business Centrology

Charged: Australia's **Clean Energy Edge**

Australia's superpower:

Abundant resources, excellence in innovation and a drive towards net zero

Wave, wind and solar feeding the grid

Clean hydrogen partnerships

Global Minerals Security Partnership

Electric vehicles and supercharged batteries

Low emissions tech and the global economic outlook

Australia-India Trade Agreement



DFAT's flagship trade and investment quarterly

Contents

Minister's foreword	2
Australian ambition: Renewable energy superpower	4
Australia joins global Minerals Security Partnership	5
Sydney Energy Forum - Securing clean energy supply chains in the Indo-Pacific	6
Making it in America:	
Australian tech powering US electric vehicles	8
US buses go electric with Australian batteries	9
Australian flow batteries supercharging California	10
Australian-made hydrogen ferries in San Francisco Bay	11
Paving the way towards a nature- positive economy	12
Growing the global reach of Australian low emissions technology and services	13
Land of opportunity - Current and prospective clean energy projects	14
Harnessing the winds of change	18
Riding the wave of ocean- generated energy	19
Leading the globe in smart technology:	
Australian tech bringing more renewables into the electricity grid	20
The Infinity Train – powered by gravity	21
Renewable energy hub in the Pilbara to export clean energy to Asia-Pacific	22
Australia and Germany – Clean hydrogen partners	23
Australia and Germany – Clean hydrogen partners Global Insights – Dispatches from the diplomatic network	23 24
Australia and Germany – Clean hydrogen partners Global Insights – Dispatches from the diplomatic network From the Chief Economist	23 24 25
Australia and Germany – Clean hydrogen partners Global Insights – Dispatches from the diplomatic network From the Chief Economist Australia-India Economic Cooperation and Trade Agreement	23 24 25 26
Australia and Germany – Clean hydrogen partners Global Insights – Dispatches from the diplomatic network From the Chief Economist Australia-India Economic Cooperation and Trade Agreement Horizons International Engagement Leadership Program	23 24 25 26 28



Seizing opportunities in the green economy and clean energy transformation

This edition of *Business Envoy* comes at a good time. A time of hope and strong action on climate change, with the Albanese Government's *Powering Australia* strategy a magnet for international investment.

The Albanese Government is implementing a substantial and ambitious suite of new policies across the economy to drive the transition to net zero. This will give Australian business the certainty they need as global markets move to a low-carbon future, with more than 80 per cent of Australian trade now covered by other countries' net zero commitments.

On the cover:

Australia is poised to harness the power of our natural resources to create clean energy. Read about Australia's cutting-edge technologies for ocean and wave energy on page 19.



The centrepiece of these policies is the Climate Change Bill 2022, which will enshrine into law an emissions reduction target of 43 per cent from 2005 levels by 2030 and net zero emissions by 2050. As the Prime Minister said, the Bill will pave the way for new jobs, new industries, new technologies and a new era of prosperity for Australian manufacturing.

Partnership underpins the Government's approach to leveraging these new opportunities, bringing together Australian business, industry, workers, unions, farmers, community and conservation groups. The historic National Energy Transformation Partnership with States and Territories will also be fundamental to reaching 82 per cent renewables in Australia's National Electricity Market by 2030.

International partnerships will also be important to seizing the economic opportunities for Australia presented by the global clean energy transformation. As the world prepares for COP27 in Egypt and manages the fallout of Russia's illegal invasion of Ukraine, the Government is focused on leveraging the considerable expertise and capabilities illustrated in this edition to transform Australia into a renewable energy superpower.

A notable example of this is our work to finalise a world first Green Economy Agreement with Singapore, that will support both countries' net-zero transition by facilitating greater trade and investment in the green economy, and create more opportunities to link our two economies and societies even closer together.

I was delighted to visit world-class Australian companies Tritium and SEA Electric during my recent visit to the United States, that are achieving international success and leading the world in transport decarbonisation and EV battery chemistry. During my visit to the US, I also welcomed the passage of the Inflation Reduction Act, which not only represents the single greatest investment by the US in clean energy and climate action, but also provides transformational investment and trade diversification opportunities for Australia in the critical minerals space.

This edition also explores innovative Australian enterprises making quantum leaps in technology, including the zero emissions Infinity Train, which uses gravity to power iron ore trains.

I hope you enjoy this edition of Business Envoy and its celebration of Australian businesses that are setting the pace, showing leadership, and driving innovation on climate action.

Senator The Hon Don Farrell Minister for Trade and Tourism

Above: Minister Don Farrell in Washington DC, July 2022.

Australian ambition: Renewable energy superpower

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Australia is committed to developing clean energy sources and prioritising renewable energy. With an abundance of sunshine, wind and other natural attributes, Australia is one of the world's most attractive markets for renewable energy investment, commercialisation and deployment. The Government's Powering Australia plan aims to reduce Australia's emissions to 43 per cent below 2005 levels by 2030. The Government has formally lodged this target as an enhanced Nationally Determined Contribution under the Paris Agreement, putting Australia firmly on track to reach net zero by 2050.

The plan is focused on creating jobs, cutting power bills and reducing emissions by boosting renewable energy. Modelling indicates Powering Australia will generate an estimated \$76 billion in investment and create 604,000 jobs by 2030, with five out of six new jobs to be created in the regions.

