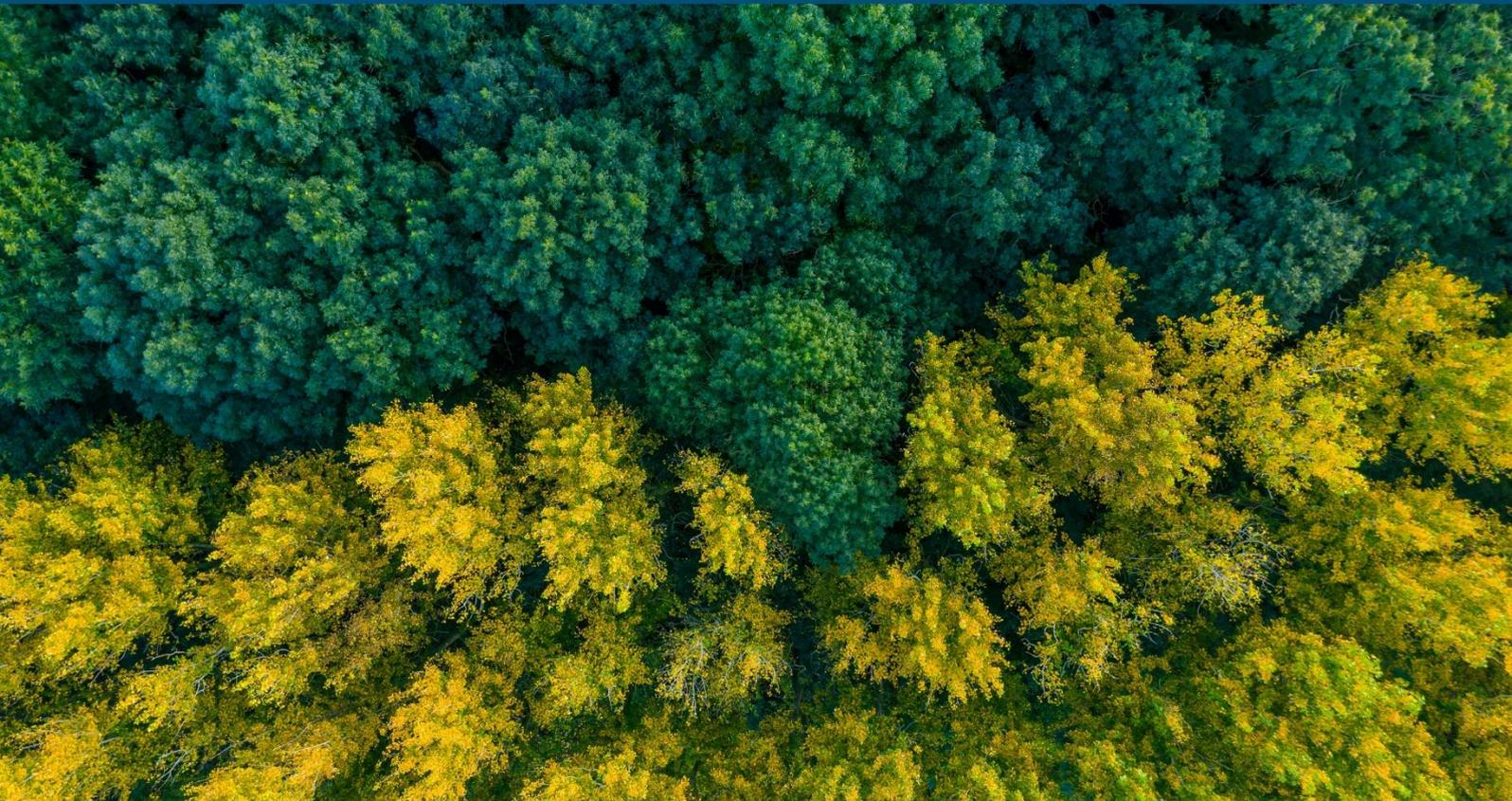




HERBERT
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JAPAN-AUSTRALIA INVESTMENT REPORT 2021: THE YEAR OF PARTNERSHIPS

5TH EDITION - MARCH 2022



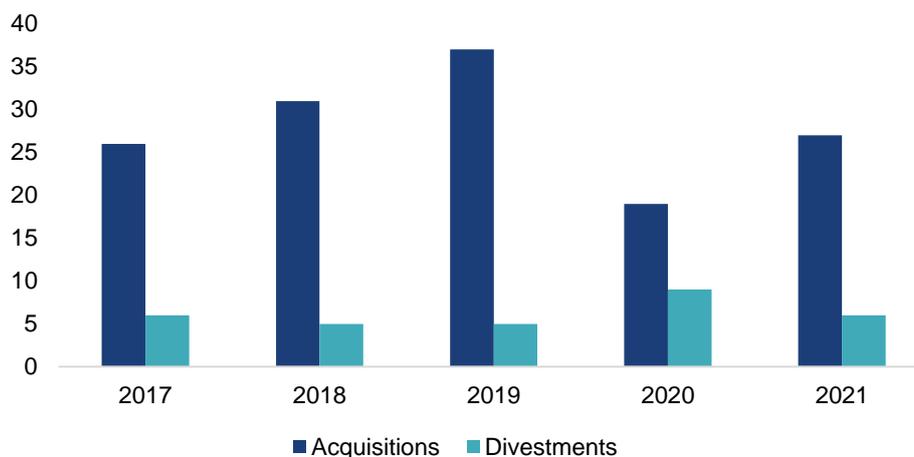
M&A Overview

2021 was a record year for M&A in Australia with over 850 transactions and total deal value of over \$250 billion, five times the value recorded in 2020. This growth is attributed to high levels of liquidity, boardroom confidence to make transformational acquisitions and equity market valuations at record highs. Decarbonisation and economic, social and governance considerations also underpinned many deals.

Global M&A transactions involving Japanese companies amounted to more than JPY17 trillion (circa. \$200 billion) in deal value and the number of deals was up 14.7% from 2020, to an all-time high of 4,280. This growth was partly the result of the realisation of 2020 investment decisions, held back due to the uncertainty of COVID-19 impacts on the global economy. Decarbonisation and digital transformation (DX) deals featured strongly. Other deals helped corporations streamline their operations to address business environment changes, and to reinforce vulnerable points in supply chains revealed by COVID-19.

Despite the strong overall performances of Australia and Japan, Japan-Australia M&A activity was lower than anticipated. There were 33 M&A deals (27 acquisitions and 6 divestments), and the total transaction value for the 11 deals that disclosed, the value was just over \$1.3 billion. A single transaction contributed much of the total value: TAL Dai-ichi Life's \$900 million acquisition of Westpac's life insurance business. The other notable transaction in 2021 was the divestment by Japan Post Toll of the Australian and New Zealand operations of its Toll Global Express business to Allegro Funds for a reported \$7.8 million deal value. This resulted in a \$624 million loss for Japan Post Toll for the 2021/2022 financial year.

Japan-Australia M&A transactions by acquisitions and divestments between 2017-2021



The level of M&A activity between Japan and Australia was consistent with the COVID-19 related decline in 2020 activity levels. Activity in both years was slightly lower by volume and considerably lower by value than annually during the 2017 to 2019 period (described as “*more deals, more dollars and more sector diversity*” in our 2019 Report).

The primary reasons for the decrease in acquisitions in 2020 and 2021 were border closures, quarantine requirements, restricted numbers of overseas entrants, and internal Australian State border restrictions. Australia's international border remained closed to international visitors until late 2021, posing significant impediments to the physical site visits that are a key component of due diligence by prospective Japanese buyers. In one instance, a prospective buyer faced the prospect of travelling to Australia by a private jet and undertaking hotel quarantine in multiple States. Restrictions are now easing but challenges remain.

Looking forward, the fundamentals of the Japan-Australia economic relationship are strong. Japanese investors reinvested profits and continued to fund existing projects. Relationships were not diminished by the challenges of COVID-19, and established companies will continue to invest as new opportunities arise. New entrants are likely to return once the impediments to movement are removed to build on the 2017 to 2019 trend when approximately half the acquisitions were by new entrants to Australia.

The Year of Partnerships – a Third Paradigm for Investment

New energy and partnerships emerge as the notable, and to an extent related, developments of M&A activity between Japan and Australia during the past year. These new energy partnerships, driven by Japan's need to ensure secure sources of imported energy in a decarbonising world, will have an essential role if Australia is to continue as the main energy supplier to Japan leading up to 2050 and beyond.

The Japanese Government announced a significant increase in its carbon reduction targets, which is driving a re-think of corporate strategy, and a further shift in investment priorities. As Japan explores various technology options and hydrogen sources, Japanese companies are involved in hydrogen supply chain-related projects with countries around the world, including, Australia, Brunei, Indonesia, Malaysia, Singapore, Saudi Arabia, Russia, the United Arab Emirates, and the United States. Japanese-Australian partnerships are rapidly growing in number, particularly those focussed on the production and transport of hydrogen and ammonia for both the domestic market and export. Partnerships are also now extending to battery materials, decarbonisation and renewable energy initiatives.

