



HERBERT
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Australian
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JAPAN-AUSTRALIA INVESTMENT REPORT 2023: PARTNERS IN PROSPERITY

7TH EDITION



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Japan-Australia Investment Report 2023: Partners in Prosperity

Executive Summary:

Key takeaways on Japan-Australia Investment for 2023

- **A record 53 M&A transactions were signed in 2023**, driven by familiar fundamental macroeconomic and geopolitical factors: Japanese companies seeking growth markets, energy security and new technology; and the attractiveness of Australia's stable government, population growth, economic strength, rule of law and high-margin consumer markets.
- **Japanese FDI (foreign direct investment) in Australia reached a new record high of \$133.8 billion**, 12% of all FDI in Australia. Japan again ranked third¹ in terms of cumulative FDI but Japan and the United Kingdom have been swapping second and third positions for the past five years.
- **Two-way trade between Australia and Japan was valued at \$143.3 billion in FY2023**, making Japan Australia's second-largest trading partner and second-largest export destination at \$115 billion. This amounted to a 24% increase in two-way trade compared to FY2022 following a 75% increase from FY2021. Exports to Japan fell in 2023, from the record level of 2022, mostly due to a significant fall in the coal price, and to a lesser extent, the LNG price.
- **There was a significant lift in the profile of bilateral cooperation** between Governments in the context of increased global uncertainty. Travel for business grew, highlighted by the record attendance at the joint business conference, and tourism returned to pre-pandemic levels.
- **Continuation of the sector diversification which was evident until the Covid-19 disruption and resumed in 2023**. Expect this to continue in 2024 as companies accelerate mid-term business plans and respond to Government policy settings on decarbonisation.
- **Japanese finance is one of the great untold stories of supporting Australian prosperity**. Japanese banks continue to finance Australian economic and social infrastructure and renewables projects, in both initial loans arrangements and syndication markets.
- **ESG considerations were the fundamental threshold criterion in investment decisions**. Especially for listed Japanese corporations responding to external scrutiny of decisions by activist stakeholders and independent non-executive directors.
- **Japanese investment in real estate is booming, and Australia is increasingly recognised for its innovation, technology and R&D opportunities**. The consumer sector is very attractive and beer, life insurance and paint is now "Owned by Japan".
- **Australia is a very lucky country with energy self-sufficiency of c. 340%**. Conversely, Japan has energy self-sufficiency of only 12.6%². This natural insecurity was further exacerbated by the 1973 oil crisis, the 2011 Fukushima nuclear accident and the continuing Russia-Ukraine war, which has greatly increased energy prices. At the same time, the Japanese yen has depreciated against the United States dollar by 30% since 2022, reaching its lowest level since 1990.
- **Australian energy exports account for just over 33% of Japan's energy needs** — imports from Australia of LNG (41%), thermal coal (64%) and uranium (33%) keep the lights on in Japan for eight hours a day ("nothing else matters if the lights go out"). The next most important imported sources of Japanese energy are Saudi Arabia at 15% (primarily oil), UAE at 12% (oil and LNG) and Russia at less than 9% (coal, oil and LNG), followed by Indonesia (coal and LNG) and Qatar (oil and LNG).

¹ Australian Bureau of Statistics for 2022: United States (\$184.3 billion) and United Kingdom (\$138 billion) and Japan (\$133.8 billion)

² https://www.enecho.meti.go.jp/statistics/total_energy/pdf/qaiyou2022fysoku.pdf (see graph on page 7)

- **Coal and LNG accounted for 74% of Australia’s exports to Japan in 2023.** Reflecting Japanese government and industry assessments that LNG will be essential for Japan's energy transition to net zero emissions by 2050, Japanese companies continued to buy into LNG projects, while at the same time there were further divestments of coal assets (usually unannounced).
- **“New Energy” (hydrogen, ammonia and renewables)** continues to be strongly supported by the Japanese and Australian Governments, financiers, credit agencies, energy companies, engineering firms, port owners, trading houses and funds. There are seven hydrogen and ammonia projects with Japanese participation that are progressing towards commercialisation.
- **The end of Covid-19 travel restrictions in 2022 meant new entrants were able to undertake due diligence and negotiations in person.** Given the gestation period for M&A and JV transactions is usually around 18 to 24 months, expect more announcements in 2024. FIRB approvals indicate investment will continue to grow and diversify.
- **The key investment trends within this context are:**

| Top 10 Trends | |
|---------------|---|
| 1 | Real Estate > |
| 2 | Innovation > |
| 3 | Consumer > |
| 4 | Decarbonisation > |
| 5 | Hydrogen and ammonia > |
| 6 | LNG and coal > |
| 7 | Minerals > |
| 8 | Life insurance and financial products > |
| 9 | Financing > |
| 10 | Infrastructure > |

| Emerging Trends |
|----------------------------|
| Medical and healthcare > |
| Defence, space and cyber > |
| Tourism > |

2023 M&A overview – Mega deals and sector diversification are back!

Japanese M&A in Australia increased significantly in 2023 compared with 2022, while global M&A decreased. Australia is regarded as an attractive destination within a global investment portfolio as it is politically stable, a growing market and encouraging of Japanese investment.

The current contradictions in the Japanese economy which are both fascinating and a real positive for Australia are summarised on page 7. In an uncertain economic and geo-political world Australia is a lower-risk and higher reward market for Japanese companies which are cash-rich but face a decreasing customer base.

2023 saw an acceleration of sector diversification in Japanese investment in Australia, a trend that has long shown signs of promise. Our 2019 Report was titled “*More deals, more dollars and more sector diversity*”, but this trend was interrupted by the Covid-19 pandemic.

The Japanese domestic market in the medium to long-term will have significantly fewer customers for products and services, and the ageing population will impact the type of products and services required. For many Japanese companies there is no other option but to expand into overseas markets.

Australia enjoys a growing population that is getting younger due to net positive immigration, increasing GDP, high margins (as well as high prices and costs), an English-speaking population, rule of law, is politically stable and in similar time zones to Japan. These factors make it an attractive market for Japanese companies as part of an overseas portfolio.

There were a record 53 M&A transactions and 38 new partnerships in 2023.³ As expected, energy-related transactions are notable but the interesting trends are the major B2C acquisitions (**Kirin**, **Seven & i Holdings** and **Kao**) which show the attractiveness of the Australian domestic consumer market and the continuation of acquisitions of technology / BioTech companies by **Fujifilm**, **Otsuka Pharmaceutical**, **Nissui**, **Fujitsu**, **Angel Group**, **Komatsu**, **Hitachi**, **MUFG**, **ROHTO Pharmaceutical** and **Softbank Robotics**.

Takeovers of listed Australian companies by way of a scheme of arrangement are becoming increasingly common for larger transactions with three in 2023 (and already two announced in 2024): **Renesas**' \$9 billion bid for ASX-listed Altium and **J-POWER**'s \$375 million bid for ASX-listed Genex Power). Under a scheme of arrangement, a fixed price is negotiated by the bidder with the board of the target company and is almost always approved by shareholders, which gives certainty to the Japanese acquirer.

The most notable M&A transactions involving Japanese companies in 2023 were:

Acquisitions

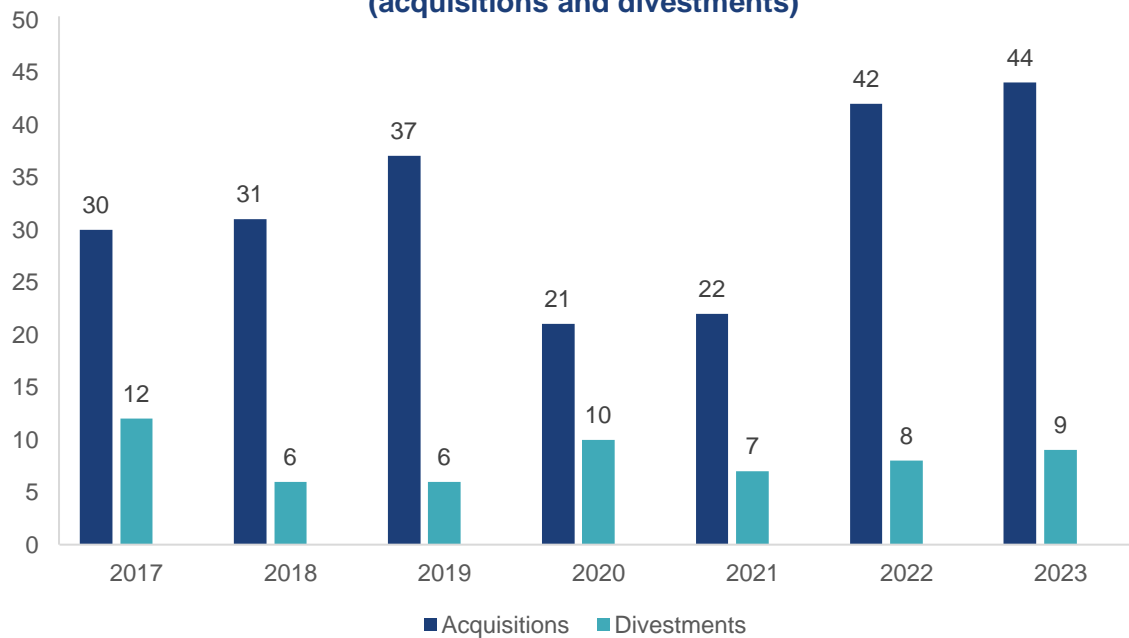
- **Kirin's** \$1.9 billion takeover of ASX-Listed Blackmores, a vitamins and supplements producer.
- **Seven & i Holdings**' (7-Eleven Japan) \$1.71 billion acquisition (together with the US arm of 7-Eleven) of 7-Eleven Australia, which operates 750 convenience stores.
- **Mitsubishi UFJ Trust Bank's** \$1.2 billion takeover of ASX-listed Link Group, a superannuation and share registry administrator.
- **LNG Japan's** US\$880 million acquisition from Woodside Energy of a 10% interest in the Scarborough LNG Project.
- **Inpex's** acquisition of Tokyo Gas' 1.575% interest in the Ichthys LNG Project through the exercise of pre-emptive rights as part of Tokyo Gas sale of all its Australian LNG interests to private equity backed-MidOcean Energy in 2022.
- **Kao's** \$450 million acquisition of skincare producer Bondi Sands.
- **Inpex's** \$326 million acquisition of a 50% shareholding in Enel Green Power's Australian assets.
- **Sojitz's** acquisition of prestige car dealer Dutton Motors from private equity.

Divestments

- **Mitsubishi Corporation** and BHP's US\$3.2 billion sale of the Daunia and Blackwater metallurgical coal mines in Queensland to Whitehaven Coal.
- **Mitsui's** sale of its 28% shareholding in International Power (Australia) Holdings, a power generation and retail business, to its joint venture partner ENGIE S.A.

³ See **Schedules 4 and 5** for the details.

Japan-Australia M&A transactions between 2017-2023 (acquisitions and divestments)



Review of transactions

Investments servicing the Australian market and technology emerged as prominent themes from our review of M&A transactions in 2023. Transactions will always need to satisfy financial criteria and be based on sound investment factors, but it is clear that energy transition and ESG factors are increasingly considered in M&A decision-making and strategy. Tech acquisitions (including AI, cybersecurity and cloud) have also been prominent with businesses focused on cost-cutting, automation and innovation. Of the 53 Japanese M&A transactions in Australia signed in 2023 (51 publicly disclosed) we reviewed, there were:

- 44 acquisitions and 9 divestments.
- 13 acquisitions or investments in real estate.
- 11 transactions in the consumer or wholesale sectors.
- 10 transactions in mining (including critical and strategic minerals) or traditional energy (such as coal or LNG).
- 9 transactions related to companies with software, IT, digital, engineering or BioTech capability.
- 6 transactions in renewables or decarbonisation.
- 4 remaining transactions included a mix of financial services, agribusiness and industrial sectors.
- 12 transactions involving new entrants to the Australian market, a majority in real estate.

There are three paradigms that describe the investment structures primarily used by Japanese companies in Australia (and that we address in all our recent reports):

- First, since the 1960s, Japanese companies have participated as minority interest holders in joint ventures, particularly in the mineral, energy and food sectors.
- Second, over the last 15 years Japanese companies have used 100% or majority acquisitions to achieve growth – notable applications of this approach in 2023 were the acquisition of businesses in the relevant supply chain or in adjacent markets to achieve market expansion.
- Third, partnerships related to new energy, real estate and innovation.

In our review of the M&A transactions and partnerships in 2023, we identified an increasing number of large Japanese corporations acquiring small to medium Australian start-up enterprises. These acquisitions are aimed at securing access to the unique technologies developed by these start-ups, for the purpose of scaling for global application.

The Japanese economy is full of contradictions

Positives



A record Nikkei 225 index (breaking through the December 1989 “Bubble Economy” high of 38,915) to over 40,000.



Record corporate profits and significant cash on corporate balance sheets.



World’s largest creditor with a net balance of external assets globally of 418.6 trillion yen and total external assets of 1.34 quadrillion yen according to the latest data at the end of 2022.



Price inflation for the first time in more than two decades, but has not experienced the high inflation of other economies post-Covid pandemic.



Goldman Sachs named seven Japanese companies including Toyota Motor and Mitsubishi Corporation as the “Seven Samurai” (comparing them with the “Magnificent Seven” US technology giants in a play on the title of Akira Kurosawa’s popular movie).



Berkshire Hathaway invested heavily in the five largest trading houses (moving from an initial 5% shareholding in August 2020 to an average of nearly 9% by February 2024).



A highly educated workforce and social stability.



Japanese trading companies are attractive investments because they sell at a sizable discount to US market valuations across most metrics and produce significant free cash flow.

Challenges



Simultaneous population decline and ageing (the population is projected to fall by about 30% from 123 million in 2023 to 87 million by 2070). Japan’s population peaked in 2008 after its working age population peaked in 1997.⁴



Economy entered into technical recession in late 2023 and early 2024.



Germany overtakes Japan as the world’s 3rd largest economy in 2024 (largely due to the weak yen).



A weak yen against major currencies, the lowest against the US dollar since 1990.



GDP per capita in Japanese yen has been growing gradually for the past 15 years but has been falling (in \$US) recently due to the depreciation of the yen.



Living standards (per capita incomes) can grow in Japan if the total output (GDP) remains steady because the population is shrinking.



Very low or negligible real wage growth for 30 years for most employees (although major unions are now demanding the largest salary increase since 1993).



The Bank of Japan Policy Rate (central bank interest rate) was zero or negative (-0.1%) for 17 years until March 2024 when it was raised to 0.1%



Low price-to-book ratios which led to the Tokyo Stock Exchange calling in mid-2023 for Japanese companies to focus on achieving sustainable growth and enhancing corporate value to avoid being a takeover target for foreign investors.



Japan currently ranks close to last in the developed world in the stock of foreign direct investment relative to the size of its economy (FDI stock to GDP ratio), failing to attract, or to open up to, foreign investment.

⁴ Australia’s population is roughly one-fifth of Japan’s today but is projected to be over half by the end of the century with Australia at 38 million and Japan falling to 73.6 million.