Alongside the economic benefits, Australia's new target brings us back into alignment with key trading partners in their ambitions to 2030, including Canada, South Korea and Japan.

Australia's plan includes boosting renewables and storage in the grid to achieve 82 per cent renewable energy in the national electricity market by 2030.

The Powering Australia initiative seeks to integrate energy systems and modernise the energy grid for the 21st century. This plan, with renewables at the fore, will provide certainty to businesses to spur \$76 billion of investment and stimulate economic activity, creating 604,000 new jobs.

Australia joins global Minerals Security Partnership

Australia has joined an international partnership that seeks to develop and secure global supply chains for critical minerals – which are crucial to clean energy technology, advanced manufacturing and the global transition to green energy.

The Minerals Security Partnership includes the United States, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, the United Kingdom and the European Commission.

The Partnership will help member economies build links with key markets in our region and globally, and help embed the already globally-significant Australian critical minerals sector even more deeply into international critical mineral supply chains and technologies crucial to the global economy. The Partnership seeks to catalyse public and private investment for mining, processing and recycling projects that adhere to the highest environmental, social and governance (ESG) standards.

Trade and Tourism Minister Don Farrell and Resources Minister Madeleine King announced Australia's participation on the sidelines of the Sydney Energy Forum and welcomed US leadership of the Partnership. Madeleine King and US Secretary of Energy Jennifer Granholm also met to discuss the importance of critical minerals for the transition to clean energy and the manufacture of new battery, solar and electric vehicle technologies, and how to improve cooperation on critical minerals. "As the building blocks of clean energy technologies, critical minerals are an integral part of the United States and Australia's shared climate objectives, and bolstering the diversity of and elevating responsible standards for their associated supply chains is an area ripe for enhanced bilateral cooperation."

Jennifer Granholm US Secretary of Energy

Sydney Energy Forum - Securing clean energy supply chains in the Indo-Pacific



On 12 and 13 July 2022, world-leading experts from industry, government and academia came together in Sydney to discuss the challenges and opportunities facing the Indo-Pacific region as it scales up its clean energy transition.

Co-hosted by the Australian Government with the International Energy Agency and delivered in partnership with the Business Council of Australia, the Sydney Energy Forum brought together government ministers, business leaders and investors to point the way forward on the transition to prosperous net zero economies in the Indo-Pacific.

As the world's fastest growing region, the Indo-Pacific accounts for about

half of the world's energy consumption and emissions. It is also a key source

"The transition is about new jobs and we should be deeply optimistic about the opportunities... five million jobs lost but 30 million jobs created, right across the supply chain."

Jennifer Westacott **Business Council of Australia** of the raw materials, products and technologies vital to reducing emissions and a leading target for private investment in clean energy, accounting for almost 80 per cent of global investment in 2021. Discussions at the Forum focused on regional and global cooperation

to address the shared challenges of reducing emissions while growing economies and creating jobs.

Practical actions for the Indo-Pacific

The Sydney Energy Forum identified actions for industry and governments to achieve the scale, diversity and security of clean energy supply chains, advance economic prosperity and achieve the region's emissions reduction goals and climate commitments.

Recommendations:



"The nature of the challenge is not in question. Its urgency and scope is clear. The question is our ability and our appetite to seize the opportunities it contains and to shape them in our common interests."

The Hon Anthony Albanese MP Prime Minister of Australia

Prime Minister Anthony Albanese addresses the Sydney Energy Forum

Create new regional clean energy workforce partnerships to identify skills priorities, plan for workforce needs, build t<u>raining c</u>apab



Pursue alignment in environmental and ethical sourcing certifications and

energy supply chains

Support partnerships and make investments that accelerate research traceability of products in clear development, deployment and commercialisation of key emerging technologies

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Making it in America:

Australian tech powering US electric vehicles

US buses go electric with Australian batteries



The United States is making a once-in-a-generation investment in infrastructure, presenting an unprecedented opportunity for Australian companies. The US' Inflation Reduction Act provides a tax credit of up to US\$100,000 per electric vehicle charger, subject to meeting certain labour standards, while the National Electric Vehicle Infrastructure Formula Program provides US\$5 billion for direct current (DC) fast charging sites. Queensland-based Tritium is expanding its US footprint, supplying fast chargers for the US market. Its new factory outside Nashville, in Lebanon, Tennessee is Tritium's largest globally, producing up to 10,000 DC fast charger units per year, with the potential to produce 30,000 units per year at peak capacity. The factory will employ more than 500 people over the next five years, almost doubling Tritium's current workforce.



The electrification of commercial vehicles in the United States will make a significant contribution to lowering the country's carbon emissions. Melbourne-based SEA Electric is capitalising on the US' high adoption rate for electric vehicles, accelerated by US government incentives and other sustainable transport programs.

A partnership between Australian company SEA Electric and US bus supplier Midwest Transit Equipment will see 10,000 American school buses converted to battery-electric power-systems over the next five years.

SEA Electric has already supplied electric commercial vehicle systems to five continents. The company recently established headquarters in Los Angeles, California, and has also developed a Global Engineering Centre in lowa which coordinates with an engineering team in Australia on key projects. According to SEA Electric, support from the Department of Foreign Affairs and Trade in Los Angeles was instrumental in coordinating California Air Resources Board (CARB) discussions as well as facilitating meetings with key government, business and industry bodies.