There were a growing number of partnerships in each of 2019 and 2020, but the annual number of new partnerships doubled in 2021. Publicly available information revealed 25 new partnerships, including alliances, collaborations, joint feasibility studies and memoranda of understanding. As at the date of this report, there are over 40 new energy-related partnerships with regular new announcements.

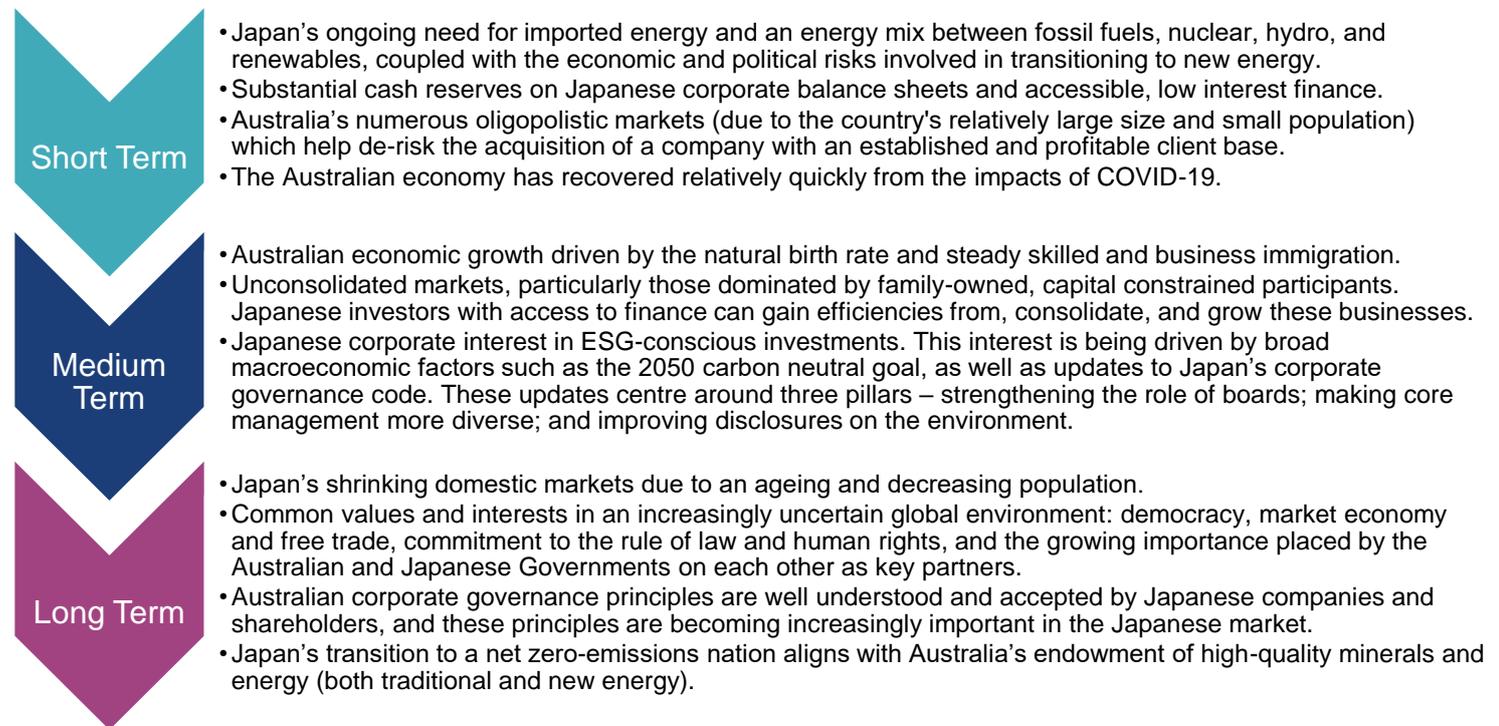
Because project feasibility is uncertain, and these new technologies are largely unproven in large scale production, many Japanese companies are adopting a portfolio approach to their investment in Australian-based new energy projects. This involves participating in multiple partnerships/projects located in different Australian States, with different counterparties, technologies, and even differing products. This also has the consequence of a much more people-intensive era in the bilateral relationship that places at a premium Australia's ability to do business with Japan and the extent of cross-cultural skills in both workforces.

Hence, the new energy partnerships involve more Japanese and Australian parties working collectively at a project level than ever seen before, to bring together the required technology, financing and logistics supply chain infrastructure to make a project a reality. Also notable and new is the significant support available in the form of grants, concessional funding and credit support from the Japanese, Australian Federal and State Governments and numerous government agencies in both countries.

These partnerships are a distinct third paradigm in the Japan-Australia business relationship which started (firstly) with joint ventures in minerals, energy and food in the 1960s and evolved with (secondly) numerous 100% or majority acquisitions of a variety of domestic businesses from 2007. It appears likely that the partnership model is here to stay and will form the basis of significant new investment over the next 5-10 years, as projects are commercialised.

Key drivers for the future

The underlying drivers of Japanese investment into Australia in the short, medium and long-term are:



2022 Observations on Japan-Australia M&A and Investment

- No change to the underlying macro-economic factors that have previously driven investment (stable government, population growth, economic strength, rule of law) and a significant lift in the profile of bilateral co-operation at government to government level.
- 2022 should hopefully see an end to COVID-19 conditions which led to short-term absence of new entrants to the Australian market as well as lower levels of activity overall, given the difficulty undertaking due diligence and negotiations without being able to physically visit Australia.
- A mixture of divestments in traditional areas and an increased focus on investment in new emerging sectors was evident even in the smaller deal numbers and should continue in 2022 as companies accelerate mid-term business plans and respond to Government policy settings on decarbonisation.
- ESG considerations are now a fundamental threshold criterion in investment decisions, especially for listed Japanese corporations driven by greater scrutiny of decisions by shareholders and independent non-executive directors.
- "New Energy" continues to be strongly supported by Japanese and Australian Governments, financiers, credit agencies, energy companies, engineering firms, port owners, trading houses and funds.
- Australia is increasingly recognised for its innovation, technology and research & development opportunities.

Prediction

2022 started positively for M&A deals and investment in new partnerships announced. We predict this will continue – particularly from those companies who are able to take advantage of an established network in Australia, as they continue to invest in new sectors as part of their mid-term business plan to diversify revenue sources.

With international business travel between Japan and Australia resuming, we expect there will be a significant number of new entrants coming into the Australian market with growing numbers of deals and, particularly, partnerships. Overall activity will revert to pre-COVID-19 levels and ESG, new energy and technology will be the drivers for many of the transactions. The consequences arising from the recent events in the Ukraine will further strengthen the strategic importance for a stable supply of both traditional and new energy from Australia to Japan.

Acknowledgements

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Japan-Australia Investment Report 2021: *The Year of Partnerships*

MARCH 2022

Australia-Japan Partnership

Closer economic, political, and diplomatic ties

Japan is one of Australia's most important partners globally and our closest partner in Asia. 2021 confirmed that each country views the trade, investment and diplomatic relationship with the other as vital to its national interest.

Japan continues to rank second only to the United States in terms of foreign direct investment into Australia (\$131.8 billion), an investment relationship which underpinned the establishment of Australia's now world-class resources sector. Two-way trade between Australia and Japan is valued at \$66.3 billion, making Japan Australia's third-largest trading partner and second-largest export destination at \$46.4 billion.

Our diplomatic and strategic ties enjoy universal domestic support regardless of internal leadership and political changes. Most recently, new Japanese Prime Minister Kishida's planned visit to Australia in January 2022 would have been his first overseas bilateral visit had it not been cancelled due to the COVID-19 situation in Japan. The meeting nevertheless proceeded virtually, with the two Prime Ministers signing the defence Reciprocal Access Agreement. This agreement, whose ground-breaking nature reaffirms the fundamental and enduring importance of the bilateral partnership, facilitates cooperative activities between the two countries' defence forces and was accompanied by announcements on further bilateral collaboration on cyber and critical technologies, AI, critical minerals and supply chain resilience.

Our diplomatic relationship has also taken significant steps forward through multilateral platforms, notably through the increasing profile of the Quadrilateral Security Dialogue (**Quad**), and cooperation on the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (**CPTPP**) and the Regional Comprehensive Economic Partnership (**RCEP**), as well as in forums such as the East Asia Summit (**EAS**) and Asia-Pacific Economic Cooperation (**APEC**). Australia and Japan have been collaborating through these platforms to improve access to vaccines, enhance standards for infrastructure, combat the climate crisis, facilitate the development of emerging technologies, ensure the sustainable use of outer space, standardise rules on trade practices such as investment and e-commerce, and promote supply chain efficiency.

The Australia-Japan Partnership will also benefit mutual friends in the Asia-Pacific region. In January 2022, Sojitz,

Nippon Engineering Consultants and CS Energy agreed to collaborate on a demonstration project to transport renewable hydrogen products in Australia to the Republic of Palau.

ESG continues to be a focus

ESG continues to be a strong focus for Japanese business decisions, particularly new investments. Pressure is increasing on investments that do not align with ESG values. Japan's ESG investment in 2020 rose to ¥320 trillion (circ. \$4 trillion), a 32% increase since 2018.

The COP26 summit strengthened the global focus on carbon reduction measures, adopting a landmark deal between more than 100 countries (including Australia and Japan) promising to end and reverse deforestation by 2030. Importantly for Australia as a major coal exporter, there was agreement at COP26 to "phase down" rather than "phase out" coal.

