtell-Rickson sets the pace and has put companies on notice that this financial year the fund will seek credible strategies, strong action and the necessary skills to address climate risk and nature loss. Sawtell-Rickson also sits on the board of the Investor Group on Climate Change.

Angela Karl MANAGING DIRECTOR, HEAD OF ENERGY TRANSITION, HMC CAPITAL HMC Capital's $2bn Energy Transition platform is still in its infancy but has already commanded attention on the strength of its leadership, with former Labor prime minister Julia Gillard as chair and highly regarded banker-turned-investor Angela Karl as managing director. Karl is building a 15GW development portfolio of wind, solar, battery, bio-fuels and emerging technologies, starting with a strategic investment in Stor-Energy, a specialist developer, owner and operator of utility-scale battery energy storage systems (BESS). Before joining the fund, Karl was founding director of Tilt Renewables and helped grow the energy and utilities portfolio at QIC.

Sandra McCullagh INVESTMENT COMMITTEE CHAIR, AUSTRALIAN ETHICAL After a career as an industry-leading oil and gas analyst and senior gas company executive, Sandra McCullagh became a highly respected environmental, social and governance (ESG) adviser. She was the top-rated head of ESG and utilities equities

research at Credit Suisse Australia and joined the Queensland Climate Advisory Council. McCullagh is now chair of the investment committee at Australian Ethical Super, the superannuation and funds manager that invests only in companies that align with its ethics and uses its position to advocate for industry-wide change.

Marilyne Crestias HEAD OF POLICY AND ADVOCACY, CLEAN ENERGY INVESTOR GROUP Collectively, members of the Clean Energy Investor Group (CEIG) have more than 16GW of installed renewable energy capacity across more than 76 power stations and a combined portfolio value of about $38bn. Their pipeline is estimated to be more than 46GW across Australia. As the group's head of policy and advocacy, Marilyne Crestias elevates the collective voice of these clean-energy investors and advocates for a smooth and efficient pathway for the energy transition. Crestias came to the CEIG from a background working in energy markets and policy.

Darren Miller CEO, AUSTRALIAN RENEWABLE ENERGY AGENCY The head of the Australian Renewable Energy Agency has led an unprecedented period of growth and continues to have bold ambitions for new renewable technologies. This is backed by a wave of funding by the Albanese government, which this year committed an additional $1bn to support the domestic production of solar panels. Miller believes that with the right support, Australia could become a solar superpower, deploying as much as 10 times our current 5GW of solar power annually. He also has his sights on technology to accelerate the development of hydrogen, zero-emission vehicles and sustainable aviation fuel.

Kristy Graham CEO, AUSTRALIAN SUSTAINABLE FINANCE INSTITUTE Kristy Graham, inaugural head of the Australian Sustainable Finance Institute (ASFI), has no doubts about the trajectory of the energy transition. After 20 years spent working across the sustainable finance space, she is more confident than ever in the path and pace of the move to a decarbonised economy. "I've been very lucky to work across many jurisdictions and organisations," she says. "I'm much more optimistic now than I ever have been through my career." Graham has led the ASFI - established by some of Australia's largest banks, superfunds and insurers - for the past three years. Its goal is to reshape the Australian financial services industry by operating as a bridge between private capital and government in order to drive capital into renewable projects.

"We work closely with our financial institution members as well as government to develop financial tools and frameworks," Graham says. "We're very active and engaged on the policy and regulatory side, but also work with financial institutions to help them deploy more capital." Part of ASFI's policy work is the development of an Australian sustainable finance taxonomy - a joint initiative with Commonwealth Treasury - which follows similar projects across the UK and Europe. Graham says these taxonomies provide "clear and credible definitions of what is considered green" and give potential investors the confidence to back projects. The European taxonomy is the furthest advanced and Canada has announced a similar framework.