SEA Electric's technology has been custom developed to suit commercial applications, essentially mimicking the performance characteristics of a diesel engine, rather than upscaling existing passenger car technology. This gives its products a competitive advantage in terms of weight, a critical aspect in commercial vehicle electrification, simplicity, performance, range and price.

Making it in America:

Australian flow batteries supercharging California

Australian-made hydrogen ferries in San Francisco Bay



"The Anaergia project will demonstrate that our flow batteries can deliver large MW storage solutions successfully. Energy storage will be imperative to supporting the power industry as we move to net zern"

Maree Mills Marketing Manager for Redflow

Brisbane-based Redflow has drawn on Australia's natural advantages to develop a battery with global appeal. But it's not our abundant lithium, but rather the experience of our vast open spaces and harsh climate that give these batteries their edge.



Australian batteries and low emissions technologies

The Australian Government is boosting our renewable energy capacity by:

- making up to \$3 billion available through the National Reconstruction Fund to support renewables manufacturing and the deployment of low-emissions technologies
- supporting innovation in existing industries and the creation of new industries through the Powering the Regions Fund
- developing a National Battery Strategy
- implementing Australia's National Hydrogen Strategy

Redflow manufactures zincbromine flow batteries. Without precious metal and able to be geo-tagged, flow batteries are popular for remote sites around the world with 180 installations. They also work well in up to 50-degree Celsius heat.

The company has expanded its exporting capability and marketing with funding from the Export Market Development Grants (EMDG) program. Austrade advisers also helped the company make contacts overseas.

The global move to zero net emissions by 2050 will supercharge the battery industry. Renewable energy is intermittent and longduration energy storage is required to stabilise the grid and secure power supply. In 2021, the company installed a 2 MWh energy storage system for a waste-processing facility in California owned by local utility, Anaergia. Anaergia's Rialto Bioenergy Facility comprises 192 flow batteries - Redflow's largest US order to date.

According to Maree Mills, Marketing Manager for Redflow, the Anaergia contract shows how batteries can reduce the cost of renewable energy. Anaergia will use the storage solution to run the facility when power costs are high, as well as for backup power if the grid goes down.

Above: Redflow's 2MWh energy storage system for Anaergia in California.

Australian design has joined US technology to create the world's first zero-emissions hydrogen fuel cellpowered electric-drive high speed passenger ferry – appropriately named "Sea Change".

Australia's Incat Crowther's design integrates hydrogen fuel cell power, a lithium-ion battery and an electric propulsion system into the vessel's structure and systems. The vessel's hull form was optimised to reduce resistance, whilst further efficiencies were gained in the structural design.

Delivered by All American Marine, the project has been spearheaded by the vessel owner SWITCH Maritime and supported by a consortium of contributors, including Incat Crowther, Zero Emissions Industries and BAE Systems.

Incat Crowther took a leading role in navigating the regulatory framework for the new technology, working closely with numerous branches of the United States Coast Guard and key stakeholders. The learnings from this first deployment of the new vessel and the regulatory lessons learned are being shared between US and Australian regulators.

The project is supported by a grant from the California Air Resources Board, which is administered by the Bay Area Air Quality Management District and comes from the California Climate Investments initiative. "Incat Crowther's support from DFAT provided access to international ferry operators and allowed us to demonstrate our technology as a solution to the challenge for an environmentally sustainable ferry."

Dr Andrew Tuite Technical Director, Incat Crowther

Paving the way towards a nature-positive economy

Growing the global reach of Australian low emissions technology and services



Over half of the world's economic output – an estimated US\$44 trillion – is moderately or highly dependent on the natural environment. The natural environment plays a critical role in climate adaptation and resilience, and nature loss represents a real and material risk to corporate and financial stability.

"Nature is part of Australia's identity, and as a country and economy we have both a great impact and a great dependency on nature."

Tony Goldner Executive Director, TNFD Despite this, financial institutions and companies currently lack the capacity to incorporate natural environment-related risks and opportunities into strategic planning, risk management and asset allocation decisions.

The Taskforce on Nature-related Financial Disclosures (TNFD) seeks to address this gap by providing a framework that enables organisations to identify, assess and report on nature-related risks and opportunities. It adopts the model established by the Taskforce on Climate-related Financial Disclosures.

 'Nature-positive' activities go beyond impact minimisation; they seek to enhance the natural ecosystems upon which our economies and societies depend.

The framework is a tool that Australian businesses can use to reduce their nature-related risks and identify new commercial opportunities. The Australian Government is a strategic funding partner of the TNFD and sits on the TNFD Stewardship Council. The Department of Climate Change, Energy, the Environment and Water is working closely with the TNFD and Australia's private sector to help inform the TNFD framework's design and to support market uptake when the final framework is released in September 2023.

https//:tnfd.global

More:

TNFD Consultation Group of Australia & New Zealand: tnfd.global/australia-nz-cg/

Financing Solutions for Nature: <u>dcceew.gov.au/climate-</u> <u>change/policy/nature-based-</u> <u>solutions-for-climate/financing-</u> solutions#taskforce The Low Emissions Technology and Services (LETS) sector has called for Australia to bid to host the United Nations Climate Change Conference of Parties (COP), following Egypt in 2022 and the UAE in 2023.