Japan's target for net-zero carbon is being pursued by Japanese corporates setting similarly ambitious targets. All major Japanese trading houses have set a target to reduce or eliminate emissions/greenhouse gas as a matter of priority.

Energy transition

Japan has always relied on Australia as a stable and secure source of minerals, energy and food supply. Australia supplies two-thirds of Japan's key industrial materials (iron ore, coking coal, copper and alumina), close to one-third of its entire energy needs (LNG and thermal coal) and 21.5% of beef. Japan is Australia's second-largest export destination at 14.1%.

Japan's New Energy transition will be propelled by its commitment to net zero emissions by 2050, and the announcement for Japan's emissions reductions target to be further reduced from a 26% cut to 46% between 2013 and 2030. Australia's abundance of renewable energy sources, and our historic relationship as an energy producer and exporter, is a strong foundation for further growth, such as the 16 new collaborations on hydrogen and ammonia projects in 2021. In March 2021, the Japanese Ministry of Economics, Trade & Industry established a JPY2 trillion (A\$18.2 billion) "Green Innovation Fund" to support entities engaged in the research and development of, amongst a range of fields, large-scale hydrogen supply chains, hydrogen produced from renewable energy and hydrogen use in steelmaking.

The green innovation fund is administered by the New Energy and Industrial Technology Development Organisation (NEDO).

Kawasaki Heavy Industries, ENEOS and Iwatani Corporation have significant financial support from the Green Innovation Fund to develop technology for the large-scale liquidation and transport of hydrogen for import into Japan. A number of existing hydrogen projects in Australia are being considered for the site of the new multibillion-dollar project, which would also be supported financially by the relevant State Government. This project would be a step-change in the profile and investment in hydrogen in Australia and a perfect example of the “new energy partnerships”.

2022 is projected to bring further decarbonisation initiatives that connect Japan and Australia. The Australian Prime Minister has announced a \$150 million investment into clean hydrogen energy supply chain projects under the Japan Australian Partnership on Decarbonisation through Technology.

In January 2022, the first shipment of liquid hydrogen transported on the *Suiso Frontier* tanker left the Port of Hastings in Victoria and arrived in Kobe on 25 February

2022. This marked a key milestone in the Hydrogen Energy Supply Chain (HESC) Pilot Project, signifying the start of a potentially major new energy export industry in Australia. The HESC consortium of industry partners from Japan and Australia includes Kawasaki Heavy Industries, J-Power, Iwatani Corporation, Marubeni Corporation, AGL Energy and Sumitomo Corporation and is supported by the Victorian, Australian and Japanese governments.

The CO₂-free Hydrogen Energy Supply-chain Technology Research Association (known as HySTRA) members Kawasaki Heavy Industries, J-Power, Iwatani Corporation, Marubeni, Shell, ENEOS and Kawasaki Kisen Kaisha (K-Line), are responsible for the transportation of hydrogen produced by the HESC Project.

Inpex has announced it will spearhead the construction of one of the world’s largest carbon capture facilities in Darwin as part of efforts to introduce carbon capture to natural gas development. This facility is intended to capture and store carbon dioxide produced by the Ichthys gas project and will be supported by the Australian Federal Government’s carbon capture subsidy program.

Key Trends for 2021 and beyond



2021 review in detail

Even with the reduced number and value of M&A transactions in 2021, the Japan-Australia projects, including M&A and partnerships that proceeded in 2021 offer plenty of insights into the depth and strength of the relationship. We assessed each of the deals to identify the following 15 trends.

1. Decarbonisation – a major investment force

Japan's 2021 Basic Energy Strategy requires the Japanese cabinet to review policy settings in the energy sector every 3 years. This means constant analysis and no time to waste in meeting Japan's ambitious decarbonisation targets.

Australia fits squarely within Japan's decarbonisation strategy, which is already manifesting itself as a driving force behind some of the major trends.

New Energy – Hydrogen, Ammonia and Methanol

Driven by Japanese and Australia Government support and commercial imperatives hydrogen, ammonia and methanol related partnerships featured strongly in Japan-Australia investment in 2021:

- **Marubeni Corporation** won Japanese Government funding for a project exporting South Australian produced green hydrogen to the Indo-Pacific region.
- **JERA** and Yarra International signed a MOU to cooperate in the ammonia value chain business, including development of a blue ammonia production plant, optimisation of ammonia shipping, and supply and development of a new demand for ammonia in Japanese power generation.
- **ITOCHU** and Australian Future Energy signed a MOU to support the \$1 billion Gladstone Energy and Ammonia Project, which aims to commercially produce a low-cost fossil energy-based form of hydrogen by late 2024.
- **ENEOS** and Origin Energy, an Australian upstream and utilities firm agreed to jointly explore a potential green hydrogen supply chain from Australia to Japan.
- **ENEOS** and Neoen, a French renewables company, agreed to conduct a study on a potential business collaboration for the construction of a green hydrogen supply chain between Australia and Japan.
- **Mitsui O.S.K Lines** and Origin Energy agreed to conduct a joint feasibility study to explore how Australian green ammonia could supply key downstream markets from 2026.
- **Mitsui, JOGMEC** and Wesfarmers are investigating the creation of a supply chain of low-carbon ammonia from Western Australia.
- **Sumitomo Corporation** and Rio Tinto announced a partnership to study the construction of a hydrogen pilot plant at Rio's Yarwun alumina refinery in Gladstone and explore potential use of hydrogen at the refinery.
- **Iwatani Corporation, Kawasaki Heavy Industries, Kansai Electric Power Company, Marubeni Consortium** along with Australia based Stanwell has welcomed the APA Group to the joint feasibility study to consider the export of green hydrogen to Japan by 2026 while also supplying large industrial customers in central Queensland.
- **Sumitomo Corporation** and **JGC Holdings** (which operates the overseas engineering, procurement, and construction business of the JGC Group) signed a Front-End Engineering and Design contract for the hydrogen related project in Gladstone. This is part of a broader program that aims to build local hydrogen production and consumption in Gladstone by producing hydrogen from electrolysis of water using electricity from Solar PV as the main power source.
- **IHI Corporation, Marubeni Corporation** and Woodside Energy signed a Heads of Agreement to investigate the production and export of green ammonia produced from renewable hydro power in Tasmania (the H2TAS Project).
- **Osaka Gas, Woodside, and Singapore's Keppel Data Centres City-OG Gas Energy** signed a MOU to study a long-term supply of liquid hydrogen from Western Australia.
- **Major Japanese gas company** has agreed with Sanguine Impact Investment to co-develop the Desert Bloom Hydrogen Project, a \$15 billion green hydrogen project in the Northern Territory using established technology in a novel way overcome water scarcity, targeting exports in 2027.
- **ITOCHU, Dalrymple Bay Infrastructure and Brookfield Asset Management** signed an MOU for a feasibility study on green hydrogen production and the development of a supply chain at the Port of Hay Point.
- **ENEOS** is set to significantly increase its production of green hydrogen, with the aim to produce up to 20 kgs of green hydrogen daily at its Bulwer Island site in Brisbane in 2022. This was the first project supported by the Japanese Government's \$24 billion Green Innovation Fund.
- **ENEOS** in collaboration with Japanese engineering company **Chiyoda Corporation** and the Queensland University of Technology from 2018, announced that it had succeeded in expanding the scale of its technological verifications of CO₂-free hydrogen to a practical level for the first time in the world.

Carbon technologies and carbon credits

Some of Japan's major energy players made long-term investments in carbon capture and storage (CCS), which is considered critical to achieving carbon neutrality, as well as other technologies aimed at reducing carbon emissions.

- **Mitsui E&P Australia** acquired Outback Carbon, a carbon project developer and service provider.
- **Japan Australia LNG** (owned jointly by **Mitsubishi Corporation** and **Mitsui**), Woodside and BP, announced a feasibility study on a CCS project off the coast of Western Australia, with a view to 2030 operations.
- **INPEX** agreed to join the Future Energy Exports Cooperative Research Centre, which conducts world class research and development of new technologies that will lower the cost and carbon emissions of energy production in Australia.
- **Osaka Gas** and ATCO Australia undertook a joint methanation study, which will produce carbon neutral methane from CO₂ and green hydrogen that is produced from electrolysis powered by renewable electricity.

Trading houses have started 'carbon farming' by investing in companies and funds that generate Australian Carbon Credit Units (which represent one tonne of carbon dioxide equivalent net abatement):

- **Mitsui** and New Forests jointly created a forestry carbon offset fund with an initial investment of \$50 million. The fund will generate carbon credits through plantation activities and will try to attract investment from Japanese companies, financial institutions, and investment and pension funds.
- **Mitsubishi Corporation** acquired a 40% shareholding in Australian Integrated Carbon, which sells nature-based carbon credits.

Renewables

Renewable energy (solar, wind, pumped hydro and battery storage) continues to be a major focus of the energy transition in Australia with its natural advantages of land, sun and wind. Japanese investors have actively participated and transactions in 2021 included:

- **Sojitz** and **ENEOS** each acquired a 50% interest from DPI Solar in the Edenvale Solar Park, a 204-megawatt solar power farm and the largest solar project to be undertaken by a Japanese company in Australia.