Key trends for 2023 and beyond



Investment trends

This year we highlight the top 10 investment trends and three emerging investment trends in Japanese investment in Australia. In particular, we have highlighted the contribution Japanese finance has made and continues to make to Australia's prosperity, the real estate boom (not a golf course in sight!) and innovation. We expect that energy transition-related investment will be a major trend for the next 30 years, but coal, LNG and iron ore will remain critical to both economies and the energy transition in the short to medium term. There are numerous energy transition-related investment opportunities in the midstream and downstream sectors.

Top 10 Investment trends

Trend 1: Real Estate – the boom is not a repeat of the 1980s

Australian commercial real estate continued to be a prime target for Japanese investors looking for growth. The opportunity to diversify income streams in a market where there is population growth, political stability and a strong economy makes Australian real estate a structurally attractive market.

Japanese power and gas utilities and railway companies, with their focus on urban development, have been active real estate developers in Japan and these investors have now entered the Australian market.

The presence of Japan's largest real estate companies, **Mitsubishi Estate, Mitsui Fudosan, Daiwa House and Sekisui House** in the Australian market makes it much easier for other Japanese investors to obtain internal investment approval.

One of the key difficulties Japanese investors face in this sector is the limited number of major real estate developers in Australia (such as Lendlease, Stockland, Charter Hall, Mirvac and Frasers) compared to the number of investors looking for opportunities. This has led to the formation of club deals, where multiple Japanese investors participate in a single development/ investment such as the 60 Margaret Street, Sydney acquisition. In these club deals, the lead investor reduces the construction risk by subsequently selling down its exposure to other club members. Once the buildings are constructed, there is an opportunity to sell down to Japanese institutional investors. A fund managed by **Mitsubishi Estate** (through MEC Global Partners Asia) led the 60 Margaret Street acquisition together with Ashe Morgan Investments. The disclosed equity investors in the fund are **Hankyu Hanshin Properties, JR West Real Estate & Development, Kintetsu Real Estate, MUFG, Nishimatsu Construction, Odakyu Electric Railway.**

Interestingly, there is an increasing appetite in Australia for the "urban development" style common in large Japanese cities that integrates commercial and residential real estate with transport solutions. Tokyo has excelled in generating new housing supply in this manner and Sydney and Melbourne, in particular, are seen as

"premium" international cities where this style of development will prove profitable. **Sekisui House's** award-winning collaboration with Frasers Property in Sydney, 'One Central Park', has become a reference point for this type of development in Australia.

Japan was the leading source of foreign investment in Australian real estate in 2023, with total capital inflows slightly above \$2 billion, a significant increase from the \$140 million invested by Japanese investors in 2022.⁵ Major investments included Daiwa House's planned \$650 million build-to-rent (**BTR**) project at Melbourne Quarter with Lendlease and Mitsubishi Estate's investment in Mirvac's \$1.8 billion BTR venture and its joint purchase of the 60 Margaret Street office tower in Sydney.

Although the three transactions represented almost 85% of investment inflows into the sector from Japan in 2023, significant further investment is expected over the next few years by real estate companies, trading houses, power and gas utilities, steel companies, railway companies and life insurance companies. Already **Mitsubishi Estate, Daiwa House, Sumitomo Forestry, NTT Urban Development, Kanden Realty & Development, Mitsui Fudosan, Sekisui House, Tokyo Gas Real Estate, Tokyu Corporation, Odakyu Electric Railway, Kajima** and **Daibiru** have made direct investments. An additional 25 companies and investment funds are looking closely at opportunities in Australia. Many of these companies and funds are open to participating in club deals by investing \$20 - \$50 million of equity in each and funding the remainder through debt financing. This diversification strategy of investing in multiple assets in different locations mitigates risk.

The Australian detached home-building sector has attracted Japanese investment through **Asahi Kasei Homes** (NEX Building Group), **Sumitomo Forestry** (Henley Homes), **Sekisui House, Daiwa House** (Rawson Homes) and **Misawa Homes** (part of the **Toyota Motor Group**) (Homecorp).

⁵ CBRE Research, 2024.

There is also increasing interest in less traditional real estate sectors including BTR, given the structural undersupply of housing in Australia. BTR has not historically been an institutionally owned asset class in Australia, largely due to relatively low yields, and a market and taxation structure that favours capital gains. However, BTR is a very well-established business model in Japan, albeit on a smaller scale, typically involving 20-30 apartments. Japanese companies' familiarity with BTR in Japan makes it easier to approve investment overseas. As Australia's BTR sector continues to institutionalise, it should offer strong liquidity and the opportunity for Japanese companies to invest in a transparent and growing market at scale.

Australia's federal and state governments will continue to refine policy measures to attract institutional investment in BTR by removing tax, duty and planning hurdles that might limit foreign institutional capital inflows at present.

Trend 2: Innovation

The Japan-Australia innovation corridor continues to build momentum as activity intensifies and multiplies in AgTech, MedTech, Space, AI, CleanTech, BioTech regenerative AI and cyber. However, there is no "playbook" — unlike the mining sector — on how companies can connect and explore collaboration, cooperation and investment opportunities. Australian state governments and Japanese prefectural governments are providing incubator and match-making services, and Japanese company pension funds are increasingly investing in start-up companies, which the companies themselves are often associated with.

Australia is now well established as a world top 10 centre for innovation and technology innovation with at least 10 "unicorns" (WiseTech, Afterpay, Atlassian, Canva, AirWallex, Culture Amp, SafetyCulture, LinkTree, GO1 (SoftBank Vision Fund 2 is an investor), Immutable Systems, Zip and Pet Circle), a great history of R&D at the CSIRO and a number of a well-regarded university research centres. This story is not as well-known in Japan as it should be, as there is natural and historical bias towards the United States and more recently, India.

Japanese investment in the Australian technology sector continued, with four M&A transactions after a combined 15 transactions in 2021 and 2022. Major transactions included:

- **MUFG** (via subsidiary Mitsubishi UFJ Trust & Banking Corporation) acquired the ASX-listed Link Group, a share registry business and data manager. Link's scaled, technology-enabled administration solutions and data analytics will complement MUFG's existing digital capabilities.
- **Fujifilm Business Innovation** acquired Sydney-based IT services company MicroChannel Services which provides software implementation services to

SME clients, spanning Microsoft, SAP, IBM, Sage, MYOB and others.

- **Komatsu** acquired iVolve Holdings, a technology company that provides fleet management systems for small to mid-tier quarry, mining and construction operations. The acquisition expands Komatsu's existing suite of fleet management technology offerings.
- **Fujitsu** acquired Australian digital transformation (DX) consultancy, MF & Associates. The acquisition marks Fujitsu's fifth acquisition since 2021 in the Australia and New Zealand region, as part of a strategic global M&A plan. MF & Associates will complement Fujitsu's 2022 acquisition of New Zealand cyber security company, InPhySec.

The Australian Capital Territory (ACT) Government announced in February 2023 that **NEC Australia** had been awarded the contract to update Canberra's public transport ticketing system (to be named MyWay+). Canberra's system will use NEC's Smart Mobility Platform to provide smart ticketing, operational intelligence, safety and security.

Nomura Research Institute's Australian subsidiary, NRI Australia (rebranded from ASG Group in 2023), an IT business solutions provider, announced plans to grow its Australia and New Zealand workforce by 50% in the coming years. NRI Australia has grown significantly through 5 acquisitions since 2016 and is the major sponsor of the NSW Waratahs Super Rugby Pacific team.

We believe activity in the technology sector will remain robust in 2024 as companies across industries prioritise digital transformation (DX) and technology upgrades to improve operations and bolster long-term growth potential. Vendors will also look for investors and partners that provide support through the next phase of corporate growth. Complete divestitures will not be the sole focus with technology companies looking for partners with capability to help scale or achieve global reach (including private equity, VC, joint ventures or partnerships).

Australia's education and research institutions are held in high regard by Japan. New research partnerships are being developed between Australian universities and Japanese companies, and commercialisation of this research has been significant.

This trend has developed as a result of the majority of R&D being undertaken by universities and CSIRO in Australia (often industry-led and with government funding), whereas in Japan, it is mostly undertaken by corporations. CSIRO has been collaborating with Japan since the mid-1980s working with Japanese universities, research organisations and commercial businesses on science impact projects. Recently CSIRO has been working with JOGMEC and the **Research Institute of Innovative Technology for the Earth, INPEX, IHI** and

Kawasaki Heavy Industries on technology development, decarbonisation projects and feasibility studies.⁶

We expect this area of partnership to continue to grow strongly, as Australian universities seek overseas partners with the capital and know-how to commercialise R&D, and Japanese corporations, pushed by government initiatives, are moving beyond their traditional innovation sources and exploring technology which can “go global” or be used in third markets. Japanese Prime Minister Kishida’s “New Capitalism” agenda places a heavy focus on both innovation and start-ups, shifting the momentum away from the large size companies where innovation in Japan has traditionally taken place.

University links between Australia and Japan, and university-business relationships, continue to receive broad support with both countries invested in boosting two-way mobility and research and development cooperation between industry and academia. Examples include:

- **Fujitsu** and Macquarie University recently announced the establishment of an AI research lab, being the first Fujitsu Small Research Lab in the Southern Hemisphere.
- **NTT** and University of Technology Sydney (UTS) have expanded upon their smart cities technology collaboration first announced in 2021 by utilising NTT’s cryptography technology in areas including cloud computing and healthcare.
- **NTT** and UTS have partnered with Food Agility to develop the next generation of green agricultural sensing and communication technologies.
- **IDOM Innovations** has a partnership with Royal Melbourne Institute of Technology (RMIT University) to focus on critical future technologies (such as AI, IoT, blockchain, augmented and virtual reality, user experience and circular economy). The partnership is working on developing market leading technologies for **IDOM Innovations’** service product, AutoFlip, such as using car-engine sound recordings to support the valuation in automobile sales, removing risk from the process and enabling higher-prices for customers of AutoFlip.
- Other R&D partnerships include Lexus (**Toyota Motor**) and the University of Melbourne; **Nippon Steel** and the University of Queensland; and **Tokyo University** and the University of Queensland.

JETRO supported by Industrial Growth Platform Inc. (IGPI) has been active through the J-Bridge business platform to facilitate collaboration and alliances (business/technical/financial) between Japanese corporations and innovative Australian companies. JETRO supports cross-border open innovation for accelerating digital transformation (DX) in six sectors: carbon neutrality, mobility, retail, healthcare, agriculture and smart cities.

The J-Bridge program globally has close to 2,000 members looking for open innovation opportunities. J-Bridge has now widened its focus in Australia beyond start-ups – to Australian universities and research institutes which are now attracting attention. JETRO recently hosted its first webinar on this theme with speakers from Austrade, **Fujitsu**, CSIRO, UTS and IGPI.

The Victorian Government has been specifically focussing on supporting Australian MedTech and pharma businesses to address the needs of Japan’s ageing population, Victorian suppliers of food and agricultural products, given Japan’s interest and demand for quality products, and increasing collaboration between Australia and Japan (particularly the Victorian defence industry) given Japan’s stated desire to increase its defence spending as a proportion of GDP by 2027.

Start-ups and venture capital

Japan Bank for International Cooperation (JBIC) and IGPI established a joint venture advisory firm (JBIC IG Partners) in June 2017 and the joint venture established a very successful Nordic and Baltic venture capital fund known as “NordicNinja”. Mr Muraoka Takashi, CEO and Managing Partner of IGPI raised the idea of a “Kangaroo Ninja Venture Capital Fund” being established to support Japan-Australia innovation collaboration in IoT, mobility, healthcare, AI / enterprise software, logistics and extended reality. The Australian Government’s R&D Tax Incentive program may complement a venture funding model along the lines of that mooted by Mr Muraoka.

MUFG established a business alliance with Artesian (Alternative Investments) (the largest Australian fund supporting start-ups / venture capital) to enable **MUFG** to provide its corporate customers with opportunities to collaborate with, and invest in, Australian early-stage start-ups.

Daiwa Securities participated in a \$450 million fundraising by Main Sequence (an Australian deep tech investment fund established by CSIRO) and is accelerating efforts to link the Japanese and Australian start-up ecosystems, focusing on deep tech areas such as decarbonisation, food, healthcare, space, quantum and AI.

⁶ Beyond Japan, more than 213 companies started from CSIRO technology with the total value of CSIRO’s portfolio of companies reaching \$4.3 billion.

Trend 3: Consumer – High costs but high margins

Japanese businesspeople are often shocked by the high prices, high costs and high salaries in Australia. However, relative to Japan there are also high margins in the consumer goods and retail sector and Australian consumers have traditionally shown much less sensitivity to price increases.

There are three key factors which make Australia an attractive consumer-market for Japanese investors:

- stable business environment, politics, and society
- positive outlook for consumption due to an increasing population (because of net positive immigration)
- less competitive and a more fragmented distribution

ASAHI Group and **Kirin**, sold nine of the top ten beer brands (by volume) in 2023 (and Coopers Brewery, the largest Australian-owned brewery, imports and brews Sapporo beer!). **ASAHI Group's** \$16 billion acquisition of ASX-listed Carlton & United Breweries in 2020 has been a great success, and now produces 42% of global profit and forms the basis of one of its three core geographical pillars (Japan, Europe and Australasia). **Kirin** acquired ASX-listed Lion Nathan (now trading as Lion) in 2009 and the Oceania region contributed 16% of global profit.⁷

The acquisitions of Blackmores (by **Kirin**) and Bondi Sands (by **Kao**) show the attractiveness of established Australian brands and the potential to take them global through Japanese ownership.

The acquisitions by **Optimus** and **Sojitz** of car dealerships and the expansion by **IDOM Innovations** in the second-hand car market (C2B) are strong indicators of the confidence in the future growth of the Australian economy. Other Japanese automotive and automotive finance companies are now looking for opportunities in Australia across the automotive value chain including in data/technology, logistics, retailing (cars, trucks and mobile equipment) and financing (loans / leasing).

Japanese carmakers (**Toyota**, **Mazda**, **Mitsubishi Motors**, **Subaru** and **Isuzu**⁸) hold five of the top 10 spots in new car sales in Australia. The top three selling trucks in Australia are all Japanese companies — Isuzu topped the sales charts for the 36th consecutive year in 2023 (its largest shareholders being **Mitsubishi Corporation** and **Toyota Motor**), Hino (Toyota Group) and Fuso (Mitsubishi Truck & Bus).

Komatsu and **Hitachi Construction Machinery** are very well established in the sale of large fleets of trucks, as well as the supply of spares and the provision of

maintenance services. Both companies employ large numbers of Australians.

Dulux (acquired by **Nippon Paint** in 2019) has 47% of the Australian retail paint market. **Dai-ichi Life** and **Nippon Life** have a combined 44.1% market share in life insurance and **Asahi Kasei Homes** and **Sumitomo Forestry** have over a 10% market share (amongst the top 20 home builders) in the Australian residential housing market. **Japan Post's** subsidiary Toll Group has returned to profitability and has the largest market share of the Australian road freight business (10%).

Uniqlo has 36 stores in Australia, **Muji** has 4 stores and **Daiso** has 39 stores. Japanese restaurant chains are again looking closely at the Australian market although leading chains **Saizeriya** entered in 2001 and **Yoshinoya** in 2003 but neither has expanded.

Persol (which operates as 'Programmed', was acquired by TSE-listed Persol in 2017), is the market leader providing staffing and maintenance services and employing over 25,000 people in Australia, New Zealand, Malta, and Malaysia.