Recent consultations between government and industry have seen the sector make 13 recommendations to boost the international reach of Australian LETS.

Among them is the plan for Australia to host a future COP to highlight the innovative and highly capable Australian LETS sector and allow Australian SMEs, innovators, start-ups and Indigenous businesses to showcase their expertise through a trade show in the margins.

Industry leaders say the LETS sector has great potential to drive down emissions across heavy industry including in energy, manufacturing, transport and agriculture, and presents international investors with another attractive opportunity.

Their recommendations also include:

- standards development –
- mentoring and business matching for LETS companies
- targeted market intelligence
- developing sovereign manufacturing capacity.

The Government has an ongoing dialogue and partnership with the LETS industry to support the Australian LETS sector stay internationally competitive and continue to grow their exports to the world.

Industry insights into the ongoing and emerging challenges faced by exporters are vital for good policy development. It ensures that government actions are better targeted to areas of greatest need and barriers to exporting are addressed.



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Land of opportunity -Current and prospective clean energy projects



Includes:

- grid scale solar
- onshore wind
- storage (batteries and/or pumped hydro) transmission

	WESTERN AUSTRALIA
1	Pilbara Clean Energy Cluster
2	Gascoyne Hydrogen Technology Cluster
3	Midwest
4	Cliff Head
5	Mid-West Hydrogen Technology Cluster
6	Flotation Energy Offshore Wind Farm
7	Leeuwin Offshore Wind Farm
8	Bunbury Offshore Windfarm
9	WA Offshore Windfarm Project
10	Perth and Peel Hydrogen Cluster
11	Western Australian Technology Cluster for Hydrogen

Indicative land area for solar and wind farms in a zero-carbon export scenario*: 168,000km² or around 2 per cent of Australia's land would produce 7,000 terawatt hours of solar and wind energy, about 27 times Australia's current electricity output and use.

*The zero-carbon export scenario, developed by researchers at the Australian National University, involves Australia exporting the same quantity of energy in green electricity and hydrogen as it exports in thermal coal and LNG, plus processing our current exports of iron ore, bauxite and alumina into green steel and green aluminium for export.



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SOUTH AUSTRALIA	
Roxby Downs	
Northern SA	
Leigh Creek	
Mid North SA	
Riverland	
Western Eyre Peninsula	
Eyre Peninsula Hub	
Eastern Eyre Peninsula	2
Yorke Peninsula	2
SA-H2H Hydrogen Technology Cluster	2
South East SA	3
SA Offshore Wind Project	3

uth East SA Coast

	51				
	TASMANIA				
7	North West Tasmania				
8	North West Tasmanian Coast				
9	Central Highlands				
0	Bell Bay Hydrogen Hub				
51	North East Tasmania				
2	Bass Offshore Windfarm				

Department of Foreign Affairs and Trade

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INDICATIVE SIZE OF TOTAL COMBINED LAND AREA REQUIRED FOR PV AND WIND: 168,000 KM²





	NEW SOUTH WALES / ACT				
65	Broken Hill				
66	North West NSW				
67	New England				
68	Central-West Orana				
	Hunter Hydrogen Technology Cluster				
	Hunter Coast				
69	Hunter Coast				
	Hunter Coast				
	Novocastrian				
	Wollongong				
70	Illawarra				
	Illawarra Coast				
71	South West NSW				
72	Wagga Wagga				
73	Tumut				
74	Snowy 2.0				
75	ACT Renewable Hydrogen Cluster				
76	Cooma-Monaro				
77	Ulladulla				
78	Eden Offshore				

Map illustrates current and prospective clean energy projects to 2050, as at August 2022. Sources:

<u>reneweconomy.com.au</u>

Australian Hydrogen Technology Cluster Network

2022 Integrated System Plan

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> urray River outh West Victoria entral North Victoria ortland Coast uthern Winds ictoria Offshore Windfarm Project ninifex Greater Geelong Hydrogen Cluster Clayton Hydrogen Technology Cluster vens Murray ppsland Coast opsland Hydrogen Technology Cluster reat Southern Greater Gippsland Star of the South ea Dragon reat Eastern

VICTORIA

Harnessing the winds of change



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Wind power contributed almost ten The Government plans to create a per cent of total electricity in 2020.

Australia's competitive advantages in offshore wind are noted internationally, including substantial port infrastructure, a skilled workforce, track record in renewable energy development and a dense coastal population which minimises transmission costs.

In the coming decade, the Global Wind Energy Council (GWEC) expects global market share of offshore wind capacity in the Asia Pacific to grow to 42 per cent, with the top five markets in the region for new installations being China (52GW), Taiwan (10.5GW), South Korea (7.9GW), Japan (7.4GW) and Vietnam (5.2GW).

national network of six Offshore Wind Zones. The first was unveiled in August 2022 in the Bass Strait. off Gippsland, Victoria.

This comprises the 1.5 GW Seadragon being developed by Flotation Energy, the 1.3 GW Greater Gippsland project developed by BlueFloat Energy and Energy Estate, the 2.5 GW Great Eastern project developed by Corio Generation, and the 2 GW Star of the South, Australia's first and most progressed offshore wind project. The new zone nomination is open to public comment until 7 October 2022.

the consultation phase encompass the Pacific Ocean region off Portland in Victoria, the Bass Strait region off northern Tasmania, and the Indian Ocean region off Perth and Bunbury in Western Australia.