- Funds managed by **First Sentier Investors** (ultimately owned by **Mitsubishi UFJ Financial Group**) and Palisade Investment Partners acquired a 50% shareholding in the Macarthur Wind Farm from HRL Morrison.
- **Toyota Motors** developed part of its Altona site in Victoria into a renewable energy hub to produce renewable hydrogen for use in both transport and stationary applications.

Japanese companies such as **Eurus Energy** (a joint venture between **Toyota Tsusho** and **Tokyo Electric Power**), **JERA**, **Sojitz** and **Engie Australia & New Zealand** (a joint venture between Engie and **Mitsui**) are all actively looking for opportunities to add to their renewable energy portfolios.

Continuing exit from thermal coal by trading houses but maintaining coking coal assets

While Japanese corporates invest in measures to reduce carbon footprints, they continue their orderly exit from thermal coal (often undisclosed) whilst maintaining coking coal assets (used for production of steel), in order to align their portfolios with the net-zero carbon emissions target for 2050.

Disclosed transactions included:

- **Sumitomo Corporation** sold its 12.5% interest in the Rolleston thermal coal mine to Glencore.
- **ITOCHU** announced that it plans to fully divest from coal as a priority measure, promoting decarbonisation and addressing climate change by 2024. This means its 15% interest in the Maules Creek thermal coal mine will be divested in the coming years.
- **Japan Bank for International Cooperation** agreed to loan up to \$53 million, as part of a co-financing with commercial lenders, for development of **Sojitz's** coking coal projects in Australia.

2. Critical Minerals¹ and Battery Raw Materials are increasingly important

A focus on critical minerals was notable in 2021 and is set to continue as a long-term trend beyond 2022. Australia is a leading producer of many of the minerals critical for technology products and high-tech applications, and it can be expected that Japan will continue to invest in these products – particularly battery materials and high-powered magnets, which are essential to energy storage in the New Energy transition.

¹ Critical minerals include: rare-earth elements (REE), gallium (Ga), indium (In), tungsten (W), platinum-group elements (PGE) including platinum (Pt) and palladium (Pd), cobalt (Co), niobium (Nb), magnesium (Mg), molybdenum (Mo), antimony (Sb), lithium (Li), vanadium (V), nickel (Ni), tantalum (Ta), tellurium (Te), chromium (Cr) and manganese (Mn).

In September 2021, the Australian Government established a \$2 billion loan facility for Australian critical minerals projects, to assist with some of the financial hurdles associated with development projects.

The Japanese Government is looking to collaborate with State governments to establish a strong supply chain in critical minerals for better vertical integration, such as in areas of domestic lithium refining, manufacturing of vanadium batteries, graphite anodes, and refining of rare earth elements.

Australia and Japan, alongside other countries, have agreed to map out supply chains for key products and critical minerals, as well as draw up new regulations that will fast-track projects and provide greater offtake agreement certainty.

Japanese companies are aggressively looking at opportunities in this area. Recent examples include:

- Cobalt Blue continued strong commercial partnerships with **Mitsubishi Corporation** (an existing Sulphur Agreement) and **Sojitz** in developing its Broken Hill Cobalt Project for the production of cobalt sulphate and elemental sulphur.
- **Prime Planet Energy & Solutions** (a joint venture between **Toyota Motors** and **Panasonic**) (**PPES**), **Toyota Tsusho** and BHP entered a MOU for the supply of nickel sulphate for EV batteries. BHP will supply the nickel sulphate to PPES, who will turn it into lower carbon batteries for EV manufacturers like Toyota. PPES will also explore the recycling of battery scrap and used batteries at Nickel West (a division of BHP) for further processing to reduce waste, and a trend of this circular economy of good practice recycling is likely to emerge.
- **Toyota Tsusho** is the largest shareholder in Allkem, the world's fifth largest lithium producer following the merger of Orocobre and Galaxy Resources in 2021. Allkem is dual ASX and TSX-listed.
- **LE System** and Technology Metals Australia entered into a non-binding MOU to assess the potential application of LES' proprietary technology to extract vanadium and other metals from the Gabanintha Vanadium Project waste streams.

3. Digital Transformation (DX) and Innovation

COVID-19 has dramatically accelerated DX in the Japanese economy. To facilitate collaboration and alliances in this space, **JETRO** established **J-Bridge**, a business platform to connect Japanese corporations and innovative Australian companies.

J-Bridge aims to accelerate DX across six sectors: (a) carbon neutrality, (b) mobility, (c) retail, (d) healthcare, (e) agriculture, and (f) smart cities.

Through the platform, key players such as **KDDI** have expressed interest in investing in Australian start-ups.

US based technology companies with significant sales operations in Japan are increasingly considering Melbourne and Sydney as locations for technology service back-offices. These locations offer workers with high levels of technology capability and Japanese language skills.

Leading Japanese firms have also pursued opportunities in DX outside of J-Bridge including:

- **IDOM Innovations** (IDOMi) a subsidiary of IDOM Inc. (which operates under the Gulliver brand in Japan) announced in February 2022 it will headquarter in Melbourne for their global business and will establish the IDOM Innovation Centre with a leading Australian University. This aims to combine Japanese and Australian technology leadership to advance new automotive services into the Australian market, for future global export.
- **Asahi Group** (through Asahi Beverages' subsidiary Carlton & United Breweries) launched Solar Exchange in partnership with Diamond Energy and Power Ledger. Solar Exchange is a program that allows participants to exchange their excess solar power for cans of Victoria Bitter beer. Power Ledger's blockchain peer-to-peer trading platform allows participants to keep track of how many cans of beer they have earned.
- **NTT Corporation** has signed a strategic partnership agreement with the University of Technology Sydney to develop products and technologies in smart city areas such as telecommunications, cybersecurity, artificial intelligence, and virtual reality. This form of collaboration between Japanese and Australian service providers and think-tanks is becoming increasingly commonplace.
- **Nomura Research Institute** acquired Planit Test Management Solutions, a software quality assurance company. This acquisition reflects the increasing importance and demand for quality control in IT systems to facilitate DX initiatives. This is NRI's third Australian acquisition since 2016.
- **ASICS Corporation** acquired Registration Logic, which operates Register Now, a race registration site. This acquisition is part of the brand's mid-term strategic objective for 2023 to transform into a digital driven company.
- **Yamaha Motors** and Yield Technology Solutions (a leader in robotics in intensive irrigated crops) partnered with Treasury Wine Estates (ASX:

TWE) on a research & development project to optimise yield prediction in wine grapes and to improve autonomous, robotics-driven crop spraying.

4. Increasing Japanese activity in the Australian Startup Ecosystem

Japanese startup activity is increasing dramatically from a relatively low base, through a combination of Japanese entrepreneurs and corporations who are adopting an open innovation mindset in their businesses. There is growing recognition that technology development can be accelerated through collaborations and M&A activity with tech-based start-ups.

The concept of “*Dejima*” – the creation of organisations separate to the corporation itself, to focus on innovative business ventures – has become a pervasive driver of Japanese corporations seeking to innovate. Internationally, this has manifested itself in the establishment of “innovation outposts” that have risen from 10 in 2000 to more than 90 in 2021. In particular, this is demonstrated in the United States with broad representation of corporate Japan in Silicon Valley, however, we are beginning to see early evidence of Japanese corporate activity in the Australian startup ecosystem.

As the two countries further strengthen their economic ties, greater Japanese interest in the Australian startup ecosystem is to be expected. Funding of Australia’s disruptive growth technologies is a natural extension of Japan’s new approach to open innovation. We expect that over the coming years, the Japanese and Australian startup ecosystems will substantially increase their collaborative behaviour as the two countries build a deeper knowledge of their respective strengths, synergies and opportunities for co-development and investment.

In particular, Japanese companies are looking at investments in Australian startups at seed, start-up and first stages with technology that has global application or is related to decarbonisation. Other areas of mutual interest are AgTech, FoodTech, MedTech, AI and robotics. 2021 activities of interest included:

- **Mitsubishi Corporation, Nippon Yusen and Startupbootcamp Australia** created a global start-up accelerator program designed to promote efforts to decarbonize. The program is focussed on scouting and supporting promising start-ups with disruptive technologies and business ideas to solve problems in the energy and resource sectors. The startup attracting most interest amongst the international participants was Australian-based Urchinomics, an aquaculture

venture that aims to facilitate the recovery of kelp forests (which improve marine biodiversity and assist with carbon sequestration) worldwide are being overgrazed by sea urchins. The venture looks to capture sea urchins and re-home them into ranching systems where they are converted to premium sea urchin roe (ウニ) and provided to the seafood industry.

- **ITOCHU** acquired a shareholding in start-up Mineral Carbonation International, which uses captured CO₂ to produce solid materials known as carbonates, used to produce construction materials such as concrete and plasterboard.
- **Mizuho Securities and Daiwa House Industry Pension Fund** have also invested in InterValley Ventures, a new venture capital fund formed with a mandate to invest almost exclusively in emerging early-stage local companies in Australia.
- **SoftBank’s** venture capital fund Vision Fund 2, TEN13, Seek Ventures, Salesforce Ventures, and Airtree have together invested US\$200 million in Australian educational tech start-up Go1. This makes it the latest ‘unicorn’ company in Australia (with a valuation of more than US\$1 billion).
- **Softbank’s** Vision Fund 2 led the \$75 million series C funding in Australia for deskless productivity software start up Skedulo.