"What we've seen from government policy is a much more strategic approach to supporting the development of climate technologies and green export sectors," says Graham. "What we're also seeing from financial institutions that we work with is a strong appetite to invest and finance those types of enterprises." This is despite the hits to hydrogen investment as Woodside, Origin and ***Fortescue*** roll back their Australianbased projects. Risks associated with cost-intensive infrastructure and doubts surrounding the development of hydrogen markets have seen a number of projects fall over, but Graham insists investors are happy to put capital into green projects. "At a macro level, there remains strong interest in not just supporting things that are already green but supporting the transition of companies and activities that need to decarbonise," she says. "The direction of travel is definitely not contested now; global capital markets have very much moved in this direction. Certainly the macro trend is rapid acceleration." The Coalition's pledge to build seven publicly owned nuclear reactors on existing coal power generation sites would spell huge shifts for capital markets, but Graham is lukewarm, saying, "How would any government fund a very, very large investment? They would need to tap capital markets for that. You can have a chat to investors as to whether or not they would be willing to invest in a project like that." Already big energy companies, including Origin and Atlinta, have dismissed nuclear as a viable option for at least a decade, and Cbus Super has ruled out financing the Coalition's plans. - THOMAS HENRY

Megan Fisher CEO AND DIRECTOR, ENERGYLAB Since it was founded in 2017, EnergyLab has helped more than 200 startups advance their climate solutions through mentorship, support and access to industry. Megan Fisher joined the climate tech startup community in 2021 as chief executive.

What is EnergyLab's mission?

We help aspiring founders and startups to accelerate their growth. We run a series of different programs that create cohorts of startups where they can learn as a group, and then we bring them expertise. It might be people that have done it before; it might be various experts in the sector, anything from legal to accounting, to how to raise funds, to a particular type of technology or business model. We match them up with mentors, introduce them to investors, connect them with industry, and we run programs that help startups all the way from "I want to launch a startup" to scaling and international growth.

Why are initiatives like EnergyLab so important?

Starting a startup and growing it is not easy. If you're incredibly well-connected, you've got lots of connections to the networks of power, influence and money, you could be fine. But if you're anyone else, particularly people who come from disadvantage, the help, the support, the mentorship, the networks we've got, is incredibly important.

The fact is that supporting early stage startups is not commercially viable - they don't become commercially viable until after the venture capital firms start investing, and even then they're just on the path to it. Effectively, we're filling a gap in the market but not a commercially oriented gap. That's a trend all over the world for this type of organisation, but what we do that's different is focus on clean energy and climate tech.

What are some of EnergyLab's success stories?

One of the greatest is Amber Electric. They are a disruptive retailer who sell through the wholesale cost of energy. They came through EnergyLab in 2017-18 and they've gone on to have more than 100 people working for them and raised tens of millions of dollars.

One of our more recent stories is a company called Infravision - they have hardware technology and software that helps transmission and distribution companies in the electricity sector string their power lines using drones. It's much more efficient and much safer than using helicopters and requires less clearance of greenery around them.

What challenges does EnergyLab face?

Finding funding for organisations like us is always a challenge, but it's more the challenges for the startups that we tend to focus on. Encouraging the various governments at various levels to help support them and fund them and provide the pathways that they need to grow is important. Encouraging what can be a risk-averse investment sector to invest in hardware that's going to take a long time. Working with industry to encourage them to not just go and work with the big players in the sector, but to come and think about the innovators - the innovators are generally way ahead of those large organisations in terms of the technologies they're developing.

What's your vision for a green future?

My hope is the big vision - that we can become that renewable energy superpower. At some point, the revenue we're getting from coal and gas is going to be gone, so how are we going to manage a prosperous, inventive, creative Australia if we don't have that? We need to decarbonise so we don't have the climate crisis, but from an economic perspective, this is our hope, this is what we can do instead. We can create green technology and innovation through our startup sector. We can deliver green steel to the rest of the world. We can be green ourselves in everything we do. We just need to be serious about it and invest in the capability to be great from a knowledge perspective and a technology perspective. And obviously, I'd love to see lots of small Aussie businesses that are startups go and export their technology around the world. - JULIE LEE

ENERGY Anna Collyer CHAIR, AUSTRALIAN ENERGY MARKET COMMISSION The Australian Energy Market Commission (AEMC) is tasked with making sure the rules that govern retailers in the national electricity market

keep pace with the changing landscape. Recommendations by the energy watchdog helped fast-track the smart meter rollout and it continues to scrutinise the benefits and costs of real-time data to safeguard consumers, advocating for novel approaches by retailers. "Innovation, and even disruption, are very much what we have in mind when we put our thinking to new frameworks for the energy transition," says AEMC chair Anna Collyer.