Public feedback is being sought on the possible effects of future offshore renewable energy projects in the Bass Strait off Gippsland, Victoria . This includes offshore wind.

The Minister for Climate Change and Energy has proposed an area in Australian Commonwealth waters off Gippsland for offshore renewable energy projects. Commonwealth waters start 3 nautical miles from the coastline and extend to the boundary of Australia's exclusive economic zone.

The Australian Government wants to manage the offshore marine environment in a way that recognises all users and balances competing interests. Offshore renewable energy projects must share the area with other users and activities.

The Minister will consider all submissions lodged before October 7, 2022. consult.industry.gov.au/oei-gippsland

Riding the wave of oceangenerated energy

The next zones expected to enter

As Australian companies work with partners in Europe, the Pacific, Southeast Asia and beyond in the blue economy, there is an exciting opportunity to share Australia's wave and ocean energy expertise.

Australian companies in this sector include Azura Wave Energy, that is certified to supply power to the US grid, Wave Swell Energy, that supplies power to the King Island renewable microgrid and Carnegie Clean Energy (CCE), that is part of the Garden Island Microgrid - the world's first commercial-scale wave energy array connected to a grid.

Several other Australian companies have also been successful in accessing support globally, notably in Europe, the UK and US, and are largely driving development and adoption of wave energy. For example, in December 2021, seven Australian companies were successful in the EuropeWave Pre-Commercial Procurement (PCP) process. With this support, CCE is advancing its technology in Europe, as is Perth-based Bombora Wave Energy, which is currently establishing a demonstration project of its mWave technology in Wales.

The recently established world-first Integrated Ocean Energy Marketplace in Albany, Western Australia, aims to develop a commercial, integrated ocean energy system with diverse renewable technologies working together, and serve as an ocean energy centre of excellence, with the aim of catalysing future projects in Australia and globally.

The 2017 Australian Wave Energy Atlas identified strong resources along Australia's southern coastline that could supply up to 11 per cent of Australia's energy by 2050. The key challenge is developing technologies to efficiently harvest energy while withstanding the harsh ocean environment. According to the Commonwealth Scientific and Industrial Research Organisation (CSIRO), there are more than 200 wave energy devices in various stages of testing, demonstration and deployment.

Leading the globe in smart technology

Australian tech bringing more renewables into the electricity grid

The Infinity Train - powered by gravity

Australia's experience of large-scale electricity grid disruption, led by fast-growing rooftop solar, wind energy and battery storage, has bred expertise and innovative solutions from companies that are now going global.

These businesses are tackling the problem of grid instability to allow more clean energy into the network.

Powering Australia

• \$20 billion to upgrade the

electricity grid to support more

install 400 community batteries across the country and invest

\$100 million for 85 solar banks

to ensure more households can

benefit from rooftop solar and

decarbonisation of the grid

\$200 million to maximise

Australia's rooftop solar

transformation

renewable power and accelerate

initiatives

Cleantech company eleXsys Energy uses software and hardware to enable networks to fully utilise distributed energy resources, such as locally produced solar and wind energy and battery storage, without needing expensive grid upgrades.

eleXsys' applications incorporate software algorithms and artificial intelligence that address network challenges that arise when more distributed energy enters the grid, such as voltage fluctuation and intermittent generation, as well as fault identification and location.

gy Meanwhile, Melbourne-based energy technology company, GreenSync is helping utilities in European, Asian and North American markets to navigate the challenges and opportunities presented by the increase in distributed energy entering the grid.

> Its deX platform uses API cloud technology and can be used with any energy source, brand or application. The platform is being piloted in New Zealand, Japan and the UK to manage EVs, heat pumps and energy storage.

eleXsys' 1.25 MWh battery and 14 EV chargers being installed at Pasadena Shopping Centre, Adelaide South Australia. Fortescue Future Industries' Infinity Train project seeks to use regenerative braking to harness kinetic energy from fully laden iron ore trains descending from their mine site to the port.

Once harnessed, the energy would be stored in batteries, and then power the empty train on its return journey.

The technology would lower operating costs, create maintenance efficiencies, eliminate diesel and eliminate rail system carbon emissions.

The Infinity Train has the potential to be the world's most efficient battery electric locomotive.

Fortescue's studies and development costs for the Infinity Train are expected to top US\$50 million over the next two years.



Australia's industrial decarbonisation

Under the Powering Australia policy, the Australian Government will:

- introduce declining emission baselines for Australia's major emitters, under the existing Safeguard Mechanism
- support the development of new clean energy industries and the decarbonisation priorities of existing industry through the Powering the Regions Fund.





Renewable energy hub in the Pilbara

to export clean energy to Asia-Pacific

Australia and Germany – Clean hydrogen partners

The Asian Renewable Energy Hub (AREH), based in the Pilbara, has the potential to be one of the world's largest renewables and green hydrogen energy hubs.

It is intended to supply renewable power to local customers in the mining region and produce green hydrogen and green ammonia for domestic use and export to major international users.

The project confirms Australia as a potential powerhouse in the global energy transition, drawing on the natural advantages of existing infrastructure and abundant wind, sun and waves.