5. Commercial Real Estate poised to Boom

After a long hiatus from the Australian commercial property market, Japanese real estate companies, railway companies, investment funds, pension funds and the property divisions of trading houses and industrial companies are poised to return. These investors are attracted to Australia’s stable high-yielding commercial properties, supported by a growing population and economic strength, as part of a global diversification strategy.

Commercial property investors include **Daibiru, Daisho, Kajima** (through ICON Developments), **Park24** (Secure Parking) and **NTT Urban Development**.

New entrants to the commercial property market will generally look to make an initial investment of \$50 million to \$100 million and, if successful, expand the size and number of investments to build a portfolio in Australia.

Urban regeneration projects as such as Barangaroo in Sydney, the Melbourne Quarter and Brisbane’s West Village have attracted interest from Japanese investors looking to acquire an equity interest in these projects.

If the future pipeline of commercial property investment opportunities is insufficient to satisfy

demand, this could lead to corporate acquisitions of listed property companies as a way to enter the Australian market.

6. Residential Property continues to grow

Australia's residential property market is also of interest to Japanese investors as a relatively unconsolidated market (the five largest Australian residential property builders only command around 20% of the national market). Four of the five largest Japanese residential builders are already well-established in Australia, and at least two other residential builders have been in negotiations with local builders.

Japanese investors in residential property (detached housing and apartments) include **Asahi Kasei Homes** (NXT Building Group), **Mitsui Fudosan**, **Daiwa House** (Rawson Homes), **Odakyu Railway**, **Sekisui House**, **Sumitomo Forestry** (Henley Homes, Wisdom Properties, Scott Park Group), **Mitsubishi Estate**, **Misawa Homes** (part of the **Toyota Motors Group**) (Homecorp Constructions) and **NTT Urban Development**.

Japanese building products suppliers and logistics companies who work domestically with these companies are also looking at opportunities in Australia. Recent examples are **Bunka Shutter** (Steel-Line and ArcPac Garage Doors), **Nippon Paint** (Dulux) and **Senko Logistics** (AirRoad) and **Asahi Kasei Homes** (Supaloc steel frames).

Some of the real estate transactions in 2021 included:

- **Asahi Kasei Homes** acquiring a further 40% shareholding in the NXT Building Group (formerly known as McDonald Jones Homes, Australia's third largest home builder), increasing its shareholding to 80%.
- **Mitsubishi Estate** and Lendlease entered into a joint venture to acquire a 25% interest in the Residences Two tower, the second residential tower at One Sydney Harbour. This is its third major investment in a residential apartment development.
- **Mitsui Fudosan** made an undisclosed investment into Frasers Property \$232 million in the MAC residences project (announced in January 2022).
- **Sekisui House** partnered with Australian golf legend Greg Norman to build an exclusive residential community in Camden, Sydney, combining Sekisui's home design and construction with the 'global luxury lifestyle philosophy' of Norman Estates.

7. LNG and Oil & Gas still going strong

LNG and Oil & Gas are considered essential to a balanced energy mix for Japan in the medium-term. Japan remains the largest importer of LNG from Australia at 37.9% of total production.

Looking forward, activist and shareholder pressure to divest interests in LNG and oil & gas projects can be expected to increase including based on Japan's revised energy plans to reduce emissions by 46% from 2013 levels by 2030.

2021 transactions included:

- **JERA** acquired a 12.5% interest in the Barossa LNG project from Santos. **Japan Bank for International Cooperation** provided a loan for the acquisition and development of the project.
- **Mitsui subsidiary AWE Limited** acquired 28% interest in Block EP413 from Norwest Energy in the Perth basin, where it is developing the large Waitisia gas field.
- **Mitsui** sold its Trefoil Field and BassGas Project to ASX-listed Beach Energy.

8. Iron Ore and Base Metals investments will continue

Mitsui and **ITOCHU** generated record profits in Australia, driven mainly from their long-term joint venture interests in iron ore projects in Western Australia. The Roy Hill Project between **Marubeni** (15% interest), Hancock Prospecting and POSCO announced a \$4.4 billion net profit for the 2021 financial year. Any expansions in iron ore projects will continue to be supported by the Japanese joint venturers.

The only major new investment was **ITOCHU** and **Mitsui** acquiring an 8% and 7% interest respectively in the Western Ridge Iron Ore deposits owned by BHP (85%). Western Ridge is a major resource consisting of four vast iron ore deposits located in Western Australia's Pilbara region. The acquisition aligns the existing % interests of the three joint venturers across their Western Australian iron ore holdings.

Base metals are also viewed by Japanese companies as long-term stable investments. In 2021 copper, gold and bauxite interests particularly, were expanded through acquisitions in both operating and exploration projects. Notable transactions were:

- **Mitsubishi Corporation** acquired a 30% interest in the Aurukun Bauxite Project from Glencore. The project is still in the approvals phase.
- **Sumitomo Metal Mining** acquired from **JOGMEC** an interest in the Mount Isa East copper-gold project in Queensland operated by Hammer Metals.

9. Financial Services

Investment in traditional financial services businesses has slowed down reflecting the maturation and consolidation of the market. This is a trend consistent with our 2020 Report's predictions. The only high value transaction of 2021 was **TAL Dai-ichi Life's** \$900 million acquisition of Westpac's life insurance business, with an exclusive 20-year strategic alliance for the provision of life insurance products to Westpac's Australian customers.

TAL Dai-ichi Life now holds the largest market share in Australia at 27% (which will increase to 33% following the integration of Westpac's life insurance business), with other Japanese-backed Australian life insurance companies competing in the market (such as **Nippon Life Insurance's** investment in MLC, **Daido Life's** investment in Integrity Life and **MS&AD's** investment in Challenger and BoCommLife in recent years).

Increased compliance requirements and costs associated with capital, create challenges in this market for investors. However, the Westpac transaction may be reflective of an opportunity for Japanese companies to consolidate the Australian life insurance market as a means to diversify in the face of Japan's ageing and declining population.

Other financial services activity included:

- **Nikko Asset Management** merged its Australian funds management business with Yarra Capital Management, giving Nikko a 20% shareholding in the enlarged group.
- **Shinsei Bank** acquired a 10% shareholding in now ASX-listed Latitude Group Holdings (a consumer finance company) for an estimated \$300 million. This transaction followed its acquisition of ANZ Banking Group's UDC Finance (an auto and machinery asset finance company in New Zealand) in 2020 as part of Shinsei's recent move into Oceania.
- **Nomura Holdings** entered into a strategic alliance with Jarden in Australia and New Zealand to provide Jarden's clients with a full suite of market-leading services, whilst Nomura will provide its global network and product capabilities to support clients across equity capital markets, debt capital markets, and acquisition and leverage finance.

10. Divestments continued

Japanese companies are no longer holding assets for extended periods if they do not fit strategically or are unlikely to generate the required return on investment. Examples include:

- **Japan Post Toll** sold the Australian and New Zealand operations of its Toll Global Express business to Allegro Funds.
- **Sanoyas Hishino Meisho** sold the Melbourne Star Observation Wheel to Swiss company ROBU Group after the COVID-19 lockdown impacts in Melbourne caused trading difficulties.
- **Komatsu** sold its US and Australian based conveying business to Stellex Capital Management.
- **NTT Data** sold Figtree Systems (an Australian headquartered business focused on insurance, WH&S and fleet management) to Vela Asia Pacific (subsidiary of Constellation Software).

11. Vertical integration

Vertical integration continues to be an investment opportunity for Japanese companies. Historically, this has been most prominent in the housing industry, but there is increasing sector diversity:

- **Bridgestone** acquired Otraco from Downer Group, an off-the road tyre management solutions provider, as part of a strategic growth investment to accelerate the global expansion of its solutions business.
- **Torishima Pump** acquired Australia Fluid Handling (provider of engineering and services of oil & gas including LNG, pumps, compressors, valves and fuel storage systems mainly used in the chemical and mining industries in Australia). This investment will service Japanese entities in the new energy sector, in order to realise the net-zero carbon neutrality strategy.

12. Infrastructure

Our 2020 prediction that there would be accelerated activity in investment in economic infrastructure (rail, rolling stock, ports, roads), did not come to fruition in 2021, largely due to the extended nature of lockdowns in major Australian cities. However, with Australia moving towards a post-COVID world (living "WITH コロナ"), and the announcement of the 2032 Brisbane Olympics, this activity may now increase. Japanese companies will be welcome partners to help facilitate the development of economic infrastructure consistent with the Japanese Government's "infrastructure export policy".

The procurement models of State governments for economic infrastructure are shifting towards an "Alliance" style procurement advocated by contractors and away from new PPPs. This is likely to continue with interest rates remaining at historically low levels.

This model is more difficult for Japanese companies to participate, but it may drive greater participation by Japanese general contractors (*Zenekon*). Japanese companies are adapting by proposing innovative

finance models (as Japanese mega-banks are now well-established in the market and lending to non-Japanese consortia). They are also submitting unsolicited proposals to State governments. These proposals, if they provide a novel or unique solution, may lead to an exclusive mandate.