Trend 4: Decarbonisation-related opportunities

Japan is determined to be at the technological forefront of the energy transition and has been proactive in driving regional and broader collaborations on new energy technology. Japanese companies have been exploring new energy projects in Brunei, Indonesia, Malaysia, Singapore, Saudi Arabia, the United Arab Emirates, and the United States. Japanese companies are investing and investigating opportunities in:

- Hydrogen, ammonia and methanol projects.
- Renewable energy projects (wind, solar, pumped hydro).
- Decarbonising the mining sector through electric trucks and autonomous haul systems.
- Battery energy storage system (BESS).
- Energy storage solutions.
- Micro-grids, smart grids and grid management.
- Domestic batteries.
- Carbon reduction technology.
- Aggregating demand from offtakers to underpin green energy projects and then investing as a joint venture partner.
- Carbon credit creation (including Australian Carbon Credit Units (ACCU)).
- Critical minerals and strategic minerals.
- Battery raw materials.
- Repurposing/rehabilitating mines to acquire carbon credits.

⁷ Kirin Holdings financial results statement for JFY2023, dated 14 February 2024.

⁸ In order of market share.

- Bio-fuels and sustainable aviation fuel (SAF).
- Wood pellets for biomass power generation.
- Asset lifecycle management (circular economy).
- Energy-efficient mobility solutions (bus fleets, mining equipment fleets).

Two notable announcements with a decarbonisation focus were:

- **Inpex's** \$326 million acquisition of a 50% shareholding in Enel Green Power S.p.A's Australian assets (renewable wind, solar, storage and hybrid projects, as well as energy retail and trading operations) which is a carbon hedge against Inpex's LNG portfolio.
- The opening ceremony of **Sojitz** and **ENEOS'** completed 204MW Edenvale solar project in the Western Downs region of Queensland. The project will supply around 30% of the energy generated to the Gregory coal mine in Queensland's Bowen Basin, which is owned and operated by **Sojitz**.

Tokyo Gas has teamed up with Santos to come up with a plan to produce carbon-neutral synthetic methane, or e-methane, in Australia to export to Japan. E-methane is made by combining green hydrogen and CO₂ obtained from carbon capture of industrial emissions or Direct Air Capture (DAC) technology.

ITOCHU and UON have concluded a capital and business alliance agreement under which ITOCHU will become a strategic minority shareholder. UON is an integrated energy and water solutions provider to industrial and mining clients in remote and off-grid regions of Western Australia.

Trading houses in particular, have focussed on acquiring ACCUs (and Australian Financial Services Licences to enable them to trade ACCUs without an intermediary) and purchasing direct interests in ACCU generating businesses to offset carbon emissions from their Australian energy assets.

Investment in Australian carbon credit producing companies have included Climate Friendly, Outback Carbon (**Mitsui**), New Forests (**Mitsui** and **Nomura**), Australian Integrated Carbon (**Osaka Gas**) and Australian Integrated Carbon (**Mitsubishi Corporation** and **NYK Line**). **Marubeni** (through its Rangers Valley cattle business) has partnered with Tasmanian-based start-up Sea Forest, an innovative seaweed producer, to trial food supplements which reduce methane emissions from livestock and has also developed a procurement strategy to acquire ACCUs.

Marubeni-owned renewable energy retailer and PPA aggregator SmartestEnergy, operating in the UK since 2001 and having established a presence in Australia in 2020, secured a major contract in 2023 with Woolworths Group to supply electricity to its entire operations in New

South Wales and the Australian Capital Territory. The alliance will enable Woolworths Group's transition to 100 per cent renewable supply in 2025, securing the supply needed for the Group to achieve its 2025 renewable electricity commitment in the two states.

Japanese equipment manufacturers and suppliers are looking for opportunities to supply decarbonisation projects and also to provide ongoing operation & maintenance services. As part of the local content (often 50%) requirement in procurement tenders, these suppliers are looking to partner with local Australia businesses who can manufacture under licence or develop manufacturing facilities in Australia.

Rinnai is marketing the "world's first hydrogen water heater" for domestic use in Australia. Hydrogen cars produced by **Toyota** (Mirai) are leased to Australian organisations and businesses (CSIRO was the first Australian customer).

Carbon capture and storage

Carbon capture and storage (**CCS**) presents a major partnership opportunity with Australia positioned as an 'anchor nation' (carbon emissions importer) having excellent storage resources and strong domestic commitment to CCS technology deployment. Japan is positioned as an 'opportunity nation' (carbon emissions importer) with limited domestic storage potential and limited accessible storage resources of total emissions.

In January 2023, Japan's Ministry of Economy, Trade and Industry (METI) published '*The CCS Long-Term Roadmap*' which sets out Japan's policy aimed at accelerating deployment of CCS technologies and establishing certain domestic storage targets by 2030 and 2050. A number of collaborations were announced in the later part of 2023 with **Sumitomo Corporation**, **Toho Gas**, **Kawasaki Kisen Kaisha** and Woodside Energy entering into an MOU to jointly conduct a feasibility study to establish a CCS value chain between Australia and Japan. This was followed by a similar MOU between **Kansai Electric** and Woodside which will evaluate storage opportunities in some of Australia's offshore basins.

The Victorian and Federal Government funded CarbonNet Project is investigating the potential to establish a CCS Hub bringing together multiple projects in Victoria's Latrobe Valley, transporting CO₂ via a shared pipeline and injecting it into the offshore Gippsland Basin. CarbonNet has a long-established relationship with Japanese organisations with **JOGMEC** contributing to CarbonNet's front end engineering design (FEED) and separate MOUs in place between CarbonNet and **JCOAL** and **Japan CCS** respectively. Once operational, the CarbonNet Project aims to provide carbon sequestration for multiple CO₂ capture projects including that from hydrogen production by the HESC Project (see Trend 5

below). Final Investment Decision for the CarbonNet Project is scheduled for 2024.

Trend 5: Hydrogen and Ammonia – the new energy partnership model continues

2023 was a year of consolidation for hydrogen and ammonia projects which, like many projects in Australia, are facing the increasing challenge of approvals.

In our *2021 Report*, we coined the third paradigm of Japanese investment in Australia as “new energy partnerships” that we anticipated would form the basis of significant new investment over the next 10 to 20 years. Projects are now advancing from MOUs through proof of concept and pilot plant stages, to front-end engineering design, with the aim of commercialisation by 2030. The technical, commercial, financial, and legal responsibilities are now being discussed and negotiated in detail.

An ability to produce large-scale hydrogen and ammonia supplies will remain a key focus of the Japan-Australia relationship given their game-changing potential to deliver net zero emissions by 2050 and deliver the energy needed for Japan. The challenge will be whether customers are willing to commit to long-term offtake agreements for hydrogen or ammonia at commercial prices (with or without government subsidy) to enable the projects to move to commercial development.

There is a growing recognition that green hydrogen projects are complex for a range of reasons, particularly at the scale required for export. Concerns raised by industry participants have included a lack of concrete offtake agreements as well as a lack of adequate government support — these appear to be delaying financial investment decisions. It is anticipated that the first domestic-sized commercial plants will be commissioned within the next 5 years, particularly where there are integrated or co-located offtake arrangements. Transitioning to a larger scale will present more complexity and is likely to take longer. At this stage, none of the Australian hydrogen or ammonia projects have offtake agreements with Japanese customers.

Funding by the Japanese Government through the GX Transition Bonds will be a major test. The Japanese Government plans to raise 20-trillion-yen (\$200 billion) through issuing sovereign bonds to attract private investments that match up with the 150 trillion yen (\$1.5 trillion) needed to achieve decarbonisation goals. The premium (known as a “greenium”) over ordinary Japanese Government Bonds (JGBs) will be important to attract enough investment to realise these goals. The initial bond offering in February 2024 had a lukewarm response from domestic and overseas investors.

The Japanese Government is proposing legislation which provides a subsidy scheme to cover the cost gap

between hydrogen and fossil fuels. Rather than a direct payment or a tax credit, the subsidy would effectively be Contracts for Difference for both domestically produced and imported hydrogen. Producers would receive a top-up payment above a set reference price which allows them to sell hydrogen at the same price as fossil fuel alternatives.

The CSIRO website⁹ refers to 101 hydrogen-related projects in Australia, of which 35 have Japanese involvement.

The four most progressed large-scale projects in Australia are the Hydrogen Energy Supply Chain (HESC) project in Victoria, the CQ-H2 project in Queensland, the Rio Tinto / Sumitomo Corporation Gladstone alumina project and the H2U Eyre Peninsula Project.

All the projects require Government support in order to be commercialised.

HESC – Victoria

The HESC project is a commercialisation of the Hydrogen Energy Supply Chain (HESC) Pilot Project, which transported the first shipment of liquid hydrogen on the Suiso Frontier tanker from the Port of Hastings to Kobe in January-February 2022.

HESC aims to develop and demonstrate technology to build a supply chain to produce, store, and transport hydrogen from lignite (brown coal) in Victoria and to use hydrogen energy in Japan. The HESC project is currently composed of two separate consortia: J-POWER and Sumitomo Corporation responsible for hydrogen production; and Kawasaki Heavy Industries, Iwatani Corporation and Inpex responsible for hydrogen liquification and shipment from Victoria to Japan.

The HESC project received a 210-billion-yen (\$2.35 billion) funding commitment from the Japanese Government’s Green Innovation Fund in March 2023.

HESC was not eligible for Australian Renewable Energy Agency’s (ARENA) Hydrogen Headstart program, as it relies on fossil fuel and carbon capture.

⁹ <https://research.csiro.au/hyresource/projects/projects-spreadsheet/> as at 24 February 2024.

CQ-H2 Project: Central Queensland

The CQ-H2 project has secured \$117 million front-end engineering design funding from consortium members (Stanwell Corporation, Iwatani, Kansai Electric, Marubeni and Keppel Infrastructure), as well as \$20 million from ARENA, and \$15 million from the Queensland Government's Queensland Renewable Energy and Hydrogen Jobs Fund.

The project involves the development of a Hydrogen Production Facility, Hydrogen Transport Facility (hydrogen gas pipeline) and Hydrogen Liquefaction Facility, as well as supply of hydrogen to an ammonia production facility.

If progressed, the project aims to deliver renewable hydrogen via its different carriers, to Japan and Singapore, as well as supplying large domestic customers in Central Queensland. Commercial operations are planned to commence from 2029.

Yarwun Alumina Refinery: Gladstone, Queensland

Rio Tinto and **Sumitomo Corporation** proposed to build a first-of-a-kind hydrogen plant in Gladstone, Queensland as part of a \$111.1 million program aimed at lowering carbon emissions from the alumina refining process. The Yarwun Hydrogen Calcination Pilot Demonstration Program received the green light after a \$32.1 million co-funding boost from ARENA in July 2023.

The project involves the construction of a hydrogen plant at the Yarwun alumina refinery and the retrofit of refinery processing equipment. If successful, the project could pave the way for adoption of the technology at scale globally.

As at the date of the report, CQ-H2 has been shortlisted for ARENA's Hydrogen Headstart program.

H₂U Eyre Peninsula Project

Mitsubishi Heavy Industries' investment in 2020 Australian hydrogen energy infrastructure developer, H₂U (formerly The Hydrogen Utility), was one of the largest green hydrogen investments in Australia at that time. H₂U is a leading Australian developer of green hydrogen and green ammonia projects using power derived from renewable energy sources. MHI is delivering the front-end engineering and design study for the H₂U Eyre Peninsula Gateway project in South Australia and it is proposed that the green ammonia plant will produce green hydrogen and up to 40,000 tons of green ammonia a year.

The South Australian Government committed to investing in one of three export and production hubs for hydrogen in the State at the nearby Port Bonython jetty and in January 2024, the Government announced that five major companies (including H₂U, Amp Energy, Fortescue, Origin and Santos) had signed Development Agreements to use the Port Bonython Hydrogen Hub. The Development Agreements provide a pathway for project

partners to secure a long-term lease on the land at the Port Bonython Industrial Precinct and adjacent marine export infrastructure at the Port Bonython jetty.

Port of Newcastle Clean Energy Project

Port of Newcastle in New South Wales, home to the world's largest coal export port, unveiled a blueprint for Stage 1 of Its Clean Energy Precinct in May 2023. A 220-hectare area is proposed to become a production, storage and export hub for future clean energy products and technologies, including hydrogen and green ammonia. Construction is targeted to commence in 2025 (subject to planning approvals) with the Port aiming to have the precinct fully operational from 2028. The project has received \$100 million in Federal Government funding commitment and in July 2023 announced that it had formalised MOU agreements with a range of domestic and international partners including **Eurus Energy**, **Mitsubishi Heavy Industries** and **Mitsui OSK Line (MOL)**.

Murchison Hydrogen Renewables Project

In December 2023, the ARENA announced that the Murchison Hydrogen Renewables Project in Western Australia was one of six large-scale renewable hydrogen project applicants shortlisted for \$2 billion in potential subsidies as part of Australia's Hydrogen Headstart program. Successful applicants under the Hydrogen Headstart program will receive "hydrogen production credits" (HPCs) in the form of quarterly grants for a period of ten years, starting in 2027. Once operational, Murchison's large-scale wind and solar energy project will produce renewables-based hydrogen which would be converted into ammonia, mainly for export purposes. Japanese and Korean offtakers will be essential for the feasibility of the project.

Others

Mitsui and French company **ENGIE** are progressing the Yuri Project in Western Australia that will install solar panels (18 MW) and a hydrogen production system (10 MW) in the Pilbara region of Western Australia and supply the green hydrogen produced to an existing ammonia production facility owned by Yara International, a major nitrogen-based fertiliser manufacturer.

Marubeni and SA Water are developing a \$12.5 million project in South Australia to produce low-cost green hydrogen from renewable resources. The project includes a five-megawatt battery energy storage system and a demonstrator scale 150-kilowatt electrolyser that uses proton exchange membrane technology. The project is part funded by the Japanese Government through **New Energy and Industrial Technology Development Organization (NEDO)**. The hydrogen produced will be transported to Indonesia in a metal hydride container for use by Japanese companies with industrial facilities.

Trend 6: LNG is essential to the energy transition and coal is still needed

LNG is identified by Japanese government strategy documents as a crucial component of Japan’s decarbonisation ambitions in the energy transition to 2050 and beyond.

Australian energy exports account for just over 33% of Japan’s energy needs — Australian imports of LNG (41%), thermal coal (64%) and uranium (33%) keep the lights on in Japan for eight hours a day (“nothing else matters if the lights go out”).

Australia was the world’s second-largest LNG exporter in 2023 behind the United States (followed closely by Qatar). There are ten major operating LNG projects in Australia (North West Shelf, Darwin, Pluto, Gorgon, Queensland Curtis, Wheatstone, Australia Pacific, Gladstone, Prelude, Ichthys) all with Japanese participants and LNG offtakers. The Scarborough and Barossa LNG projects (both with Japanese participation) are progressing.

Australian Exports to Japan (A\$ billions)



Source: UN Comtrade

LNG production is growing significantly worldwide, with more capacity expected to come online soon in the United States and Qatar and Australian LNG production to remain steady through most of the decade. There are currently about 700 LNG tankers (including floating storage units (FSUs) and floating storage and regasification units (FSRUs)) in operation and about 350 currently being built with a limited number of building berths available until mid-2027 (150 vessels to be delivered in the next two years alone). A number of older vessels in the LNG fleet are being retired from service (some being redeployed to FSRUs) due to age, lesser efficiency/higher emissions, but the overall number of tankers will increase.