The energy hub is targeting delivery BP will lead and operate the hub, of low carbon energy to the Pilbara by 2029 and will serve as a longterm clean energy contributor to countries in the Indo-Pacific.

The Hub is planned to develop onshore wind and solar power in multiple phases to a total generating capacity of up to 26 gigawatts and expects to be capable of producing 1.6 million tonnes of green hydrogen or 9 million tonnes of green ammonia per annum at full capacity.

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with partners InterContinental Energy CWP Global and Macquarie Capital and Macquarie's Green Investment Group.

By 2050, the Australian Government estimates that our burgeoning hydrogen industry could generate more than AUD 50 billion in additional GDP by 2050, and directly support 16,000 jobs, plus an additional 13,000 from the construction

of related renewable energy infrastructure.

Germany is a natural partner in this ambition. The Australia-Germany Hydrogen Accord, signed in June 2021, commits the two countries to building a global hydrogen industry with deep supply chains.

The Accord complements Australia's hydrogen production potential and Germany's expertise in hydrogen technology and its intention to become a significant hydrogen importer.

Germany aims to have 100 per cent of its energy come from renewables by 2035 and has backed this by investing €9 billion in hydrogen technology and adoption.

storing the hydrogen for later use. **Opportunities for business**

Earlier this year, Fortescue

Future Industries agreed with

and Germany's largest energy

company E.ON, to provide up to

100.000 tonnes and five million

tonnes of green hydrogen by 2030

respectively, with orders starting

as soon as 2024 for both German

Another Australian company, LAVO,

hooked up to solar panels and uses

into hydrogen and oxygen, before

launched its German subsidiary

last year. The LAVO battery is

electrolysers to convert water

companies.

German chemicals giant Covestro,

Hydrogen will play a crucial role in helping countries reduce emissions in difficult-to-abate sectors like shipping, long-haul aviation, steel, and, for some countries, bulk energy supply.

One of the Accord's key initiatives - the German-Australian Hydrogen Innovation and Technology Incubator (HyGATE) - aims to support real-world pilot, trial, demonstration and research projects along the hydrogen supply chain. Australia and Germany have respectively committed \$50 million and €50 million to establish HyGATE.

Australia and Germany are also exploring options to facilitate the trade of green hydrogen produced from renewable energy sources, including through Germany's H2Global Foundation.

WASSERSTOFF H2

zero emission

Global Insights Dispatches from the

diplomatic network

From the Chief Economist

Buenos Aires: Australian investment in Argentine lithium

As global demand for lithium soars due to US and European climate change commitments and an acceleration in the shift to electric cars, Australian companies are expanding investments in Argentina's lithium sector. Lake Resources is accelerating its Kachi lithium project in Catamarca Province and developing additional projects in Jujuy Province. Rio Tinto has acquired Rincon Mining's lithium project, a large undeveloped lithium brine project located in the heart of the lithium triangle in Salta Province. Allkem, already producing in Salta, is progressing towards production at a second site in Catamarca. Northern Argentina has rapidly emerged as a hub for greenfield projects for the production of battery grade lithium carbonate.

Sydney: Transforming Port Kembla

An iconic part of the Australian industrial landscape, the Port Kembla steelworks is so large it has its own postcode. It's now going green, in line with aims to achieve net zero across BlueScope's operations by 2050.

In line with the NSW Hydrogen Strategy, plans are underway to build a 10MW green hydrogen electrolyser at this site, which would supply a green steel works, as well as a new gas/hydrogen power plant and a refuelling station for new fleets of hydrogenpowered heavy vehicles. It would also be home to the Advanced Steel Manufacturing Precinct, with capacity to build wind towers and solar farm components to generate renewable energy in Australia and globally. DFAT and the NSW Government recently hosted a visit for NSWbased diplomats from Asia, Europe and America to highlight investment opportunities at Port Kembla and demonstrate the potential for green hydrogen exports from Australia.

Copenhagen: Partnerships with Denmark and Norway in offshore wind

As early movers, Danish and Norwegian companies are expected to dominate the international development of offshore wind. For example, Danish Ørsted looks set to be the leading developer in the Americas and Asia (excluding China) by 2030, Danish CIP will account for 44 per cent of installed capacity in Asia and Norway's Equinor will account for nearly 60 per cent of projects in North America.

Norway and Denmark have an advanced supply chain in offshore wind. As offshore wind projects develop globally, these companies, in some cases existing investors in Australia, are looking to develop their capability here to supply the nascent offshore wind sector in Australia and potentially Asia.

Helsinki: Green transition opportunities for Finland and Australia

Finnish companies are positioning themselves to be leading providers of low emissions technologies for energy, biofuels, maritime, mining technology and forestry. Australia's location in a growth region is attractive to Finnish investors, with energy in Australia being a focus for Finnish companies and investors. Metso Outotec is improving service capability for its mining and aggregate customers in Australia with a new service centre in the Pilbara that will create 40 jobs in the first phase. Technology group Wärtsilä provided AGL Energy Limited with a 211 MW power plant in Torrens Island, South Australia to balance the grid, using highly efficient engines which emit 35-50 per cent less carbon and can easily be converted to sustainable fuels when necessary. Wärtsilä is also currently constructing the 250 MW/250 MWh Torrens Island Battery energy storage system for AGL on the adjacent site at Torrens Island. It is AGL's first grid-scale energy storage project, and the second biggest in Australia.