For example, the **Nichigo Health consortium** (led by **Hitachi Corporation**) has won initial support from the NSW Government to further develop its proposal for the Westmead Hybrid Particle Therapy and Research Centre, a proton beam therapy centre at Westmead Hospital for cancer treatment.

Other infrastructure related activities include:

- **Marubeni's** participation in the Sydney Metro City & Southwest Project and Gold Coast Light Rail extension (Stage 3).
- **ITOCHU's** on-going participation in the consortia delivering the Queensland New Generation Rollingstock Project and owning and operating the Victorian Desalination Project.
- **JR Tokai's** continued promotion of high-speed rail opportunities strongly supported by the Japanese Embassy in Australia.

There is also increased interest in social infrastructure PPPs (such as hospitals, schools, prisons). **Marubeni** (through its asset management subsidiary MM Capital Partners) (Royal Adelaide Hospital) and **Sojitz** (Footscray Hospital, the single largest health infrastructure investment in Victoria) have taken shareholdings in these PPP projects.

The Western Parkland City Authority (**WPCA**) and the Japanese business community are actively working together to maximise business opportunities in major urban developments. Cornerstone MOU partners **Mitsubishi Heavy Industries, Sumitomo Mitsui Financial Group, Hitachi** and **Urban Renaissance Agency, NEC** and **Daikin** continue to support WPCA as Foundation Partners.

13. Healthcare

Japanese trading houses have been looking at taking strategic shareholdings in medical service providers to attain operational management experience and supply opportunities. This was anticipated in the 2020 Report and gradually coming to fruition in 2021. For example:

- **Sojitz** acquired a shareholding in **Qualitas Medical**, a leading South-East Asia and Australian healthcare and wellness services provider.
- **M3 Inc**, a company which provides medical related services online, acquired **Ekas**, a leading market research provider for healthcare professionals in Australia.

With Australia's robust economic growth, population growth, well-established healthcare system and market stability, Japanese companies – particularly trading houses – will likely make further investments in the attractive healthcare market segment.

14. Circular economy

The Australian Government is driving transformation in the circular economy through the introduction of new technologies and expertise, including by granting priority business migration visas. Japanese companies are looking closely at opportunities in innovative waste management solutions (e.g. waste to energy), product re-use and recycling. Austrade has identified the circular economy as one of its top priority areas.

The **Asahi Beverages**, PACT Group and Cleanaway Waste Management joint venture has commenced construction to build and operate a new \$45 million PET recycling facility in Albury-Wodonga. The facility will process raw plastic material collected through the container deposit schemes and kerbside recycling, which will be used to produce new recycled PET bottles and food packaging.

15. Japanese financing and ESG

The strong growth in Japanese banks financing Australian economic and social infrastructure and renewables projects continued, in both initial loans and secondary debt markets. Projects have also been increasingly supported by non-bank lenders such as Japanese insurance companies and pension funds.

Japanese banks are actively recruiting experienced local Australian senior bankers and aggressively building their Australian corporate client base.

By deal count, Sumitomo Mitsui Banking Corporation (**SMBC**) was the top non-Australian lender and ranked 3rd overall, and **Mizuho Bank** and **Mitsubishi UFJ Financial Group (MUFG)** ranked 7th and 9th respectively.

Nomura is focusing on acquisition and leveraged finance, particularly for private equity acquisitions. **Norinchukin Bank** is also becoming increasingly active after establishing a Sydney office in 2017, and the Japanese Government-owned **Japan Bank for International Cooperation (JBIC)** re-opened a Sydney office in March 2022. JBIC is focused on providing long-term finance to hydrogen projects from pilot stage to commercialisation from 2025 onward, as well new LNG projects which will continue to play an important role in energy transition in Japan.

Sustainable financing featured as an element of significant loans. For example, the Royal Adelaide Hospital refinancing was the first operational infrastructure project in Australia to achieve a

refinancing that accords with both the Green Loan Principles and the Social Loan Principles.² The \$2.2 billion debt refinancing was supported by a syndicate that included **Mizuho Bank**, **MUFG**, **Nippon Life Insurance**, **Norinchukin Bank** and **SMBC**.

The importance of sustainability considerations to Japanese lenders is also demonstrated by their loans to landmark renewables projects, both directly and indirectly through acquisition finance. For example:

- **MUFG**, **SMBC** and **Mizuho Bank** financed Powering Australian Renewables' takeover of ASX-listed Tilt Renewables. The acquisition debt financing of \$1.23 billion included a \$700 million debt component for the construction of Tilt Renewables' 396MW Rye Park Wind Farm. This deal was awarded Asia-Pacific ESG Deal of the Year by *Project Finance International*;
- The Dulacca Wind Farm was financed by a syndicate that included **MUFG** and **SMBC**;
- **JBIC** and **Sojitz** signed a loan agreement to finance the Edenvale Solar Park; and
- **SMBC**, Clean Energy Finance Corporation and ING financed X-Elio's Blue Grass Solar Farm in Queensland. X-Elio is a leading global renewable energy producer, and this will be the largest Australian solar farm in its portfolio.

Japanese lenders have demonstrated clear intent to continue supporting these projects. For example, **MUFG** is increasingly being retained for debt advisory roles on renewables projects.

Critically, Japanese banks, insurance companies and fund managers alike have ambitious targets to invest in green project financing. For example, **Norinchukin Bank's** target is 10 trillion yen in new sustainable finance by 2030. Complementing these targets is the **Bank of Japan's** new fund-provisions measure, through which it will provide funds to financial institutions for investment and loans that aim to address climate change.

Australia, a fiscally sound market with an AAA credit rating, will continue to be a popular destination for Japanese lenders to commit these funds.

² Both are a set of voluntary guidelines prepared by the Loan Market Association (LMA), Asia Pacific Loan Market Association (APLMA) and the Loan Syndications and Trading Association (LSTA) and International Capital Markets Association (ICMA).

Herbert Smith Freehills

Herbert Smith Freehills is a leading global law firm bringing together the best people across our 26 offices in Japan, Australia and worldwide, to meet clients' legal services needs globally. We are the largest law firm in Australia and are consistently ranked No.1 in M&A, both in number of deals advised and value of deals.

Our Australia Japan Practice is a unique team of experienced bilingual and bicultural lawyers, specialising in advising Japanese businesses on their investments and operations in Australia. Herbert Smith Freehills' team has more experience advising Japanese businesses on Australian investments than any other law firm.

Herbert Smith Freehills was involved in 12 of the 33 M&A transactions (including 3 undisclosed deals) surveyed for this Report, more than any other disclosed legal adviser.

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Details of M&A transactions surveyed in 2021

No	Buyer	Target/Seller	Description of Transaction	Deal Value (A\$ millions)	Industry	Date Announced / Completed
1.	Torishima Pump Mfg. Co., Ltd	Sturrock & Robson Australasia Pty Ltd	Torishima Pump completed its acquisition of shares of Australia Fluid Handling from Sturrock & Robson Australasia.	Undisclosed	Industrial products and services	12/01/2021
2.	Beach Energy Limited	Mitsui & Co., Ltd.	Beach Energy Limited acquired Trefoil Field, an Australia based oil and gas field, and BassGas Project, an Australia based oil and gas project, from Mitsui & Co., Ltd. , for an undisclosed consideration. Post-acquisition, Beach will own 88.75% stake in BassGas and 90.25% stake in Trefoil.	Undisclosed	Energy	27/01/2021
3.	ROBU Group	Sanoyas Rides Corporation	Swiss company ROBU Group acquired Sanoyas Rides Australia Pty Ltd from Sanoyas Holdings Corporation.	2	Leisure	31/01/2021
4.	Sojitz Corporation	Qualitas Medical Limited	Sojitz Corporation acquired a shareholding in Qualitas Medical Limited, a leading provider of primary healthcare and wellness services in the Asia Pacific region.	Undisclosed	Healthcare	1/03/2021
5.	Yarra Capital Management	Nikko Asset Management Co., Ltd.	TA Associates Management, LP., through its portfolio company Yarra Capital Management, acquired the Australian business of Nikko Asset Management Co., Ltd. , for an undisclosed consideration in return for Nikko Asset Management obtaining 20% shareholding in the merged group.	Undisclosed	Financial Services	Announced 2/03/2021 Completed 12/04/2021
6.	Shinsei Bank, Limited	Latitude Financial Group	Shinsei Bank acquired a 10% shareholding in Latitude Financial Group, the Australian consumer finance company, from Deutsche Bank, KKR, and Varde Partners.	300	Financial Services	10/03/2021
7.	Sojitz Corporation	Footscray Hospital	Sojitz acquired an economic interest in the new Footscray Hospital. An operating company was established with 30% interest held by Sojitz whilst the remaining 70% is held by Australia's Plenary Group to deliver the \$1.5 billion project.	Undisclosed	Healthcare	11/03/2021