In comparison, there are no commercial hydrogen vessels in operation and orders are only now being placed with shipbuilders for very large ammonia carriers (VLACs) (Mitsui recently agreed to co-invest alongside the world’s largest tanker company, Maersk Tankers, to

place firm orders for four VLACs to be delivered in 2026, with an option for another six).

In August 2023, **LNG Japan** (owned 50% each by **Sojitz Corporation** and **Sumitomo Corporation**) established a strategic relationship with Woodside Energy in relation to the Scarborough LNG Project. The agreement involves three elements: acquisition of a 10% participating interest, potential LNG offtake and collaboration on opportunities in new energy (including hydrogen, ammonia and CCS). The purchase price for the 10% interest was US\$500 million (subject to adjustments) and was both Sojitz and Sumitomo Corporation’s first direct investment in Australian LNG assets.

In February 2024, **JERA** (Japan’s largest power generation company producing about 30% of all electricity in Japan, which is owned 50% each by **Tokyo Electric** and **Chubu Electric**), also agreed to invest in the Scarborough LNG Project. The agreement involves **JERA’s** acquisition of a 15.1% interest for estimated consideration of around US\$1.4 billion, potential LNG offtake, an option in favour of JERA to acquire an interest

in the gas fields and collaboration on decarbonisation initiatives.

In December 2023, the **Inpex**-majority owned and operated Ichthys LNG Project in Northern Australia celebrated the departure of its 1000th cargo (including LNG, LPG and onshore and offshore condensate) since commencement of production in October 2018. Inpex shipped a record 129 LNG cargoes from the facility in 2023, 17 cargoes more than in 2022. In January 2024, Inpex increased its equity interest in the Ichthys' Project to 67.82% by acquiring the participating interests held by **Tokyo Gas** (subject to customary approvals). The other joint venture partners are TotalEnergies, CPC Corporation Taiwan, **Osaka Gas, Kansai Electric Power, JERA** and **Toho Gas**.

Several temporary policy changes have been implemented by Australian Federal and State/Territory Governments in recent times to shield domestic energy markets from international energy price inflation driven largely by the fallout from Russia's invasion of Ukraine. These policy changes are detailed in **Schedule 3**.

Coal is still important

Whilst most Japanese companies have divested their Australian thermal coal mine assets and related infrastructure, there is still significant interest and activity in the sector. The bi-annual Australia Japan Coal Conference held in Sydney in October 2023, attracted a record 217 delegates from 75 organisations.

There were record Australian exports of coal to Japan in 2022 both by volume and sales driven by record thermal coal prices, although volumes remained steady sales fell as the thermal coal price returned to "new" normal levels in 2023. The Japanese Government's 5th Strategic Energy Plan (2018) as amended by the 6th Strategic Energy Plan (October 2021) projects coal as a percentage of total energy to drop from 30% to 19% by 2030 but this is more likely to be 25% to 26%.¹⁰

While Japanese companies are finding it increasingly difficult due to shareholder and activist pressure to own coal assets (mine and related infrastructure), the demand for premium Australian coal with high calorific value or low ash remains very strong. In fact, two new high-efficiency, low-emissions (HELE) coal-fired power plants were commissioned in Japan during 2023.

The major Japanese power utilities are testing co-firing with ammonia in coal-fired power plants. Ammonia co-firing is only possible at some power plants, and it is expected that the maximum replacement for coal will be 15%-20%. From a technical standpoint, the extent to which existing coal-fired power plants will be able to incorporate ammonia blending remains unclear. While Japanese utilities have a long-term goal of achieving

100% combustion with ammonia, a blending rate of around 5%-20% appears more feasible over the medium term. Ammonia also delivers materially less energy than coal and therefore requires significant volumes of ammonia to be delivered and stored, meaning new ammonia receiving terminals and storage facilities must be built at considerable cost.

Japanese steel makers and trading houses are still looking for new metallurgical coal investments and are participating in expansions of existing coal projects. Although there are announcements regarding the production of "green or greener" steel, the reality is that currently there is no commercially viable substitute for metallurgical coal in the production of coke used in the steelmaking process in blast furnaces. The production of green steel or green iron in Australia will require massive amounts of green energy and infrastructure development.

Mitsubishi Corporation and BHP's joint divestment of the Daunia and Blackwater metallurgical coal mines can be explained by those mines having higher-cost and producing lower quality coal than the remaining five mines in the BHP Mitsubishi Alliance (BMA).¹¹

GFG Alliance is accelerating its transformation to low carbon, green iron and steel production in Australia. This is being done through the simultaneous expansion of its magnetite iron ore mining and processing operations in South Australia and the replacement of its coal fired blast furnace operations with hydrogen fired reduction iron and electric arc furnace technology. GFG is actively exploring options for external partners to participate in these processes including potential Japanese partners.

The world's highest quality metallurgical coal is located in Australia. Japanese steel makers and trading houses are still looking for new metallurgical coal investments and participating in expansions of existing projects. Steel production in Japan is roughly 87 million tonnes a year and 1,000 million tonnes a year in China — there is huge potential for producing green iron or green steel in Australia but to make a dent in the scale of existing production will take time. Australia currently only produces 5.5 million tonnes a year.

BHP, Rio Tinto and BlueScope have recently announced a plan to develop an electric arc furnace to produce "green" steel and previously trialled technologies such as HIsMelt are being reconsidered by Rio Tinto in Western Australia. BHP is trialling direct reduced iron ore production.

¹⁰ Fossil fuels contributed 68% of total Australian electricity generation in 2022, including coal (47%), LNG (19%) and oil (2%).

¹¹ BMA is a 50/50 joint venture between Mitsubishi Corporation and BHP formed in 2001.

Trend 7: Minerals – Iron Ore, Critical Minerals and Strategic Minerals

Japanese investment was crucial to the development of Australia's iron ore export industry in the 1960s and 1970s and Australia remains a dependable partner, supplying 65% of Japan's iron ore in 2023. Australian companies are optimistic about Japan's ability to replicate

the sizeable investments made in iron ore (and coal and LNG) into critical mineral opportunities and for that investment to establish a key platform for the future prosperity of Japan and Australia.

The table below shows just how important the respective minerals and energy trade is for Australia and Japan.

Mineral and Energy Trade during Calendar Year 2023

| | Japanese Imports | | | Australian Exports | | |
|------------------------------|------------------|------------|-----------------|--------------------|----------|-----------------|
| | From AUS | From World | AUS composition | To JPN | To World | JPN composition |
| Iron Ore (Mt) | 57.2 | 87.6 | 65% | 57.2 | 907.1 | 6% |
| Met Coal (Mt) | 37.6 | 54.2 | 69% | 37.6 | 154.4 | 24% |
| Thermal Coal (Mt) | 63.8 | 100.0 | 64% | 63.8 | 194.5 | 33% |
| LNG (Mt) | 27.7 | 66.9 | 41% | 27.7 | 80.9 | 34% |
| Copper Ore Gross Weight (kt) | 549.7 | 4,796.0 | 11% | 549.7 | 1,403.5 | 39% |
| Aluminium Alloy (kt) | 386.5 | 3,187.0 | 12% | 386.5 | 1,627.0 | 24% |
| Zinc Ore Gross Weight (kt) | 138.3 | 694.9 | 21% | 138.3 | 2,007.0 | 7% |
| Alumina (kt) | 255.5 | 718.1 | 36% | 255.5 | 16,201.0 | 2% |

Source: Commodity Insights

Iron ore

Although there were no new acquisitions there were continued expansions of iron ore mines in which **ITOCHU**, **Mitsui** and **Marubeni** hold interests. The fundamentals of the iron ore market remain strong.

Mitsui generated record head office profits in the financial year to 31 March 2023, up 24% from the previous financial year with a strong contribution from its iron ore investments in Australia and Brazil. **ITOCHU** similarly enjoyed significant profits on the back of strong iron ore prices. The Roy Hill Project between **Marubeni** (15% interest), Hancock Prospecting and POSCO announced a \$2.7 billion net profit for the 2023 financial year, lower than the previous year profit of \$3.2 billion but still a very strong result.

ITOCHU and **Mitsui**, in their JV with BHP, have increased the annual production target at the new South Flank iron ore mine which is forecast to achieve full production capacity of 80 million tonnes per annum (Mtpa) by the end of FY2024.

Expansions in iron ore projects will continue to be supported by Japanese joint venture partners, although these would not be captured as M&A or new investments. The proportion of Australia's iron ore exports to Japan are now small compared with its overall export volumes. While significant as an export industry and investment market, trends in the iron ore industry in Australia are driven by China.

Critical minerals and strategic minerals

Japanese companies, particularly the trading houses, have enjoyed long-standing relationships with major mining companies such as BHP, Rio Tinto, Anglo American and Vale which has given them preferential access to mine expansions and new projects across the world. This is not the case in critical and strategic minerals where many of the project proponents are developing a single mine without prospects of being cash-flow positive for many years into the future. The risks are much higher and require a commensurate higher return.

Australia recognises that competing with China's dominance in the supply and processing of critical minerals is not likely to reap rewards in itself. China will remain the largest market for Australia's critical minerals exports for the foreseeable future, but Australia's position as a jurisdiction with high operating and ESG standards provides an alternative market for Japan (and other countries) looking to diversify their supply chains.

Japanese companies are actively looking at global investment opportunities in critical minerals, in particular nickel, cobalt and lithium, and there is a genuine opportunity for the Australia-Japan relationship to collaborate further in this area. However, until early 2024 there was a perceived bubble in the prices of companies and projects, making the internal hurdle rates of return required by Japanese investors difficult to achieve. By contrast, Korean companies have been aggressive in investing and partnering with small-cap listed companies.

Every country has a slightly different list of critical minerals based on perceived supply risks and strategic opportunities. In Japan, METI designates 35 minerals as critical, whereas Australia lists 31 minerals (or groupings of minerals) as critical with a further 6 minerals identified as 'strategic' (meeting the criteria of 'critical', but with more established supply chains robust enough to meet current demand). The Australian critical minerals list (CML) was expanded during 2023 / early 2024 to include six new entries that have particular application in the technology (particularly net-zero transition applications) and defence areas. Australia also established the strategic minerals list (SML) for the purpose of monitoring minerals that may require support in future.

The inclusion of new minerals on these lists will allow both countries to allocate more funds and resources for related research and development, as well as to strengthen the cooperation between the two countries in order to secure stable investment and supply arrangements.

The inclusion of nickel in the Australian CML in early 2024 was in part a response to market distortions caused by Indonesia's nickel export ban and downstream policy to attract Chinese investment as part of its focus on all aspects of the critical minerals supply chain. Nickel remains of interest to Japanese investors given growing

demand for electric vehicle (EV) batteries. For example, the **Sumitomo Metal Mining and Mitsubishi Corporation** consortium's agreement with ASX-listed Ardea Resources to undertake a definitive feasibility study in relation to the Goongarrie Hub nickel laterite project in Western Australia are now likely to become more commonplace.

Austrade's *Critical Minerals Prospectus 2022* was downloaded more in Japan than in any other country. Following Prime Minister Kishida's visit to Perth in October 2022, the Australian Department of Industry, Science and Resources, Department of Foreign Affairs and Trade and the Japanese Ministry of Economy, Trade and Industry entered a partnership to enhance critical mineral supply chains between the two countries. A \$200 million investment by Japan Australia Rare Earths (JARE) (co-owned by **Sojitz** and **Japan Organization for Metals and Energy Security** (JOGMEC)) into Lynas Rare Earths Limited in March 2023 to expand its production of light and heavy rare earths for export to the Japanese market is a further testament to the scope for growth in investments in this area.

Idemitsu has made investments in small-cap ASX listed companies: Vecco Group (vanadium), Delta Lithium (formerly Red Dirt Metals) (lithium) and Critical Minerals Group (vanadium and copper-gold). In addition, **Idemitsu, Sumitomo Electric** and Vecco have signed a collaboration agreement to build and sell vanadium flow batteries to Australian customers using **Sumitomo Electric** hardware and Vecco's electrolyte made from vanadium mined in Queensland. It is anticipated that the complete manufacturing supply chain will be operational in 2026, with hardware and electrolyte using local vanadium.

At least half of the world's incremental lithium production over the past decade has come from Australia and a significant proportion of Japan's increased demand by 2030 is likely to be met by Australian lithium mines. The challenge for Australia will be to further extend its lithium extraction into refining (especially lithium hydroxide production), leading to new revenues and margins contributing to overall national income and employment. The Japan-Australia relationship could be a crucial factor in Australia being able to build and leverage the lithium opportunity with Japanese lessons in plant design and commissioning being a starting point.

Sumitomo Corporation agreed with Liontown Resources, an ASX-listed lithium mining company in September 2023, to start a joint study for the production of lithium hydroxide in Japan using lithium produced in Australia.

Uranium

Uranium was added as a critical mineral in Japan as part of a policy to reduce dependence on Russian fuel supply. Japan remains the world's third-largest consumer of uranium and relies entirely on imports from other countries including Australia, Canada and Kazakhstan. Whilst not listed as a strategic or critical mineral in Australia, the potential economic upside for uranium in Australia means that it will likely be monitored for potential inclusion in the CML in future in order to improve the ability to capture growing opportunities, including those that emanate from Japan.

Trend 8: Life Insurance and Financial Products

Japanese interest in the Australian financial services sector continues to grow, with both existing and new investors expanding their presence. Australia is regarded as having good prudential regulation, market-leading financial product innovation and potential growth including in the retirement sector.

Japan is experienced in the challenges of an ageing population, and there is a natural synergy when it comes to offering the Australian market a sophisticated array of life insurance and other products for people in the pension phase of retirement. Organic market growth in the Australian life sector continues to prove challenging with the market highly concentrated. Product design remains a focus (and an ASIC strategic priority). Japanese insight into product design processes and data governance should prove useful for the Australian market as the sector becomes more competitive. Major investors include:

- TAL Life Australia (owned 100% by **Dai-ichi Life**) is the market leader with a 32.7% market share in the life insurance market (based on premium income). During 2023, TAL produced approximately 15.5% of Dai-ichi Life's global profit and 53% of overseas profit.
- MLC Life (owned 80% by **Nippon Life** and 20% by NAB) has a 11.4% market share of the life insurance market (based on premium income).
- **Daido Life** continues to hold a cornerstone shareholding of (14.9%) in unlisted life insurance company Integrity Life Australia.
- **Mitsubishi UFJ Trust Bank's** consolidated subsidiary, First Sentier Investors (formerly Colonial First State Global Asset Management in Australia) now manages \$238 billion in assets (as at December 2023) compared to approximately \$218 billion at the time of the acquisition in August 2019.
- **Mitsubishi UFJ Trust Bank's** ownership, following its \$1.2 billion takeover, of ASX-listed Link Group, a major superannuation and share registry administrator.