Alex Wonhas BOARD MEMBER, ENERGYCO Dr Alex Wonhas smooths the path to net zero with strategies that facilitate massive action. He was the architect of the Integrated System Plan, the 20-year roadmap for the National Electricity Market he designed while working at Australian Energy Market Operator. Now on the board at EnergyCo, he advises the NSW government on major renewables projects, such as the Waratah Super Battery and Central-West Orana Renewable Energy Zone, which recently got the nod on planning approval. "Australia can achieve close to 100 per cent renewables with the technologies of today. The opportunity lies in doing it better with new technologies and with the appropriate policy and regulatory settings," Wonhas wrote in a recent co-authored article.

Thomas Nann CO-FOUNDER AND CEO, ALLEGRO ENERGY The former academic-turned-chief executive officer co-founded Allegro Energy to create a cleaner, safer and cheaper solution to the energy-storage challenge. Allegro's redox flow batteries and supercapacitors rely on a water-based electrolyte that's non-flammable, is lowcost and not reliant on lithium or other raw materials. Origin Energy was an early investor and will pilot Allegro's long-duration battery at its Eraring Power Station in NSW. "Virtually every country and every energy company in the world is searching for the kinds of non-flammable, non-toxic, cost-effective storage solutions we are developing," says Professor Thomas Nann.

Simon Talbot CEO, ABEL ENERGY Tasmania has its sights on becoming a global leader in the production of green methanol, and ABEL Energy is poised to play a pivotal role. The Launceston-based company is developing the state's most advanced export scale green hydrogen project on the site of a former power station at Bell Bay, with a $70 million investment from the Commonwealth and Tasmanian governments. ABEL's chief executive Simon Talbot is driving the project to fruition while exploring the feasibility of a second green hydrogen and methanol production plant in Townsville, Queensland. He calls the Bell Bay project "an intergenerational renewable investment that will have a far-reaching and profound impact on our environment, economy, communities, and downstream manufacturing."

Graham 'Gus' Nathan FOUNDING DIRECTOR, THE UNIVERSITY OF ADELAIDE'S CENTRE FOR ENERGY TECHNOLOGY If achieving carbon neutrality requires innovative technologies, Professor Graham 'Gus' Nathan may just be the one to develop them. He's the founding director of the University of Adelaide's Centre for Energy Technology, whose work focuses on novel approaches to integrating different energy sources, including solar, geothermal, hydrogen, wind and wave power, and the combustion of fossil and bio-fuels. In addition, as research director for the Heavy Industry Low-carbon Transition Cooperative Research Centre, Nathan drives the organisation's research, addressing some of the most difficult-to decarbonise, heavy industrial sectors of the economy.

BIOENERGY Shahana McKenzie CEO, BIOENERGY AUSTRALIA Qantas, Origin, Brickworks and CSIRO are just a few of the companies that make up Bioenergy Australia's membership. The peak body is one of the leading voices in advocating for the role of biofuels in achieving carbon neutrality and decarbonising hard-to-abate sectors, such as aviation. Chief executive Shahana McKenzie has reinvigorated this mission since taking the helm in 2017, leveraging her reputation for building collaborative relationships within industry and government. McKenzie successfully advocated for Australia's first Bioenergy Roadmap and spearheaded the Renewable Gas Challenge, which would see 20 per cent of Australia's domestic gas replaced with renewable sources by 2030.

Danny Elia EXECUTIVE DIRECTOR, GLOBAL ASSET MANAGEMENT AND INFRASTRUCTURE, INDUSTRY FUNDS MANAGEMENT With momentum for a domestic Sustainable Aviation Fuel (SAF) industry growing, Danny Elia helped broker a three-way Memorandum of Understanding (MoU) between IFM Investors, GrainCorp and Ampol to explore the establishment of an integrated renewable fuels industry in Australia. "As a major investor in airports, we have a significant interest in facilitating cleaner flying, so we are proud to support this step in developing a SAF industry right here in Australia," says Elia. The MoU builds on earlier feasibility research carried out by each party.

Ed Mason FOUNDER AND CEO, JET ZERO AUSTRALIA Ed Mason's Jet Zero Australia is trying to crack one of the hardest sectors to decarbonise, the aviation industry, by converting surplus ethanol into Sustainable Aviation Fuel (SAF). A planned production plant in Townsville, Queensland, would be Australia's first LanzaJet Alcohol to Jet Fuel facility and has nabbed $14m in Commonwealth and Queensland government support. Jet Zero Australia shareholders include Japanese energy conglomerate Idemitsu Kosan, Airbus and Qantas, and the latter is also onboard with a significant purchasing commitment. Mason founded Jet Zero Australia with a background in financing large-scale energy projects across mining, oil and gas, and renewables.