No	Buyer	Target/Seller	Description of Transaction	Deal Value (A\$ millions)	Industry	Date Announced / Completed
8.	Stellex Capital Management LP	Komatsu Mining Corporation	Stellex Capital Management LP agreed to acquire US and Australian-based conveying businesses of Komatsu Mining Corp. , a wholly owned subsidiary of Komatsu Ltd.	Undisclosed	Industrial products and services	11/03/2021
9.	Nomura Research Institute, Ltd	The Growth Fund	Nomura Research Institute, Ltd fully acquired SQA Holdco Pty Ltd, the holding company of Australia-based Planit Test Management Solutions Pty Ltd.	Undisclosed	Computer services	12/03/2021
10.	Mitsubishi Corporation	Glencore Plc	Mitsubishi Corporation reached an agreement with Glencore Plc to acquire a 30% interest in the Aurukun Bauxite Project in Australia currently wholly owned by Glencore.	Undisclosed	Mining	18/03/2021
11.	Asahi Kasei Homes Corporation	McDonald Jones Homes Pty Ltd	Asahi Kasei Homes Corporation acquired an additional 40% shareholding in McDonald Jones Homes Pty Ltd.	Undisclosed	Construction	19/04/2021
12.	Allegro Funds Pty Ltd.	Toll Holdings Limited	Toll Holdings Limited, a subsidiary of Japan Post Holdings Co. , sold the Australian and New Zealand operations of Toll Global Express business to Allegro Funds Pty Ltd.	7.8	Transportation	Announced 21/04/2021 Completed 1/09/2021
13.	Bridgestone Mining Solutions Australia Pty. Ltd.	Downer EDI Limited	Bridgestone Mining Solutions Australia Pty. Ltd. (subsidiary of Japanese Bridgestone Corporation) acquired Otraco International Pty Ltd, an Australian-based provider of off-the-road tire management solutions, from Downer EDI Limited.	79	Industrial products and services	Announced 26/04/2021 Completed 1/12/2021
14.	AWE Limited	Norwest Energy NL	Mitsui's subsidiary AWE acquired 27.945% of Norwest Energy's oil and gas exploration permit in respect of Block EP413.	0.15	Industrial products and services	30/04/2021
15.	Mitsui E&P Australia Pty Ltd	Outback Carbon	Mitsui E&P Australia Pty Ltd (MEPAU), a wholly owned subsidiary of Mitsui & Co. (Mitsui), acquired the carbon project developer and service provider businesses of Outback Carbon.	Undisclosed	Energy	18/05/2021
16.	ITOCHU Corporation and Mitsui & Co., Ltd.	Western Ridge Iron Ore Deposits in Australia	ITOCHU and Mitsui and separately acquired 8% and 7% interest in the Western Ridge iron ore deposits from BHP.	Undisclosed	Energy	02/06/2021

No	Buyer	Target/Seller	Description of Transaction	Deal Value (A\$ millions)	Industry	Date Announced / Completed
17.	Sojitz Corporation & ENEOS Corporation	DPI Solar 3 Pte Ltd	Sojitz Corporation and ENEOS Corporation each acquired a 50% shareholding in Edenvale Solar Park Pty Ltd from DPI Solar 3 Pte Ltd (based in Singapore), the owner of the 204MW Edenvale Solar Park.	Undisclosed	Energy	10/06/2022
18.	Vela Software International, Inc.	NTT DATA Corporation	Vela Software International, Inc. acquired Figtree Systems Pty Limited, an Australia-based software company, from NTT DATA Corporation , for an undisclosed consideration.	Undisclosed	Technology	16/06/2021
19.	Mitsubishi Estate	Lendlease	Mitsubishi Estate and Lendlease entered into a joint venture to deliver Residences Two, the second residential tower at scenic One Sydney Harbour, Barangaroo. Under the terms of this joint venture, Mitsubishi Estate will acquire a 25% interest in the tower. Residences Two, which has an estimated value of approximately \$1.7 billion, will comprise 322 apartments across 68 levels.	Undisclosed	Real Estate	1/07/2021
20.	Vision Fund 2 (Softbank)	Skedulo	Softbank's venture capital fund Vision Fund 2 led the series C capital raising of Skedulo, the leader in deskless productivity software.	USD75	Software	7/07/2021
21.	Vision Fund 2 (Softbank)	Go1	Softbank's venture capital fund Vision Fund 2 invested US\$200 million with TEN13, Seek Ventures, Salesforce Ventures and Airtree in Series D funding, making it the latest 'unicorn' company in Australia.	USD200	Education	20/07/2021
22.	Mitsubishi Corporation	Australian Integrated Carbon Pty Ltd	Mitsubishi Corporation acquired a 40% shareholding in Australian Integrated Carbon Pty Ltd, the Australia-based company engaged in the sale of nature-based carbon credits, for an undisclosed consideration.	Undisclosed	Services	29/07/2021
23.	TAL Dai-ichi Life Australia	Westpac Banking Corporation	TAL Dai-ichi Life Australia Pty Limited , an Australian subsidiary of Dai-ichi Life International Holdings LLC agreed to acquire Westpac Life Insurance Services Limited from Westpac Banking Corporation and entered into an exclusive 20-year strategic alliance for the provision of life insurance products to Westpac's Australian customers.	900	Financial Services	8/08/2021

No	Buyer	Target/Seller	Description of Transaction	Deal Value (A\$ millions)	Industry	Date Announced / Completed
24.	Sumitomo Metal Mining	JOGMEC	Sumitomo Metal Mining Oceania , a wholly-owned subsidiary of Sumitomo Metal Mining agreed to acquire JOGMEC's interest in the Mt Isa East copper-gold exploration project operated by ASX-listed Hammer Metals.	Undisclosed	Energy	18/08/2021
25.	ITOCHU Corporation	Mineral Carbonation International	ITOCHU Corporation acquired an undisclosed interest in Mineral Carbonation International, an Australia-based company engaged in developing & commercialising mineral utilisation & transformation technology, for undisclosed consideration.	Undisclosed	Industrial products and services	Announced 06/05/2021 Completed 25/08/2021
26.	ASICS Corporation	Registration Logic Pty Ltd	ASICS Corporation acquired Australian race registration platform Registration Now.	Undisclosed	Industrial products and services	17/11/2021
27.	Mitsui & Co., Ltd.	New Forests	Mitsui & Co., Ltd. invested in a forestry carbon offset fund, jointly developed with, and managed by New Forests.	50	Industrial products and services	3/12/2021
28.	JERA	Santos	JERA , through its Australian subsidiary, and Santos announced they had signed a binding Sale and Purchase Agreement for JERA to acquire a 12.5% interest in Santos' Barossa project.	USD300	Energy	9/12/2021
29.	M3 Inc.	Ekas Marketing	M3 acquired Ekas Marketing, a leading market research provider for healthcare professionals in Australia.	Undisclosed	Healthcare	9/12/2021
30.	First Sentier Investors (owned by Mitsubishi UFJ Financial Group) / Palisade Investment Partners Limited	HRL Morrison & Co (Australia) Pty Ltd	HRL Morrison sold a 50% interest in the Macarthur Wind Farm to funds managed by Palisade Investment Partners and First Sentier Investors (ultimately owned by Mitsubishi UFJ Financial Group).	Undisclosed	Energy	21/12/2021

In addition, there were 3 confidential transactions which were not publicly announced.

Details of partnerships surveyed in 2021

No	Date	Party A	Party B	Details of partnership	Industry
1.	22/01/2021	Sumitomo Corporation	JGC Holdings Corporation	<p>Sumitomo Corporation and JGC Holdings Corporation, which operates the overseas engineering, procurement, and construction business of the JGC Group, have signed a Front End Engineering and Design contract for the hydrogen related project planned by Sumitomo Corporation in Gladstone, Australia.</p> <p>This project is part of a broader program that aims long term to build local hydrogen production and consumption in Gladstone by producing hydrogen from electrolysis of water using electricity from Solar PV as the main power source.</p>	Energy & Resources
2.	05/02/2021	Asahi Beverages	PACT Group and Cleanaway Waste Management	<p>Asahi Beverages, PACT Group and Cleanaway Waste Management have formed a collaborative cross-industry joint venture. The company will build and operate a new \$45 million PET recycling facility in Albury-Wodonga to process raw plastic material collected through the container deposit schemes and kerbside recycling, which will be used to produce new recycled PET bottles and food packaging.</p>	Industrial
3.	15/03/2021	LE System Co Ltd	Technology Metals Australia (ASX: TMT)	<p>LE System (LES) entered into a MOU with TMT to assess the potential application of LES' proprietary technology to extract vanadium and other metals from the Gabanintha Vanadium Project waste streams.</p> <p>The MOU will also explore establishing a joint venture to investigate the opportunity to manufacture Vanadium Redox Flow Batteries electrolyte in Western Australia – supporting TMT's downstream processing strategy.</p>	Energy & Resources
4.	10/05/2021	Nomura Holdings, Inc.	Jarden	<p>Nomura entered a strategic alliance in Australia and New Zealand with Jarden to bring together the parties' complementary abilities for the benefit of clients. Nomura will provide its global network, product capabilities and a strong balance sheet to support clients across equity capital markets, debt capital markets, and acquisition and leverage finance.</p> <p>Through the alliance, which will enable greater global reach, product expertise and capital commitment for clients of both firms, Jarden and Nomura seek to capitalise on changing competitor dynamics in Australia and New Zealand, and the chance to offer a differentiated service.</p>	Financial Services