- **MS&AD Group** and ASX-listed Challenger continue to build their relationship which involves MS&AD holding a ~15% shareholding, board representation, and an annuity arrangement that sees Challenger provide guaranteed foreign currency returns to MS Primary, MS&AD's Japanese Life insurer. Challenger has an established platform in Japan which includes an office in Tokyo and ownership of 28 commercial properties throughout Japan.
- **Shinsei Bank** increased its shareholding in non-bank lender Latitude Financial Services from 14.97% in late 2022 to 17.01% as of June 2023. **SBI Holdings** made a tender offer for Shinsei Bank during 2023 to increase its shareholding and now owns more than 50% of Shinsei Bank.
- **Nomura** extended its strategic alliance with investment bank Jarden by a further two years in July 2023. Nomura's global network and strong balance sheet allows Jarden to continue to grow its local ECM and DCM businesses in Australia and New Zealand.
- **Mizuho Financial Group** acquired NYSE-listed Greenhill & Co during 2023. Greenhill has a well-established investment bank business in Australia and Mizuho intends to leverage this presence to expand its business in Australia. In addition, Mizuho has established a project finance advisory business focussing on energy transition opportunities.
- **Sumitomo Mitsui Banking Corporation (SMBC)** announced in April 2023 that it would increase its economic ownership of NYSE-listed investment bank Jefferies Group to up to 15%. Jefferies commenced operations in Australia in 2019 offering a full suite of onshore services from trading and equity sales to research and investment banking and now has a well-established Australian presence.

Trend 9: Financing

The contribution of Japanese finance to the growth of the Australian economy is surprisingly understated. **JBIC**,¹² **Norinchukin** and the three Japanese mega-banks ((**Mitsubishi UFJ Financial Group (MUFG)**, **Mizuho Financial Group (Mizuho)** and **Sumitomo Mitsui Banking Corporation (SMBC)**)¹³ have grown their combined presence in Australia substantially since the bank mergers of the early 2000s.¹⁴ They arguably maintain a more consistent presence in Australian loan markets than most foreign banks.

MUFG, Mizuho and SMBC each now have between 160 and 400 Australian-based employees and are continuing to attract capable, experienced, and successful bankers. They are very much “part of the furniture” of Australia’s financial markets today.

2023 was a challenging year for project finance in Australia, with government-led infrastructure PPP, privatisation, M&A and renewable transaction volumes materially down. Despite this, the three Japanese mega-banks maintained their strong position as project finance (including project bonds) arrangers in the Australian market in 2023 (after the three mega-banks being ranked one, two and three in 2022), which is impressive given the relative size and scale of Australia’s four large domestic banks.

Japanese banks continue to finance Australian economic and social infrastructure and renewables projects, in both initial loans arrangements and syndication markets. Projects have also been supported by non-bank lenders such as Japanese insurance companies in recent times.

The role of Japanese banks in Australian debt markets encompasses more than project finance with active participation in Australian loan and bond markets (including leveraged and acquisition finance) and non-lending placement and arranger roles such as the US private placement (USPP) and Australian medium-term note (AMTN) markets becoming more common. For

instance, MUFG was the first foreign bank to appear in the top 4 loan bookrunner spots in 2022 and again in 2023.

Attractive sectors for Japanese banks include hydrogen and ammonia (although there are long project lead times and credit risk assessment is evolving), traditional energy (particularly LNG) & critical and strategic minerals, real estate, digital, infrastructure and automotive / machinery (securitisation of loans and leasing in both the consumer and industrial equipment sectors). The penetration of electric vehicles (EV) and fuel cell electric vehicles (FCEV) (which are more expensive than petrol vehicles) are an attractive growth segment for Japanese banks as these are often financed through loans or leases by the end-consumer. Japanese banks are continuing to support gas as a transition fuel unlike some banks which have announced a full or partial exit.

The challenge for Australia is to leverage its natural resources advantage through the development of export technologies for sustainable fuels such as hydrogen, ammonia and methanol or other synthetic fuels. Fortunately, the desire in Japan to continue to source its energy needs from Australia is strong. For example, it is promising that three Japanese mega-banks (MUFG, SMBC and Mizuho) and JBIC have been very active in supporting both Japanese and Australian companies with energy transition projects.

The Japanese banks are waiting for the level of support from the Australian Government and Japanese Government (through **JBIC**, **NEDO** and **JOGMEC**) to enable a co-funding model to be developed. The “bottleneck” is the price of hydrogen and ammonia, which is currently not commercially viable.

Australia, a fiscally sound market with an AAA credit rating, will continue to be a popular destination for Japanese lenders to commit funds and we anticipate their importance in the market will grow given energy transition (GX) and digital transformation (DX) trends.

¹² Having re-established a Sydney office in 2022 after an absence of 9 years.

¹³ Listed in alphabetical order.

¹⁴ It is hard to remember that prior to the ‘bubble economy’ bursting in 1992, there were 14 city banks, 6 trust banks and 3 long-term credit banks in Japan.

The contribution of Japan Bank for International Cooperation (JBIC)

JBIC has been very active in supporting Japanese companies and projects which are vital to Japan's strategic needs. Given the changes in the geo-political world the scope of support has widened significantly from traditional minerals and energy. JBIC's loans now support the overseas business deployment of Japanese companies by providing funding for M&A and the expansion of existing business, as well as new business deployment, and contribute toward maintaining and strengthening the international competitiveness of Japanese industries.

Since 1951 JBIC has provided 887 Australia-related loans totalling over \$30 billion to Australia-related projects/businesses. The history is important:

- In the late 1950s, loans for large-scale resource development projects increased, including iron ore mine development in Australia and copper mine development in Canada and Chile.
- In the mid-1960s, JBIC actively supported the export of ships (especially for bulk carriers) as iron ore transport from Australia became more active following the lifting of Australia's iron ore export ban.
- JBIC supported investment in the development of the Dawson metallurgical coal mine (now owned by Anglo American and Mitsui) in January 1963. Until around 1960, Japanese steel makers mainly imported hard coking coal (HCC) from the United States but as demand for high-quality HCC increased due to the construction of a large number of blast furnaces, Japanese companies (mainly trading houses) have been investing in metallurgical coal projects in Australia from the mid-1960s

JBIC currently has 36 Australian-related loans totalling \$9 billion, including the following projects / transactions:

- Pluto LNG Project
- Wheatstone LNG Project
- Gorgon LNG Project
- Ichthys LNG Project
- Waitsia Gas Project
- Barossa Gas Project
- Jumblebar Iron Ore Mine Project
- West Angelas Iron Ore Mine Project
- I'Rom Group owned CMAX Clinical Research's pharmaceutical manufacturing and drug development project
- Edenvale Solar PV Project
- Gregory Crinum coal mine
- Nippon Paper's \$1.72 billion acquisition of Orora's Australasian Fibre Packaging Business
- Kirin's \$1.9 billion acquisition of ASX-listed vitamin producer Blackmores

JBIC concluded MOUs with Woodside (2022), Santos (2022), CEFC (2023), State of Western Australia (2023), and Northern Territory Government (2024) to strengthen the partnership for encouraging their collaboration with Japanese companies in broad range of sectors, such as hydrogen/ammonia, CCS/CCUS, critical minerals, renewable energy and so on. JBIC and JOGMEC are working closely with Export Finance Australia (formerly Export Finance and Insurance Corporation) on projects in the Indo-Pacific.

Trend 10: Infrastructure

There is a continuing need for infrastructure in Australia, especially in major cities. However, there has been a slowdown in construction due to the shortage in labour and the rising cost of materials. Australian economic and social infrastructure remains attractive but there have been significantly fewer public-private partnership (PPP) projects in the pipeline for several years now and neither federal nor state governments are committed to a major privatisation program. An additional difficulty is the continued trend towards collaborative procurement rather than pure PPP/PFI, which advantages domestic contractors over Japanese equity participants. The expansion of the three Japanese mega-banks into project finance and project bonds locally in Australia has meant that the ability of Japanese investors to bring finance to consortium arrangements is now no longer exclusive.

- **Marubeni** is participating in the Sydney Metro expansions and Stage 3 of the Gold Coast Light Rail project (with Stage 4 already under planning by the Queensland Government).
- **Marubeni's** fund manager MM Capital Partners' second OECD Infrastructure fund, which is focused on operating (brownfield) assets, is likely to continue with further Australian acquisitions in 2024, with planning underway for future funds.
- **Mitsui** acquired additional shares in Aptella (formerly known as Position Partners), a positioning and site automation solutions company, taking its shareholding to 80%. Aptella employs 350 people and is looking to expand in mining mobility solutions.
- **Hitachi Rail's** installation of Automatic Train Operation technology across Queensland's New Generation Rollingstock (NGR) fleet reached testing milestones in 2023, with trains fitted with the new technology tested on dedicated lines in the network. The four-year \$107 million contract, awarded to Hitachi Rail in 2022, will allow a greater number of services and achieve energy efficiencies associated with running trains at optimum speed.
- The Western Parkland City Authority (WPCA) released the "Bradfield City Centre: draft Master Plan" in February 2024 and continues to engage with the Japanese business community to develop the Western Parkland City, including the proposed Aerotropolis near the new Nancy Bird Walton Airport. NSW Government MOU partners **Mitsubishi Heavy Industries, Sumitomo Mitsui Financial Group, Hitachi Corporation** and foundation partners **Urban Renaissance Agency, NEC, NTT** and **Daikin** continue to support WPCA. The Western Parkland City is progressing slowly but steadily, and Japanese companies continue to monitor the opportunities.

- The High-Speed Rail Authority (HSRA) formally commenced operations in June 2023. HSRA's first priority is business case development, planning and corridor works for the Sydney-to-Newcastle section of the proposed High-Speed Rail (HSR) network along the East Coast of Australia (backed by \$500 million in Federal Government funding). The HSRA is collaborating with Japan as Australia has long recognised the contribution of the world-class bullet train (Shinkansen) network to Japan's economic and social development. **JR Tokai** through its Sydney office continues to advocate for HSR.

Emerging Investment Trends

Medical and Healthcare

Australia is a maturing market with a strong pipeline of investable healthcare assets. Japanese pharmaceutical and biotech companies are using Australia for clinical trials as the diversity of ethnic backgrounds in the Australian multicultural population and the number of willing volunteers are ideal for the testing of new drugs. If drugs are approved by the Therapeutic Goods Administration (TGA) in Australia there is mutual recognition by the US Federal Drug Agency (FDA). Currently, **Himuka AM** is undertaking a cancer drug clinical trial in Queensland and **GEXVal** is undertaking a clinical trial for the treatment of neurological disorder in South Australia. **I'Rom Group** acquired CMAX Clinical Research in 2017, one of Australia's largest and most experienced clinical trial centres.

15 Australian companies attended BioJapan in October 2023 showing their mutual interest in building relationships and investment opportunities.

Japanese companies are continuing to look at healthcare opportunities following **Marubeni's** infrastructure fund, MM Capital Partners' investment in Royal Adelaide Hospital, **Sojitz's** investment in the Plenary Group-led \$1.5 billion Footscray Hospital public private partnership (PPP) and **Mitsui's** indirect investment through its 32.9% shareholding in Singapore-based healthcare provider IHH, which has operations in Australia. **ROHTO Pharmaceutical** invested in Australian health-tech start up Australis Scientific, has developed a patch to alleviate urinary incontinence symptoms. The acquisitions and consolidation of healthcare businesses by private equity are now coming up for a liquidity event (exit). With many Australian women choosing to have children later, IVF-related investment opportunities are increasingly attractive in Australia.

Nichigo Health (a consortium led by **Hitachi Australia**) made an unsolicited proposal with the NSW Government to develop a proton beam therapy centre research facility within the Westmead Health and Innovation District for an alternative to traditional radiation therapy cancer treatment. After detailed consideration the NSW Government decided in March 2024 not to proceed.

Defence, Space and Cyber

Australia and Japan share an increasingly strong defence science and technology relationship, underpinned by the Special Strategic Partnership and the updated Joint Declaration on Security Cooperation, signed by Australia's Prime Minister Anthony Albanese and Japanese Prime Minister Fumio Kishida, in October 2022.

The Reciprocal Access Agreement, which came into force in August 2023 paves the way for deeper cooperation between the Australian Defence Force and the Japan Self-Defense Forces. In 2023, the first ever international deployment of Japanese F-35s outside of Japan, to the Northern Territory, and Australia's first deployment of F-35s to Japan for the 2023 iteration of Exercise BUSHIDO GUARDIAN took place.

Australia had a large presence at DSEI Japan (a biannual defence conference and exhibition which connects Japanese and the wider Asian defence community).

Whilst Japan's direct participation in the AUKUS security partnership is not likely in the short-term, increased collaboration on defence technology is expected in 2024 and beyond. AUKUS Pillar II cooperation (advanced capability but not submarines) could take place earlier.

Australia and Japan share an increasingly strong defence science and technology relationship as evidenced by an agreement between the countries to enhance strategic capabilities in robotic and autonomous systems for undersea warfare. This research project is the first since the bilateral Research, Development, Test and Evaluation (RDT&E) Arrangement signed in June 2023.

Traditionally, Japanese defence manufacturers have collaborated on international equipment development through the channel of Japan's Defence Ministry. Australia will not only access Japanese defence technologies, but the project opens the way for Australian technologies to be adopted in Japan. Details surrounding the duration and financial scope of the project remain undisclosed.

Australian companies with defence-applicable technologies are actively marketing in Japan to Japanese defence contractors, in particular cybersecurity solutions capability.

Mitsubishi Electric has signed an agreement for a joint development project with the Australian Department of Defence to develop and transition a new capability utilising Mitsubishi Electric's laser technology to enhance

surveillance and survivability of Australian Defence Force platforms. The project is an example of defence equipment and technology cooperation between Japan and Australia and is the first case in which a Japanese company has signed an agreement with a foreign government for joint development in the defence field.

Most recently the Mogami-class frigate (manufactured by Mitsubishi Heavy Industries) was named as one of four possible candidates for future acquisition by the Navy issued by the Department of Defence. The Australian Space Agency and the **Japan Aerospace Exploration Agency** (JAXA) signed a Memorandum of Cooperation (MOC) in July 2020 signalling new opportunities to increase space collaboration between the two countries. This agreement led to the delivery of asteroid samples by JAXA's asteroid explorer Hayabusa2 to South Australia.

Ex-Fusion established its Australian headquarters in South Australia in 2023 and signed a MOU with ASX-listed EOS Space Systems, with a long-term aim to track, capture and remove space debris using lasers.

There was a large contingent of Australian participants at Nihonbashi Space Week in November 2023 and both Governments see space cooperation and collaboration as increasingly part of the defence initiatives.

Tourism

Australian visitors to Japan in 2023 matched pre-pandemic levels of 700,000 despite Japan's proof of vaccination requirement remaining until May 2023. Japan is now experiencing an incredible tourism boom with over 30 million annual visitors.

Major carriers including **All Nippon Airways, Japan Airlines**, Qantas, Virgin Australia and Jetstar have greatly increased route frequency from Australia to Japan or added new routes (e.g. All Nippon Airways' Perth to Narita, Virgin Australia's Cairns to Tokyo Haneda; Qantas Brisbane to Narita / Haneda and Jetstar's Sydney / Brisbane to Osaka service from April 2024). In addition, Japan Airlines will introduce first class between Sydney and Tokyo from May 2024.

Australia is one of few long-haul markets (including US, Canada, Mexico and Middle East) to have either closely matched or exceeded pre-pandemic visitor numbers and Japan is now the fourth most-visited overseas destination for Australians.