Michael Battaglia MISSION LEAD, TOWARDS NET ZERO, CSIRO Achieving net zero will require a coordinated effort, tailored, place-based approaches and the development of new technologies, says Dr Michael Battaglia, the CSIRO's mission director of Towards Net Zero, whose work focuses on hard-to-abate industries like steel, aviation and agriculture. He co-founded and served as a board director for FutureFeed, a company commercialising anti-methanogenic seaweed to reduce livestock emissions, and is a recipient of the Curt Bergfors Global Food Prize, the world's largest environment prize, which was then valued at US$1m ($1.5m).

ADVISERS Sarah Barker MANAGING DIRECTOR, POLLINATION LAW The new managing director at climate change consultancy Pollination Law connects the dots between corporate law and environmental strategy. "Climate change advice is at the confluence of commercial law and strategy," she says. "It requires technical black-letter law skills, but also fluency in the broader subject matter of climate change and sustainability." Her holistic approach has led Barker to become a world-recognised expert in her field; last year she was appointed joint chair of the World Economic Forum's Climate Governance Community of Experts, and she represents Australia at the Commonwealth Climate and Law Initiative.

Tennant Reed DIRECTOR CLIMATE CHANGE AND ENERGY, AI GROUP As mandatory climate-related financial disclosure is phased in for large businesses from January, Tennant Reed is a leading voice counselling companies on bestpractice reporting. Director of climate change and energy at Ai Group, he leads the business peak body's energy and climate policy initiatives, coordinating research and advocacy, and guiding Ai's leaders' group on policy. Reed has facilitated the Australian Climate Roundtable but is equally skilled at communicating complex policies and challenges to the broader community. "Energy should be something people don't need to think about," he says. "But that will mean some of us sweating the small stuffâ€¦to ensure the system works for everyone."

Heidi Sick REGIONAL BUSINESS LINE DIRECTOR FOR ENERGY AND ENVIRONMENT, AECOM Since joining infrastructure consulting firm AECOM as regional business line director in May this year, Heidi Sick has led the 700-strong energy and environment team across Australia and New Zealand. The former engineer, who has experience in developing renewable projects and navigating the complexities of project and stakeholder management, was a member of the technical advisory panel for ARENA for four years. "To meet our ambitious net-zero targets and minimise the impacts of climate change, we must accelerate our efforts to transition to renewable energy and decarbonise our entire economy, while improving resilience and energy equity," she says.

LAND Karrina Nolan CO-CHAIR, FIRST NATIONS CLEAN ENERGY NETWORK AND EXECUTIVE DIRECTOR, ORIGINAL POWER Meaningful First Nations partnerships and equity are essential to creating certainty in the energy transition, and lead to better outcomes for communities and investors alike, says First Nations Clean Energy Network co-chair Karrina Nolan. She spearheaded the creation of the network in 2019 and has developed a toolkit to guide Traditional Owners and clean energy companies seeking to develop projects on First Nations land. As the energy transition gathers pace, she advocates for communities to play a central role in renewables strategies. Nolan is also executive director of the non-profit Original Power, formed to empower First Nations communities to engage and campaign on climate change and renewable energy projects.

Michael Katz CO-FOUNDER AND CEO, RELA In many large energy projects, it's the developer who scouts for suitable land. The RELA Marketplace reverses this process, inviting landowners to express an interest in developing their property, then assessing the property's suitability, approaching developers and facilitating negotiations. The innovative model was pioneered by co-founder and chief executive Michael Katz as a way to level the playing field between landowners and developers and smooth the pathway to more clean energy developments.

"By facilitating a transparent, competitive business process within a structured decision-making framework, we've created an inherently transparent and fair marketplace," he says.

Matthew Cooke CHAIR, FIRST NATIONS CHAMBER OF COMMERCE AND INDUSTRY Matthew Cooke co-founded the First Nations Chamber of Commerce and Industry (FNCCI) in 2022, formalising a network of business leaders in and around Gladstone, Queensland, with the aim of increasing First Nations business participation in renewable energy projects and other economic developments. A year later, as then-chair of the First Nations Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda Peoples Aboriginal Corporation RNTBC (PBC), Cooke spearheaded a Memorandum of Understanding (MoU) with ***Fortescue*** Future Industries to collaborate on clean energy projects in the Gladstone region, where ***Fortescue*** is developing a 15,000sq m green hydrogen manufacturing facility.

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