No	Date	Party A	Party B	Details of partnership	Industry
5.	11/05/2021	JERA	Yarra International	<p>JERA entered a MOU with Yara International, a world leader in the production of nitrogen fertilizer, related to cooperation in the ammonia value chain business, including development of a blue ammonia production plant.</p> <p>Under the MOU, JERA and Yara have agreed to pursue potential collaboration in the following areas:</p> <ul style="list-style-type: none"> • Improvements to the Yara Pilbara Fertilizer plant in Australia to enable the production of blue ammonia • Joint development of new blue and green ammonia production projects • Optimization of ammonia shipping • Supply and development of new demand for ammonia in Japan including in power generation. 	Energy & Resources
6.	20/05/2021	IHI Corporation, Marubeni Corporation	Woodside Energy	<p>IHI Corporation, Marubeni Corporation and Woodside Energy signed a Heads of Agreement to investigate the production and export of green ammonia produced from renewable hydro power in the Australian state of Tasmania.</p>	Energy and Resources
7.	24/05/2021	Inpex	Future Energy Exports Cooperative Research Centre (FEnEx CRC)	<p>INPEX signed an agreement with the FEnEx CRC to join the world class research and development of new technologies that will lower the cost and carbon emissions of energy production in Australia.</p> <p>The partnership with FEnEx CRC involves research funding of \$1.5 million, supporting studies on efficiency of LNG production value chains, digital technologies, and new hydrogen energy and export to market.</p>	Energy & Resources
8.	8/06/2021	Yamaha Motor Co., Ltd, The Yield Technology Solutions Pty Ltd	Treasury Wine Estates	<p>The Yield Technology Solutions and Yamaha partnered with Treasury Wine Estates (ASX: TWE) on a R&D project to optimise yield prediction in wine grapes and to improve autonomous crop spraying with the use of robots.</p> <p>Yamaha is a leader in robotics in intensive irrigated crops and already provides commercial services in the US.</p> <p>During the 18-month R&D project, the Yield and Yamaha will negotiate commercial arrangements to bring a joint solution for intensive irrigated crops to international markets in early 2022.</p>	Agriculture
9.	21/06/2021	ITOCHU Corporation	Australian Future Energy	<p>ITOCHU Corporation entered a MOU with Australian Future Energy, which is developing the \$1 billion Gladstone Energy and Ammonia Project (GEAP).</p> <p>ITOCHU is set to provide an unspecified sum towards the \$26.7 million needed for the GEAP to reach financial close, which is targeted for late 2022. The project assumes an extended role for a low-cost fossil energy-based form of hydrogen and aims to achieve commercial production by late 2024.</p>	Energy & Resources

No	Date	Party A	Party B	Details of partnership	Industry
10.	1/07/2021	Sekisui House	Greg Norman	Golf legend Greg Norman announced a new partnership with residential property developer Sekisui House . The Australian-first partnership will see an exclusive residential community built in Camden, Sydney, combining Sekisui House's own SHAWOOD home design and construction with the 'global luxury lifestyle philosophy' of Norman Estates.	Real Estate
11.	2/08/2021	ENEOS	Neoen	ENEOS signed a MOU with Neoen to conduct a study on a potential business collaboration for the construction of a green hydrogen supply chain between Japan and Australia. ENEOS plans to conduct a study for collaboration with a local company in Australia to build a supply chain for an affordable and stable supply of CO ₂ -free hydrogen produced from renewable energy.	Energy & Resources
12.	11/08/2021	Mitsui O.S.K. Lines	Origin Energy	Mitsui OSK Lines and Origin will explore how Australian green ammonia projects could supply key downstream markets from 2026, with a joint feasibility study completed in December 2021.	Energy & Resources
13.	18/08/2021	ITOCHU Corporation	Dalrymple Bay Infrastructure Limited and Brookfield Asset Management Inc	North Queensland Bulk Ports entered into a MOU with ITOCHU , Dalrymple Bay Infrastructure Limited and Brookfield Asset management to jointly explore the feasibility of producing and storing green hydrogen, establishing a supply chain including exporting green hydrogen using Dalrymple Bay Terminal's existing export facilities.	Energy & Resources
14.	24/08/2021	Sumitomo Corporation	Rio Tinto	Sumitomo Corporation and Rio Tinto announced a partnership to study the construction of a hydrogen pilot plant at Rio Tinto's Yarwun alumina refinery in Gladstone and explore the potential use of hydrogen at the refinery.	Energy & Resources
15.	24/08/2021	ENEOS	Origin Energy	ENEOS and upstream and utility firm Origin Energy are to jointly explore a potential green hydrogen supply chain from Australia to Japan.	Energy & Resources
16.	15/09/2021	Nichigo Health consortium	NSW Government	The Nichigo Health consortium , led by Hitachi Corporation , won support from the NSW Government for plans for the Westmead Hybrid Particle Therapy and Research Centre. The consortium includes parties such as Pacific Partnerships, CPB Contractors, and UGL. Nichigo Health is proposing the advanced centre at Sydney's Westmead Health and Innovation District. It will contain a particle accelerator to help treat cancer patients and undertake research. The project includes associated offices, educational facilities and a multistorey carpark, feeding into the overall Westmead Health and Innovation District.	Healthcare

No	Date	Party A	Party B	Details of partnership	Industry
17.	16/09/2021	APA Group	Stanwell, Iwatani Corporation, Kawasaki Heavy Industries, Kansai Electric Power Company, Marubeni Corporation	<p>APA Group has joined an international hydrogen consortium, consisting of Australian (Stanwell) and Japanese (Iwatani Corporation, Kawasaki Heavy Industries, Kansai Electric Power Company and Marubeni) partners, in a plan to create a green hydrogen project in Gladstone.</p> <p>The parties are currently undertaking a feasibility study to consider the export of green hydrogen to Japan by 2026 while also supplying large industrial customers in central Queensland.</p> <p>The parties aim to eventually increase to over 3000 megawatts of electrolysis capacity by the early 2030.</p>	Energy & Resources
18.	4/10/2021	Mitsui & Co., Ltd. and JOGMEC	Wesfarmers Chemicals, Energy & Fertilisers Limited	<p>Mitsui and JOGMEC agreed to conduct a joint feasibility study on Carbon Capture and Storage in Western Australia associated with Mitsui's Perth Basin investments.</p> <p>Mitsui also agreed with Wesfarmers Chemicals, Energy & Fertilisers Limited to jointly study the commercial and technical viability of building a low carbon ammonia production plant, which will include CCS solutions to be provided by Mitsui in Western Australia.</p>	Energy & Resources
19.	5/10/2021	Prime Planet Energy & Solutions, Toyota Tsusho Corporation	BHP	<p>Prime Planet Energy & Solutions (PPES) and Toyota Tsusho Corporation (TTC) have entered into a MOU with BHP for the supply nickel sulphate for EV batteries from BHP Nickel West in Western Australia.</p> <p>PPES will turn the nickel sulphate into lower carbon batteries for EV manufacturers like TTC. PPES will also explore the recycling of battery scrap and used batteries at Nickel West for further processing to reduce waste.</p>	Energy & Resources
20.	2/11/2021	ENEOS, Chiyoda Corporation	Queensland University of Technology	<p>ENEOS, Chiyoda Corporation and Queensland University of Technology announced that they had succeeded in expanding the scale of their technological verifications of CO₂-free hydrogen to a practical level for the first time in the world.</p>	Energy & Resources
21.	5/11/2021	Japan Australia LNG	Woodside and BP	<p>Japan Australia LNG (owned by Mitsubishi Corporation and Mitsui) formed a consortium with Woodside and BP to progress feasibility studies for a large-scale, multi-user carbon capture and storage project near Karratha, Western Australia.</p>	Energy & Resources
22.	30/11/2021	NTT Corporation	University of Technology Sydney	<p>NTT Corporation partnered with University of Technology Sydney to promote smarter, safer and more secure cities in NSW, focusing on the following areas:</p> <ul style="list-style-type: none"> • Development of cutting-edge technologies and products; • Joint Market Development for new R&D technologies; and • Fostering Start-up Ecosystem between Academics and Industry. 	Digital Transformation
23.	13/12/2021	Japanese gas company	Sanguine Impact Investment	<p>Aqua Aerem (a technology company, subsidiary of Sanguine Impact Investment) executed an agreement with a major Japanese gas company to co-develop the Desert Bloom Hydrogen project.</p>	Energy & Resources

No	Date	Party A	Party B	Details of partnership	Industry
24.	22/12/2021	Osaka Gas	Woodside, Keppel Data Centres, City-OG Gas Energy	Osaka Gas Singapore (subsidiary of Osaka Gas Co., Ltd) entered a MOU with Woodside, and Singapore's Keppel Data Centres, City-OG Gas Energy to study a long-term supply of liquid hydrogen from Western Australia to Singapore and potentially Japan.	Energy & Resources
25.	23/12/2021	Osaka Gas	ATCO Australia	Osaka Gas signed a MOU with ATCO Australia for a joint methanation study, which will explore the viability of a methanation concept to produce synthetic methane from green hydrogen and carbon dioxide captured from carbon emitting facilities like power plants or atmosphere.	Energy & Resources