The Queensland Government through its "Attracting Aviation Investment Fund" has been very successful with increasing routes and flights for tourist and business travel.

Japanese working holiday visas are increasingly attractive for young Japanese in part because of the large differential in the hourly minimum wage – \$23.23 in Australia and JPY900 (\$9) in Japan.

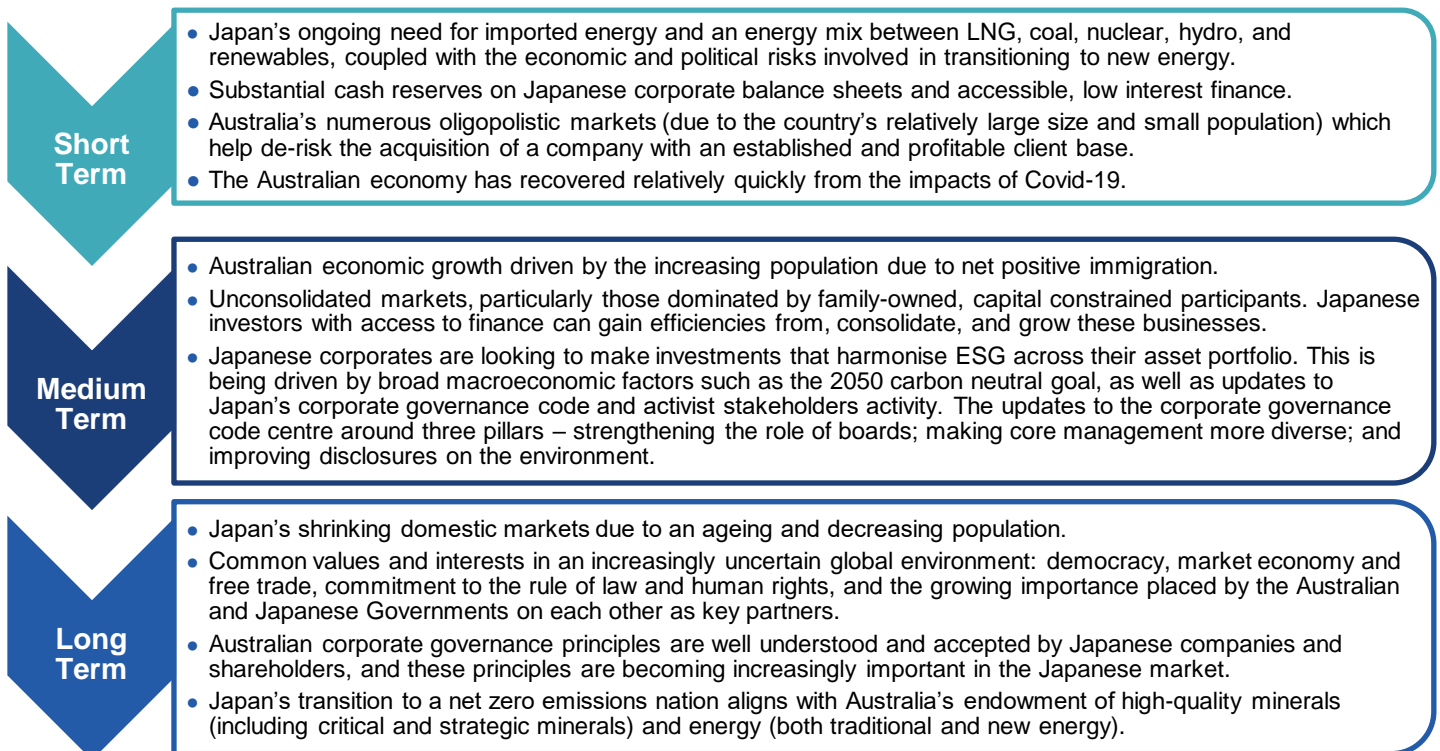
Predictions for 2024

- 1 Record M&A transactions, record FDI and even greater sector diversification.
- 2 The senior-level international meetings and visits during 2023 will likely encourage new partnerships in government and defence industries, with a number of conferences and diplomatic forums planned in 2024. The prime ministers will likely meet in APEC in Peru, the G20 in Brazil, the Quad in India, alongside the annual leaders' meeting between Australia and Japan.
- 3 Increasing number of visits to Australia in 2024 by C-suite executives of Japanese corporations will likely result in further investment.
- 4 As was seen in 2022 and 2023, partnerships continue to progress from joint feasibility, design studies to pilot plants. The timeline for each partnership will depend on the familiarity of the parties with each other and the extent to which the proof of concept can mitigate concerns about commercial feasibility.
- 5 Further investments in consumer products, retail, real estate and services. Japanese trading houses in particular have continued to divest from carbon-intensive assets which they no longer consider strategic and reinvest in upstream and downstream markets.
- 6 Japan is likely to leverage its alignment with Australia and the US on geopolitical strategy, and its involvement in the Quad, to collaborate with the AUKUS partnership and develop greater investment and technological cooperation with Australia.
- 7 Critical and strategic minerals will be a key focus for Japanese investors, supported by JBIC and JOGMEC, as Japanese government agencies seek to maintain stable supply chains. Both JBIC and JOGMEC have changed their mandate to include critical and strategic minerals and hydrogen/ammonia.
- 8 Likely to be increased collaboration between Australia and Japan to drive decarbonisation projects in Asia and the Indo-Pacific regions, with the support of Japanese Government institutions like JBIC and the Asia Zero Emission Community that Japan launched.

Underlying drivers of Japanese investment in Australia

The trends discussed above are all consistent with the underlying drivers of Japanese investment into Australia in the short, medium and long-term and which are summarised below. They are outlined briefly because they form a useful platform to explore in more detail the current state of the Japan- Australia relationship in the next section of our paper.

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



Japan-Australia relationship – in-depth analysis

Overview

Economically and politically, Japan and Australia have never been closer. The political and strategic alignment between Tokyo and Canberra is built on a large and strategically important economic relationship, deep people to people ties, and a shared central interest in a stable, open and rules based regional and global order.

Our *2022 Report* explored the theme of the *chikihōyū* (知己朋友) of the Australia–Japan relationship — the understanding of, and respect for, each other’s strengths, values and characteristics. 2023 saw a rare test of the depth and maturity of the *chikihōyū* of our relationship when several Japanese entities reacted publicly to Australian decisions around energy policy that they perceived as challenging a key pillar of the bilateral economic relationship. It was a timely reminder to both countries that our relationship, while strong, should not be taken for granted. The manner in which the relationship met the challenge and continued to strengthen throughout 2023 was a positive affirmation of the enduring relationship and mutual interest we have in each other’s social, business and political success.

Global factors are increasingly affecting the energy relationship — and its transition — between Australia and Japan. That is the main pillar of the bilateral economic relationship and the new investments in 2023 demonstrate both continuity to secure energy security, and the recent trend of securing the future in green energy.

International factors

Global uncertainty continued to worsen in 2023 with the Israeli-Palestinian conflict compounding existing conflicts, notably the ongoing Russian invasion of Ukraine. The strategic competition between China and the United States is playing out in Australia and Japan’s backyard, where the United States is our ally and China is the largest trading partner of both Australia and Japan, and the world’s largest trading nation. In this context, the partnership between Australia and Japan is absolutely crucial to the ability of both countries to shape and navigate the regional and global environment, including managing their relations with China and the United States.

Japanese investment in Australia, and the bilateral economic relationship more broadly, continues in the context of global markets closing up and governments becoming more interventionist with new and large-scale industrial policies and efforts to secure supply chains. The United States, for example, blocked exports of LNG from new projects in early 2024 to try keep domestic prices low. This US action underscores the vital nature of Australia’s role in Japanese LNG supplies.

The US *Inflation Reduction Act of 2022* and other policies introduce distortions to global renewable energy and technology markets, and the European Union has responded in-kind. Industrial subsidies, export controls and interventionist policies are being deployed to accelerate the energy transition, for technological primacy, making supply chains more resilient, to create jobs and in the name of national security. China has its own program of domestic industrial subsidies that affects global markets.

Diplomatic and political state of the relationship

Both Australia and Japan are party to the two mega-regional agreements: the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); and the Regional Comprehensive Economic Partnership (RCEP). They are leaders in the pursuit of other plurilateral and unilateral arrangements, including the Quadrilateral Strategic Dialogue (Quad). They are also helping shape the US-led Indo-Pacific Economic Framework for Prosperity (IPEF) agreement.

Bilateral political engagement continued to build on the post-pandemic momentum around the annual Prime-Ministerial visits. Last year there were at least 6 meetings between Australia and Japan’s key Ministerial representatives, in addition to increasingly frequent interactions between the two prime ministers. A detailed list of Ministerial visits and meetings appears in **Schedule 1**.

The depth of interactions between Australian and Japanese political leaders helps to strengthen the trade relationship which has already been extensively examined in the first half of our report. The depth of the diplomatic and political engagement in recent years is matched by the increased business travel in both directions and the growth in the number of Australians travelling to Japan for the snowfields and tourism.

Numerous leaders in the Japan-Australia relationship have commented that they have never seen more business-related activity than during 2023. This relates to visits and meetings by politicians, bureaucrats and businesspeople. In particular, Austrade, the Australian Embassy in Tokyo and State Government representatives reported that many small to medium sized Japanese companies are approaching them regarding opportunities in Australia rather than the traditional need to seek out potential investors.

The 60th annual Australia-Japan Joint Business Conference in Melbourne in October 2023 saw record attendance of over 650 delegates from 223 member organisations; the most representation by senior Japanese business leaders in more than 30 years with the current or former chairs / presidents of **Tokyo Gas, Inpex, J-POWER, Kawasaki Heavy Industries, Mitsubishi Corporation, Mitsui & Co, JBIC, NTT, Nippon Steel, Mizuho Financial Group, Nittetsu Mining** and **JETRO** in attendance. The Conference included the attendance for the first time ever at a joint business conference in Australia of the sitting Minister for Economy, Trade and Industry, Yasutoshi Nishimura, and addresses by the Federal Minister for Trade and Tourism, Senator Don Farrell, and the Federal Minister for Climate Change and Energy, Chris Bowen. In addition, Minister for Resources Madeleine King attended the Ministerial Dialogue on the Economy and Energy held in the margins of the conference. Few other occasions or destinations see such a large, high calibre delegation from Japan's biggest companies, now a regular occurrence for the joint business conference.

Trade and Investment remains strong

The above observations support our conclusions in the investment section of the report that investment activity will continue to be strong in 2024.

Japanese companies are responsible corporate citizens and amongst the largest company taxpayers in Australia. The latest ATO figures¹⁵ show that six of the top 50 corporate taxpayers were Japanese companies as a result of profits in iron ore, coal, LNG (**ITOCHU, Mitsubishi Corporation, Mitsui, and Nippon Steel**),¹⁶ cars and trucks (**Toyota Motor**); and beverages (**ASAHI Group**). Depending on energy and commodity prices, Japanese trading houses have at times generated up to 50% of their global profit in Australia. Dividends repatriated to Japan in relation to fiscal year 2023 were significant with Australian subsidiaries of **Mitsui, Mitsubishi Corporation** and **ITOCHU** benefitting from high commodity prices including LNG, coal and iron ore and repatriating combined dividends of over \$9.7 billion.

¹⁵ ATO published figures for FY2022.

¹⁶ Alphabetical order

Partners in energy security and transition

With energy self-sufficiency of only 12.6%, Japan's economic prosperity relies on reliable and affordable supplies of energy. Japan's view is that the energy transition can only occur while economic prosperity, social sustainability and political stability are maintained may prove difficult to achieve having set a 2030 GHG emission reduction target of 46% from 2013 levels and a target of net zero by 2050.

LNG and critical minerals are designated as "critical substances" under Japan's Economic Security Promotion Law (2022). Japan's energy policy is described as the "S+3E" being:

- Safety
- Energy Security
- Economic Efficiency
- Environment

Japan's GX Initiative (Green Transformation) (2023) has pillars of decarbonisation, economic growth and energy security through energy efficiency, renewables, nuclear power, hydrogen / ammonia, pro-growth carbon pricing, carbon management and global collaboration.

Australia is by far the largest and most reliable supplier of energy to Japan, supplying over a third of Japan's energy needs. That relationship has been built on an economic closeness between the two countries with confidence in open markets, rules-based trade and predictable and transparent policymaking with political and legal stability. Japanese investment and energy purchases since the 1960s has helped develop Australia's resources sector and build Australian prosperity more generally. Australia's commitment to open markets makes it a stable and secure supplier.

A combination of factors relating to instability in international markets due to the Russian invasion of Ukraine, domestic supply shortages and climate policy led to concerns in Japan about Australia's LNG policy being raised publicly by Japanese Government and business leaders in 2023, most notably by Shingo Yamagami (former Japanese Ambassador to Australia), Takayuki Ueda (President of Inpex) and Tatsuya Terazawa (Chairman of the Institute of Energy Economics, Japan).

The Australian Government has been active in reassuring Japan of Australia's commitment as a reliable long-term energy supplier. This is exemplified by the Joint Ministerial Statement in October 2023 between Minister of Economy, Trade and Industry Yasutoshi Nishimura and his Australian counterpart's speech in Tokyo in January 2024, which both reinforced the importance of Australia

as a long-term reliable energy supplier of coal and LNG to Japan during the energy transition.

Developments in Government policy included the introduction of the reformed “Safeguard Mechanism” scheme from July 2023 that applies to the largest industrial facilities in Australia (around 215 facilities) to ensure their GHG emissions do not exceed prescribed baselines.

While there has been some market distortion from various Government interventions, the primary aim of most of the policies has been consistent with Australian energy security and energy transition priorities.

At the end of 2023, DISR took submissions from gas producers to inform its ‘Future Gas Strategy’ which is expected to be released by mid-2024. **INPEX, Japan Australia LNG, Marubeni and Osaka Gas** were among the Japanese companies whose responses to the consultation were published.¹⁷

Energy policy uncertainty in Australia over the past decade and a half has led to underinvestment in both renewable energy generation and fossil fuel extraction. This has been exacerbated by increased litigation by environmental activists towards expansion of existing projects and the development of new projects (commonly known as “lawfare”).

There is now more certainty with the Australian public sending a clear message to the major political parties that they want accelerated action on climate change policies, even as consumers face higher energy prices. However, there is still widespread acknowledgement of the importance of the resource trade for prosperity in the Australian community.

As Australia accelerates its energy transition and decarbonisation, there will be more changes but the direction is clear. The Australian and Japanese Governments need to work with industry to avoid a further “gas policy surprise”.

Energy Quadrilemma

Japan’s recent energy strategy is defined by a “quadrilemma” facing Japanese companies:

1. economics (customer affordability).
2. politics (secure and reliable energy supply).
3. environment (decarbonisation, climate change and sustainability).
4. profitability (disposing of profitable fossil fuel assets and replacing them with decarbonisation investments, which may be profitable in the future).

What colour is your hydrogen?

The Japanese view is very pragmatic that all colours of hydrogen (green, blue, black, brown, grey, yellow, white, turquoise and pink)¹⁸ are welcome to support a commercially viable energy transition and technologies such as carbon capture and storage (CCS) and carbon capture, utilisation and storage (CCUS) are essential to achieve carbon neutrality by 2050. Conversely, many in Australia believe it can afford to be more idealistic and prefer “green and clean”.