Australian economy resilient despite global challenges

The global economic outlook is increasingly uncertain. Russia's illegal invasion of Ukraine has translated into rising energy and (already-high) food prices, exacerbating the inflationary pressures that emerged through last year.

Growth in major economies has slowed as central banks respond to those inflationary pressures through tighter monetary policy. The US has just recorded two consecutive quarters of negative growth, highlighting the challenge for the US Federal Reserve in engineering a 'soft landing' of lower inflation without a recession. The Chinese economy – which is not experiencing inflationary pressures but is instead facing the constraints of COVID lockdowns and a fragile property sector - narrowly avoided a contraction in June with a quarterly growth figure of 0.4 per cent.

The key challenge for policymakers is that the principal causes of this inflation are global and mostly driven by supply-side issues: higher energy prices resulting from the war in Ukraine, and the overhang of monetary stimulus and supply chain disruptions arising from the pandemic. The longer these factors persist, the more likely that people's inflation expectations will adjust upwards, making the return to price stability more difficult.

But we have reasons to be optimistic. The July US Consumer Price Index (CPI) reading of 8.5 per cent was unchanged on a seasonally adjusted basis from the June 2022 CPI, which has led to market optimism that inflation may be starting to ease. And while headline inflation in Australia is expected to reach 7.75 per cent by the end of 2022, the Reserve Bank of Australia expects this to decline to 2-3 per cent by the end of 2024.

The Australian economy has proved highly resilient throughout the pandemic and the current turbulent period, supported by our strong macroeconomic environment. Output and employment are both back above pre-pandemic levels, with Australia avoiding the labour market scarring experienced in other advanced economies. The unemployment rate was 3.5 per cent in June 2022, the lowest since the 1970s. Australia also recorded its highest exports on record in June, valued at \$61.5 billion, backed by a global commodity price boom.



A 211 MW power plant provided by Wärtsilä to AGL balances the grid in Torrens Island, South Australia. Image courtesy of Wärtsilä

Australia-India Economic Cooperation and Trade Agreement

Benefits for Australian business

The Australia-India Economic Cooperation and Trade Agreement (AI-ECTA), signed on 2 April 2022 will create new opportunities for Australian goods and services exporters in India, a fast-growing, A\$4.3 trillion economy of over 1.4 billion people.

When it enters into force, the AI-ECTA will deliver new opportunities for trade diversification and provide important competitive advantages for Australian businesses. The agreement is also a steppingstone towards an Australia-India Comprehensive Economic Cooperation Agreement.

Goods

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The AI-ECTA offers improved access for agricultural, manufacturing and resource and energy products in a market that has been protected by high and variable tariffs. On entry into force, 85 per cent of Australian goods exports (by value) to India will be tariff free rising to over 90.5 per cent within 10 years.

FRUITS AND VEGETABLES

30 per cent tariff eliminated over 7 years for avocados, cherries, berries, onions, leeks, asparagus, celery and adzuki, kidney and broad beans. Immediate halving of the 30 per cent tariff on apricots, strawberries, kiwi fruit and garlic. Immediate halving of tariffs on oranges and mandarins to a quota of 13,700 tonnes per year and pears to a quota of 3,700 tonnes per year.



WINE

150 per cent wine tariff reduced to 25 per cent (for bottles over US\$15) and 50 per cent (for bottles valued US\$5-15) over ten years. India will also extend to Australia any deeper market access commitments on wine that it provides to future FTA partners.



Critical minerals and resources

India is Australia's fifth largest energy and resources export market and a major investor in Australian resources. The AI-ECTA will promote further growth in Australia's critical mineral exports to India. Australian firms are well placed to meet India's growing demand for high quality and competitively priced critical minerals essential for the production of mobile phones, flat screen monitors, wind turbines, electric cars and solar panels.

Services

The AI-ECTA will benefit our services suppliers and professionals in Australia's third largest services export market by improving access and providing greater certainty. In addition, Australian services suppliers in 31 sectors and subsectors are guaranteed to receive the best treatment accorded by India to any future FTA partner. This includes higher education and adult education; business services; research and development; communication; construction and engineering; insurance and banking; hospital; audio-visual; and tourism and travel.

SHEEP MEAT Immediate elimination of 30 per cent tariff.



ORES AND METALS

Elimination of tariffs for metallic ores such as manganese, copper, nickel, cobalt, aluminium and tin ores, and for copper alloys and on most nickel products. 5 per cent tariff on alumina eliminated immediately.





ENERGY RESOURCES

PHARMACEUTICALS, NUTRITIONAL

SUPPLEMENTS AND COSMETICS

Elimination of 10 per cent tariffs on many

elimination of 20 per cent tariff on cosmetics.

Immediate tariff elimination for coal and LNG, and tariff elimination over 5 years for crude petroleum.



The AI-ECTA will support the establishment of a Professional Services Working Group and facilitate mutual recognition of qualifications, licensing and registration procedures between professional services bodies.

Education and Tourism

Education-related travel services will benefit from the AI-ECTA with a new Work and Holiday Maker program and incentives for Indian students to study in Australia through the Post-study work visa.