In relation to the production of blue hydrogen from fossil fuels, Australia has an obvious advantage with its coal and LNG assets, as well as substantial geological formations which are suitable for carbon storage. Japanese companies have been discussing carbon-intensity (g/tonne) as a metric rather than in terms of the environmental superiority of green hydrogen versus blue hydrogen. While green hydrogen is seen as being commercially viable in the long-term, blue hydrogen is viewed as an important transition energy source over the next 10 years if the technical issues around CCS can be suitably resolved. Developing the hydrogen and ammonia supply chains, no matter the initial colour, is Japan’s priority.

New Energy Partnerships driving investment

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. Consequently this ushers in 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.

Hydrogen and ammonia project feasibility is uncertain, and the new technologies are largely unproven in large scale production, so 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.

There is new and 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.

¹⁷ <https://consult.industry.gov.au/future-gas-strategy>

¹⁸ <https://www.nationalgrid.com/stories/energy-explained/hydrogen-colour-spectrum>

How much Japanese investment is there in Australia?

Many followers of Japan-Australia investment are likely confused by the various published investment figures (which are also often lagged).

The Japan-Australia Investment Report tracks investments by project / transaction where information is publicly available or disclosed by the parties. Such project- or company-level data is rare. The main public sources of investment data in Australia is the Australian Bureau of Statistics (ABS) and in Japan, the Japan External Trade Representative Office (JETRO) or the Ministry of Finance. The Foreign Investment Review Board (FIRB) in the Australian Treasury screens incoming investment and publishes approved investment proposals.

Foreign investment usually refers to foreign direct investment (FDI) which involves shareholding of 10% or more in an enterprise. Below the 10% threshold foreign investment is considered portfolio investment. Although the 10% threshold is somewhat arbitrary, it is accepted as the threshold for having control or a significant degree of influence on the management of the entity in another economy. FDI usually requires a significant investment commitment and brings benefits beyond capital like market links, branding, intellectual property, technology and know-how. Portfolio investment flows can shift rapidly in response to market conditions. This Report focuses on the higher value-add FDI instead of portfolio investment.

The different sources of data tell different stories.

Table 1 - Different data sources of Japanese direct investment into Australia, A\$ million

| Financial year | FIRB approved | Year | ABS | ABS+ | JETRO | BoJ/MoF |
|----------------|---------------|------|--------|--------|--------|---------|
| 2016-17 | 5,409 | 2016 | 9,481 | 7,787 | 7,498 | 7,087 |
| 2017-18 | 4,695 | 2017 | 6,382 | 3,453 | 5,835 | 5,938 |
| 2018-19 | 15,067 | 2018 | 9,258 | 5,375 | 4,318 | 2,803 |
| 2019-20 | 22,081 | 2019 | 11,966 | 14,466 | 15,146 | 14,670 |
| 2020-21 | 5,099 | 2020 | 20,434 | 19,321 | 19,944 | 21,775 |
| 2021-22 | 7,100 | 2021 | 3,620 | 7,094 | 9,755 | 6,421 |
| 2022-23 | 14,000 | 2022 | 1,084 | 6,141 | 16,990 | 12,564 |

Notes:

FIRB = Foreign Investment Review Board.

ABS = Australian Bureau of Statistics.

ABS+ = Direct investment in Australia, Equity capital and reinvested earnings.

JETRO = Japan External Trade Representative Organization.

BoJ = Bank of Japan.

MoF = Ministry of Finance, Japan.

JETRO and BoJ/MoF converted to A\$ using OECD annualised exchange rate data.

FIRB approval data can be seen as a leading indicator of investment that is yet to be realised but not all approved investment projects eventuate, and a lot of investment is not screened. The ABS data show a dramatic decline in Japanese FDI flows in 2022, causing Japan to fall to the third largest source of FDI stock (or cumulative investment) in 2022.

Schedule 2 explains the differences in the FIRB, ABS, ABS+, JETRO and MoF/BoJ data and how they are collected. The two different data sources of Japanese FDI in Australia by sector are also explained.

Improving the investment environment

Against a background of global competition for capital, Australia has work to do in improving its investment environment, not just for Japanese companies. Australia has recently become a net capital exporter after consistently being a net capital importer for decades as domestic savings were insufficient to fund domestic investment.

Australia needs to recognise that there is global competition for capital and policy consistency, coherency and conformity are therefore essential to ensure long-term stable capital flows to, and remains in, Australia.

Concerns raised by Japanese companies include:

- Interaction of Federal and State laws in the approval of projects.
- Federal and State policies (not just energy related but industrial relations and decisions such as port approvals, offshore wind).
- Legal actions by environmental activists (recent actions against Santos regarding the Barossa LNG Project and Woodside regarding the Scarborough LNG Project were closely monitored in Japan).
- Courts introducing social policy considerations rather than strictly applying the law.

Japan's corporate governance reforms

Significant changes are underway in Japan's corporate governance. A key initiative to foster more foreign investment was the Tokyo Stock Exchange's mandate that companies listed on the prime market (approximately 1,600) must disclose key information in English by March 2025.

There is a new and significant emphasis on Environmental, Social, and Governance (ESG) targets. Activist shareholders are increasingly influencing the actions of Japanese companies, for example, Norway's sovereign wealth fund announced in April 2023 that it would vote against board nominations of companies it invests in that do not include any female directors. Tokyo has set a goal to fill 30% of board seats with women by 2030, though this figure was only 13.5% in 2023.

In response to pressures to enhance capital efficiency and focus on stock prices in March 2023, the Tokyo Stock Exchange requested companies with a price-to-book ratio of less than 1 (indicating they are trading below their liquidation value) to announce strategies to improve their financial health. This led to greater dividend payments and a subsequent surge in foreign investment, leading the Nikkei 225 to break its record high valuation in February 2024. This also spurred Japanese companies to look overseas to invest their large capital reserves and energise their lazy balance sheets.

Acknowledgement of contributors

We would like to acknowledge the valuable insights from the following individuals and organisations which contributed to the findings of this report (in alphabetical order):

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- ENEOS
- Grant Thornton
- IMW Advisory
- Industrial Growth Platform Inc
- ITOCHU Corporation
- Jameson Boyce Partners
- Japan Australia Business Creators
- Japan Bank of International Cooperation
- Japan External Trade Organization
- Kokusai Business Advisory
- Laneway Consulting
- Lendlease
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- Mitsubishi Electric
- Mitsui & Co., Ltd.
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- Queensland Government, Tokyo office
- Hon. Richard Court AC
- Sir Rod Eddington AO
- Sojitz Corporation
- South Australian Government, Tokyo office
- Sumitomo Corporation
- Sumitomo Mitsui Banking Group
- Takenori Ito, J Institute Inc.
- Tokyo Gas Real Estate
- Urban Renaissance
- Victorian Government, Tokyo office

Herbert Smith Freehills

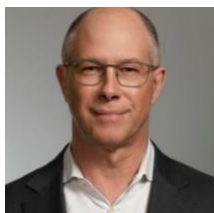
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Our Australia Japan Practice is a unique team of experienced bilingual and bicultural lawyers, specialising in advising Japanese businesses on their investments and operations in Australia. Herbert Smith Freehills' team has more experience advising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

Australia-Japan Research Centre (AJRC)

The Australia-Japan Research Centre (AJRC) at the Crawford School of Public Policy at The Australian National University is the centre of research, teaching and policy engagement on the Japanese economy in Australia. AJRC also conducts research to better understand the Australia-Japan relationship and their place in the Asia Pacific economy. Established in 1980 with support from the governments and business communities in both Australian and Japan, our research encompasses trade, energy, finance, macroeconomics, as well as international economic relations.

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Herbert Smith Freehills' Australia-Japan team









Australia

Senior Adviser





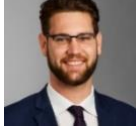



Ian Williams



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|  Nicole Pedler |  Timothy Stutt |  Aaron White |  James Allsop |

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|  Sakura Kajimura |  Tatsuaki Tomiyama |
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 Indicates Japanese language proficiency

Schedule 1: Australia-Japan cabinet-level meetings in 2023

| Date | Location | Meeting |
|----------------|-----------------------------|---|
| 21 Jan 2023 | Sydney, Canberra, Melbourne | Visit by Liberal Democratic Party Headquarters for the Promotion of Digital Society to Australia, included a meeting with Karen Makishima MP, Hirai Takuya MP, Masaaki Taira MP, Minister for Cyber Security Clare O'Neil and Assistant Foreign Minister Tim Watts. |
| 3 Mar 2023 | New Delhi | Quad Foreign Ministers' Meeting attended by Foreign Minister Penny Wong and Foreign Minister Yoshimasa Hayashi |
| 14 Mar 2023 | Telephone | Telephone call between Prime Ministers Anthony Albanese and Fumio Kishida. |
| 20 May 2023 | Telephone | Telephone call between Minister for Climate Change and Energy Chris Bowen and Minister of Economy, Trade and Industry Yasutoshi Nishimura. |
| 19-21 May 2023 | Hiroshima | Prime Minister Anthony Albanese's visit to Hiroshima for the G7 Summit visit also included a Quad Summit meeting and bilateral meeting with Prime Minister Fumio Kishida |
| 25 May 2023 | Detroit | Bilateral meeting of Minister for Trade and Tourism Don Farrell and Minister of Economy, Trade and Industry Yasutoshi Nishimura on APEC/IPEF sidelines. |
| 3 June 2023 | Singapore | Trilateral Defense Ministerial Meeting with Deputy Prime Minister Richard Marles and Defence Minister Yasukazu Hamada. |
| 12 July 2023 | Vilnius | NATO Asia-Pacific Partners (AP4) Leaders' Meeting attended by Prime Ministers Anthony Albanese and Fumio Kishida. |
| 13 July 2023 | Jakarta | Bilateral between Foreign Ministers Penny Wong and Yoshimasa Hayashi on the sidelines of ASEAN-related foreign ministers meetings. |
| 26 July 2023 | Tokyo | Minister for Climate Change and Energy Chris Bowen met with Minister of Economy Trade and Industry Yasutoshi Nishimura. |
| 22 Aug 2023 | Melbourne | Minister for Trade and Tourism Don Farrell met with Japanese Minister of Economic Revitalization Shigeyuki Goto. |

| Date | Location | Meeting |
|----------------|---------------|--|
| 9 Sep 2023 | New Delhi | Bilateral meeting between Prime Ministers Anthony Albanese and Fumio Kishida on the sidelines of the G20 Summit. |
| 19 Sep 2023 | New York | Bilateral meeting between Foreign Minister Penny Wong and Foreign Minister Yoko Kamikawa on the sidelines of the 78th session of the United Nations General Assembly |
| 19 Sep 2023 | New York | High-Level Event on a Fissile Material Cut-Off Treaty attended by Foreign Minister Penny Wong and Prime Minister Fumio Kishida. |
| 22 Sep 2023 | New York | Bilateral meeting between Foreign Minister Penny Wong and Foreign Minister Yoko Kamikawa on the sidelines of the 78th session of the United Nations General Assembly |
| 8-9 Oct 2023 | Melbourne | Ministerial Economic Dialogue and 60th annual Australia-Japan Joint Business Conference attended by Ministers for Trade and Tourism Don Farrell, Minister for Climate Change and Energy Chris Bowen, Minister for Resources Madeline King, and Minister for Economy, Trade and Industry Yasutoshi Nishimura. |
| 19 Oct 2023 | Tokyo | Australia-Japan Defence Ministers' Meeting between Defence Minister Deputy Prime Minister Richard Marles and Defense Minister Hirai Kihara |
| 28-29 Oct 2023 | Osaka | G7 Trade Ministers' Meeting attended by Minister for Trade and Tourism Don Farrell and Minister of Economy, Trade and Industry Yasutoshi Nishimura |
| 7 Nov 2023 | Tokyo | Bilateral Meeting between Foreign Minister Penny Wong and Foreign Minister Yoko Kamikawa. |
| 13 Nov | Canberra | Liberal Democratic Party Vice President Taro Aso visited Canberra to give a keynote at the AIIA National Conference and had bilateral meetings with Foreign Minister Penny Wong and Deputy Prime Minister Richard Marles. |
| 17 Nov 2023 | San Francisco | Bilateral meeting on the sidelines of APEC between Prime Minister Anthony Albanese and Prime Minister Fumio Kishida |
| 18 Dec 2023 | Virtual | Prime Minister Albanese provided a video message for the Asia Zero Emissions Community inaugural Leaders' Summit in Tokyo, which was attended by Prime Minister Fumio Kishida. |

Note: grey shading indicates Prime Minister involvement.

Schedule 2: Foreign Investment data analysis

FIRB approval data can be seen as a leading indicator of investment that is yet to be realised. But not all approved investment projects eventuate, and a lot of investment is not screened: only Japanese investment proposals valued over \$1.154 billion¹⁹ or in certain sensitive sectors require approval. JETRO measures foreign direct investment by the asset and liability principle, tracking Japanese company investments abroad as assets (less liabilities), whereas BoJ/MoF uses the directional principle, tracking investment based on where the parent companies reside. The FDI figures should be equivalent. The ABS also uses the directional principle and the FDI data reported by OECD and other sources relies on ABS reported data.

The ABS data show a dramatic decline in Japanese FDI flows in 2022, causing Japan to fall to the third largest source of FDI stock in 2022 (\$133.8 billion) behind the United States (\$184.3 billion) and the United Kingdom (\$138 billion). Japan was the second largest foreign investor in Australia in 2021 at \$133.8 billion, as this Report cited last year. FDI stock is the total accumulated FDI and includes depreciation: the stock of Japanese FDI in Australia in 2021 (\$133.779 billion) plus the flows in 2022 (\$1.084 billion) less depreciation is equal to the 2022 FDI stock value of \$133.804 billion.

ABS and MoF/BoJ collect and report data consistent with the Balance of Payments and International Investment Position Manual (BPM6) published by the IMF but MoF/BoJ differ in their collection of indirect direct investment relationships to avoid onerous reporting. MoF/BoJ capture outward direct investment with an equity stake of 10% or when the investor holds voting power of 20 percent or more.²⁰

ABS and JETRO do not publish FDI data by sector and country, only one or the other, largely to avoid identification of companies and investment projects. BoJ/MoF and FIRB publish FDI and FDI approvals, respectively, by sector.

Table 1 - Japanese direct investment in Australia by sector, Bank of Japan, A\$ million

| | Total | Manufacturing (total) | Mining | Construction | Wholesale and retail | Finance and insurance | Real estate | Services |
|------|--------|--------------------------|--------|--------------|-------------------------|--------------------------|-------------|----------|
| 2016 | 7,087 | 652 | 2,625 | 39 | 1,336 | 1,118 | 287 | 472 |
| 2017 | 5,938 | 1,077 | 3,221 | 148 | 613 | -296 | 360 | 416 |
| 2018 | 2,803 | -3,048 | 3,704 | 1,210 | 772 | -350 | 139 | 273 |
| 2019 | 14,670 | 4,733 | 2,805 | 484 | 947 | 5,738 | 7 | 188 |
| 2020 | 21,775 | 18,817 | 221 | 96 | 1,037 | 1,103 | 318 | 179 |
| 2021 | 6,421 | 1,113 | 6,011 | -397 | 972 | -1,196 | -4 | -707 |
| 2022 | 12,564 | 2,910 | 7,896 | -588 | 413 | 1,125 | 217 | 132 |

Note: converted to A\$ using OECD annualised exchange rate data

¹⁹ If investment is directly from Japan otherwise a still favourable but much lower threshold applies.