Tourism will also receive a boost. India has committed to place no restrictions on cross-border supply or commercial presence for hotel and other lodging services and for travel agency and tour operator services.

Mobility

The AI-ECTA mobility outcomes will help foster people-to-people links, support trade and business linkages and contribute to cultural exchange between Australia and India. The agreement supports reciprocal access for a range of Australian and Indian skilled service providers, investors, and business visitors, facilitating investment and providing business with greater certainty.

More information on benefits for Australia, visit: <u>dfat.gov.au/trade/agreements/</u> <u>negotiations/aifta/australia-india-</u> <u>ecta-outcomes</u>

WOOL AND COTTON

Immediate elimination of wool tariffs and

access to duty free quota of 300,000 cotton

bales (minimum length 28mm) per year.

BARLEY, OATS, LENTILS AND OILSEEDS

Immediate elimination of tariffs on barley and oats. Halving of the tariff on lentils to a quota of 150,000 tonnes per year. Elimination of 30 per cent tariff on sunflower, safflower, linseed, mustard, poppy and sesame seeds.



SEAFOOD

Immediate elimination of 30 per cent tariff for fresh rock lobsters and elimination of tariffs over 7 years for other fresh, frozen and processed seafood products including Atlantic salmon, tuna and frozen rock lobster



WOOD AND PAPER PRODUCTS

Tariffs up to 20 per cent eliminated either immediately or over 7 years.







NUTS

Elimination of tariffs over 7 years for macadamias, shelled pistachios, cashews in shell and hazelnuts. Immediate halving of the 30 per cent tariff on almonds to a quota of 34,000 tonnes per year.





What's On - events calendar

5-6 September WA-ASEAN Summit 2022 wa-asean-summit.com.au

The WA-ASEAN

Summit 2022

7-8 September Intersekt 2022 - fintech conference www.intersektfestival.com

9 and 27 September **Australia-Vietnam Business Champions Roundtables** (Adelaide and Darwin) avpi.org.au/business-champions



Australian Business **Champions to Vietnam**

15 September

ASIA Society at ngv: disrupting gender bias in the region Disruptive asia women and girls launch ngv.vic.gov.au/program

Asia Society at NGV: Disrupting

Gender Bias in the Region

ASIA /25 YEARS

2022 • 5:30 p.m. AES

NATIONAL GALLERY OF VICTORIA NEW

4-5 October

First Nations Bushfood and

Botanical Alliance Australia

Conference, Alice Springs, NT

fnbbaa.com.au/bushfood-and-

botanicals-conference-2022

AT THE TABLE

Indigenous Emerging Business Forum 2022 iebf.org.au

23 September

NDIGENOUS

EMERGING

EUDII

ROY HILL

26-30 September

AIBX Business Mission 2022

austrade.gov.au/event/

aibxbusinessmission2022

Australia India **Business Exchange**

6-7 December

The Australian Hydrogen

Conference

(West) 2022, Perth.

australianhydrogenconference.

com.au/the-australian-

hydrogen-conference-west

21 October Federal Leadership Summit -Tourism, Aviation and Transport

ttf.org.au/conference/ leadership2022





() Info

The judging panel had a hard task choosing five finalists and the winning strategy from the 19 participants of Series 1 of the Horizons International **Engagement Leadership** Program who graduated on 4 August, 2022.

Zoe Johnson, Maitland City Council, NSW, winner of Series 1 of the Horizons International Engagement Leadership Program, 2022

The Horizons program, delivered by the Department of Foreign Affairs and Trade (DFAT) in partnership with the Regional Australia Institute, is designed for regional local councils, chambers of commerce and economic development organisations to better equip economic development professionals to tap into export pathways, international investment and tourism opportunities.

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DFAT Associate Secretary for Trade and Investment, Tim Yeend said he was impressed by all the international engagement strategies pitched by the participants.

"They were innovative, thoughtful, and all closely aligned with Australia's efforts to diversify and seize opportunities for tourism, clean and renewable energy and sustainable agricultural processes," Mr Yeend said.

The winning pitch came from Zoe Johnson of Maitland City Council in the Lower Hunter region of NSW, who proposed a green construction materials hub, to boost international trade and investment.

Minister for Trade and Tourism. Senator the Hon Don Farrell has congratulated Ms Johnson.

"Ms Johnson's idea to develop a green concrete and tile recycling project partnering with international investors was a singular standout. A great example of adding value to readily available industrial products, creating a new environmentally sustainable industry and monetizing the circular economy," Minister Farrell said.

Ms Johnson said she was grateful for the networks that she cultivated through the Horizons Program and the access to government and industry experts.

"I enjoyed having the opportunity to consider current trends and best industry practice. I'm now linked with an inspiring community of Horizon alumni from across the country," Ms Johnson said.

More information at dfat.gov.au/horizons



business

Acknowledgements

business envoy is DFAT's flagship quarterly magazine providing the latest insights into Australia's open trade and investment agenda. It provides businesses with updates on Australian Government policy, industry news, and expert analysis of the latest global market trends and events.

The magazine features news from the Australian Government's global diplomatic network, DFAT's state and territory offices, government agencies working with DFAT on trade and investment, as well as industry, non-profit and academic bodies.

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The Department of Foreign Affairs and Trade acknowledges the traditional owners of country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to elders past, present and emerging.

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