²⁰ See page 41 of <https://www.boj.or.jp/en/statistics/outline/exp/data/exbpsm6.pdf>

Table 2 - FIRB approved direct Japanese investment in Australia by sector, A\$ million

| Financial year | Total | Number of approvals (f) | Agriculture, forestry & fishing | Finance & insurance | Manufacturing, electricity & gas | Mineral exploration & development | Real estate | Services |
|----------------|--------|-------------------------|---------------------------------|---------------------|----------------------------------|-----------------------------------|-------------|----------|
| 2016-17 | 5,409 | 113 | 12 | | 1,150 | 110 | 3,200 | 938 |
| 2017-18 | 4,695 | 136 | 193 | 26 | 110 | 526 | 2,206 | 1,635 |
| 2018-19 | 15,067 | 125 | 58 | 4,117 | 2,509 | 3,058 | 3,810 | 1,515 |
| 2019-20 | 22,081 | 129 | 198 | 1,334 | 17,488 | 227 | 1,060 | 1,775 |
| 2020-21 | 5,099 | 206 | 81 | 128 | 408 | 78 | 2,646 | 1,757 |

The sector and industry classifications differ between FIRB and MoF/BoJ and FIRB approvals data do not capture realised investment. But the two sources provide more information about Japanese investment in Australia. The BoJ/MoF categories had to be collapsed since there was no investment in many sectors. These data tell us that mining continues to dominate Japanese investment in Australia. 2020 saw large investment from Japan into the Australian manufacturing sector. Finance and insurance and other services remain important, with Japanese data likely capturing wholesale and retail in 'services'. FIRB data shows significant Japanese projects approved in real estate while the Japanese data likely classifies real estate differently.

Schedule 3: Timeline of government policy changes in Australian LNG and coal markets

Table below sets out major (temporary) policy changes implemented by Australian Federal and State/Territory Governments in recent times:

| | |
|----------------|---|
| June 2022 | Australian Energy Market Operator (AEMO) ‘suspended’ the national electricity market in order to facilitate electricity trading during a period of sustained high prices. |
| September 2022 | Federal Government entered into Heads of Agreement with LNG exporters to safeguard supply for the east coast domestic market. The Heads of Agreement is in place until January 2026. |
| December 2022 | <p>New South Wales (NSW) Government declared a ‘<i>coal market price emergency</i>’ granting the NSW Minister for Energy the power to give the market directions which included a price cap on thermal coal sold to generators (\$125/tonne) and requirements around domestic reservation of coal in NSW.</p> <p>The market directions were amended/supplemented on a number of occasions during 2023. NSW Government has announced the intervention will end on 30 June 2024.</p> <p>Queensland Government moved simultaneously to direct coal generators in that jurisdiction.</p> |
| April 2023 | Reforms to the Australian Domestic Gas Security Mechanism (ADGSM) commenced with the government’s focus said to be to provide certainty of domestic supply and manage pricing for new contracts in 2023. The reforms have caused uncertainty for international exporters and purchasers of, and investors in, Australian LNG. The ADGSM is intended to be in operation until January 2030. |
| July 2023 | <p>Federal Government’s <i>Mandatory Gas Code of Conduct</i> for the east coast domestic market came into effect following consultation with gas producers and users.</p> <p>The mandatory Code is intended to guide contracting behaviour between producers and purchasers and includes a ‘reasonable price’ provision requiring producers and buyers to negotiate at prices that reflect the cost of domestic gas production, allowing for a reasonable return on capital.</p> <p>The Code currently defines a reasonable price as \$12/GJ (excluding cost for provision of transport or storage services). It has been suggested that only approximately 6% of total east coast production (which includes LNG) will be covered by the pricing rules of the Gas Code due to the operation of the exemptions framework within the Code.</p> |
| September 2023 | <p>Woodside’s Scarborough LNG Project suffered a setback with the Federal Court ruling that the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) did not have statutory power to approve the application for seismic testing off the coast.</p> <p>The Australian Department of Industry, Science and Resources (DISR) subsequently commenced a formal consultation process in an attempt to restore greater certainty in the offshore oil and gas storage approvals process.</p> |

Schedule 4: Details of M&A transactions and other investments surveyed in 2023

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|--|-----------------------------------|--|-------------------|--------------------|---------------------------|
| 1 | Idemitsu Kosan | Red Dirt Metals | Idemitsu Australia has acquired a 2.3% shareholding in ASX-listed lithium explorer Red Dirt Metals for \$5 million. | \$5.0 | Mining | 20 January 2023 |
| 2 | Kokusai Pulp and Paper (KPP) | Domain Paper (Australia) Pty Ltd | KPP acquired 100% of Domain Paper (Australia) Pty Ltd through its Australian subsidiary Spicers Limited. | Undisclosed | Industrial | 2 February 2023 |
| 3 | Thugela Resources, Mayfair Corporation and Audley Energy | Idemitsu Kosan | Idemitsu Kosan sold the Ensham thermal coal mine to Thugela Resources, Mayfair Corporation and Audley Energy. | Undisclosed | Mining | 3 February 2023 |
| 4 | Asahi Kasei Homes | Arden Homes | Asahi Kasei Homes acquired Arden Homes through its subsidiary NEX Building Group Pty Ltd expanding NXT's market reach into Victoria. | Undisclosed | Real estate | 20 February 2023 |
| 5 | Fiveight | Lendlease; Mitsubishi Estate Asia | Lendlease and Mitsubishi Estate Asia contracted with Fiveight for the sale and delivery of the Waldorf Astoria Hotel and 430 square metres of ground-floor retail space at their \$3.1 billion One Circular Quay development in Sydney. The 220-room hotel is expected to be completed by March 2026. | Undisclosed | Real estate | 21 February 2023 |
| 6 | Tokyo Gas Real Estate | Cedar Woods | Tokyo Gas Real Estate Invested with Cedar Woods to develop the Banksia Apartments in Adelaide. | Undisclosed | Real estate | 22 February 2023 |
| 7 | Fujifilm Business Innovation | MicroChannel Services Pty Ltd | Japanese manufacturer of printers, scanners and multifunction devices Fujifilm Business Innovation , acquired Sydney based IT services company MicroChannel Services Pty Ltd. | USD\$67.34 | Technology | 28 February 2023 |
| 8 | Japan Australia Rare Earths B.V. (JARE) | Lynas Rare Earths Ltd | JARE and Lynas Rare Earths agreed on a \$200 million capital investment and priority supply agreement. The investment is to support the funding of capital projects aimed to satisfy demand for rare earth materials. | 200 | Energy / Resources | 7 March 2023 |

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|---|------------------------------------|--|-------------------|------------------------------|---------------------------|
| 9 | Idemitsu Kosan | Vecco Group Pty Ltd | Idemitsu Kosan Co, Ltd has made an investment in Vecco of \$8.26 million. Vecco is working on a project related to a vanadium mine and electrolyte plant. Idemitsu's total investment in the project is \$13.16 million, representing 14.7% shareholding. | 8.26 | Mining | 24 March 2023 |
| 10 | Polymetals Resources Ltd | Toho Zinc Co Ltd | Polymetals Resources , an Australian mineral exploration company, bought the Endeavor Lead, Zinc & Silver mine in Australia from Toho Zinc Co Ltd, a Japanese lead and zinc processor. | 9.88 | Mining | 28 March 2023 |
| 11 | Otsuka Pharmaceutical | Atmo Biosciences Ltd | Otsuka Pharmaceutical acquired a shareholding in Atmo Biosciences Ltd, an Australian based clinical stage biotechnology company, as a part of a series B funding round. | 5.36 | BioTech | 30 March 2023 |
| 12 | Mizuho Bank Ltd | MCi Carbon Pty Ltd | Mizuho Bank invested 5 million USD in MCi Carbon Pty Ltd, a Canberra-based technology engaged in carbon capture and utilisation. | US\$5 | Carbon offset/Capture | 31 March 2023 |
| 13 | Nippon Telegraph and Telephone Corp (NTT) | The Nesci Family | NTT has purchased a housing site in South Morang in the outskirts of Melbourne. | 45 | Real estate | 2 April 2023 |
| 14 | Kirin Holdings Co Ltd | Blackmores Ltd | Kirin Holdings acquired all shares of ASX-listed vitamin manufacturer Blackmores Ltd through a scheme of arrangement. | 1900 | Consumer / Pharmaceuticals | 27 April 2023 |
| 15 | Sojitz | Albert Automotive Holdings Pty Ltd | Sojitz has acquired Albert Automotive Holdings Pty Ltd which operates a wholesale and retail used car business as part of Dutton Group. | Undisclosed | Consumer | 16 May 2023 |
| 16 | Sojitz | Ellis Air Group | Sojitz acquired air conditioning and mechanical service company Ellis Air Group, entering the energy conservation market. | Undisclosed | Consumer | 17 May 2023 |
| 17 | Nissui Corporation | Seascope Restorations | Nissui Corporation invested in Australian seaweed business Seascope Restorations Australia Pty Ltd, (also known as Immersion Group), which specialises in cultivating "Asparagopsis," a type of red seaweed recognized for its potential to reduce methane emissions from cattle. | Undisclosed | Agriculture / Sustainability | 18 May 2023 |

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|--------------------------------------|--|--|-------------------|------------------------------|---------------------------|
| 18 | Daibiru | Mirvac | Daibiru purchased a 50% share of Mirvac's next generation workplace development 7 Spencer Street, Melbourne. | Undisclosed | Real estate | 25 May 2023 |
| 19 | Bertrams Trading Pty Ltd | J Steel Group | Bertrams Trading Pty Ltd, the Australia based investment holding company, is to acquire 55.67% of J Steel Group Pty Ltd, the local manufacturer of architectural metal products, from Giken Ltd, the Japan based manufacturer of industrial machinery, and provider of construction solutions. | Undisclosed | Industrial | 7 June 2023 |
| 20 | Idemitsu Australia | Delta Lithium | Idemitsu Australia, a subsidiary of Idemitsu Kosan increased its shareholding in the West Australia based lithium exploration company from 2.76% to 15%. | 46.4 | Mining | 14 June 2023 |
| 21 | Mirvac | Mitsubishi Estate; Clean Energy Finance Corporation (CEFC) | Mirvac has established a \$1.8bn Build to Rent Venture with cornerstone investors, including Mitsubishi Estate and CEFC. The Venture comprises Mirvac's operational build to rent assets (LIV Indigo, Sydney and the recently completed LIV Munro, Melbourne), as well as its build to rent pipeline assets (including LIV Anura, Brisbane, and LIV Aston and LIV Albert Fields, Melbourne). Mirvac will provide investment management, property management, development management and construction services. | 1800 | Real estate | 29 June 2023 |
| 22 | Daiwa Energy & Infrastructure Co Ltd | Green Gold Energy Pty Ltd | Daiwa Energy & Infrastructure Co Ltd acquired 100% of a 5988 kW solar farm inverter station in rural Victoria. | Undisclosed | Energy / Renewables | 30 June 2023 |
| 23 | AT Global Markets (UK) Ltd | Rakuten Group Inc | AT Global Markets (UK) Ltd, the United Kingdom based online trading CFDs broker has acquired Rakuten Securities Australia Pty Ltd, the Australia based provider of online brokerage services. | Undisclosed | Financial Services | 5 July 2023 |
| 24 | Kanematsu Corporation | Samasaras Eco | Kanematsu Corporation invested in Samasara Eco through a third-party allotment of shares. Samasara Eco has developed an enzyme technology that breaks down plastics to their original components. | Undisclosed | Waste management / Recycling | 6 July 2023 |

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|-------------------------------|---|--|-------------------|-----------------------|---------------------------|
| 25 | Inpex | Enel Green Power Australia | Inpex , through its subsidiary Inpex Renewable Energy Australia Pty Ltd acquired a 50% shareholding in Enel Green Power, which is engaged in the generation of electricity from renewable sources. | 326.4 | Energy / Renewables | 13 July 2023 |
| 26 | Daiwa House Australia | Lendlease | Lendlease and Daiwa House Australia have partnered to deliver a build-to-rent apartment development at Melbourne Quarter. Lendlease will develop, construct and act as the investment manager for the development, which has an end value of approximately \$650 million. | 650 | Real estate | 17 July 2023 |
| 27 | Kyokuto Kaihatsu Kogyo | Import Machinery & Equipment Pty Ltd | Kyokuto Kaihatsu Kogyo Co Ltd acquired a 90% shareholding in Import Machinery & Equipment Pty Ltd, an Australian based sales and maintenance of special purpose vehicles and sales related parts company. | Undisclosed | Consumer/ Automobiles | 24 July 2023 |
| 28 | Kao Corporation | Bondi Sands | Kao Corporation acquired Bondi Sands, a self-tanning and skincare brand. | 450 | Consumer/Beauty | 1 August 2023 |
| 29 | Glencore | Idemitsu Kosan | Glencore plc acquired through its subsidiary Cumnock No 1 Colliery Pty Ltd, an 11% shareholding in Ravensworth Coal Terminal from Idemitsu Kosan. | Undisclosed | Mining | 3 August 2023 |
| 30 | LNG Japan Corporation | Woodside Energy Group | LNG Japan Corporation acquired a 10% interest in the Scarborough liquefied natural gas project from Woodside Energy Group. Sojitz and Sumitomo Corporation are equal 50% shareholders in the LNG Japan Corporation. | US\$880 | Energy | 8 August 2023 |
| 31 | Mitsui Fudosan | Frasers Property Australia (FPA) | Mitsui Fudosan and FPA have established a joint venture to deliver three developments in Sydney's Midtown MacPark. | 2200 | Real estate | 4 September 2023 |
| 32 | Fujitsu | MF & Associates Pty Ltd | Fujitsu Ltd , through its Australian subsidiary Fujitsu Australia Ltd, has acquired MF & Associates Pty Ltd, an Australian based consulting service provider. | Undisclosed | Consulting | 18 September 2023 |
| 33 | Icon Kajima | Icon Oceania | Icon Kajima has developed its \$265 million project at 499 Kent Street, Sydney, for 229-key hotel rooms. Icon Kajima, partnering with Icon Oceania plan to provide a rooftop bar, infinity pool and heritage suites. | 265 | Real estate | 20 September 2023 |

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|---|--|---|-------------------|-----------------------|---------------------------|
| 34 | Kanden Realty | Legacy Property | Kanden Realty , a subsidiary of Kansai Electric, invested approximately \$30m into a residential project in Sydney led by Legacy Property. | Approx. 30 | Real estate | 1 October 2023 |
| 35 | Dennis Family Corporation | Sekisui House | Sekisui House has sold an 18.5 hectare site in Yaroomba at the Sunshine Coast to Victorian property developer Dennis Family Corporation. | 100+ | Real estate | 4 October 2023 |
| 36 | Mitsubishi Estate Asia; Phoenix Property Investors | PERIFA; Abadeen | PERIFA and Abadeen have partnered to create a waterfront precinct in Putney in Sydney, called Pier 20 with support from Mitsubishi Estate Asia and Phoenix Property Investors . The total development plan is \$240 million and is expected to be on the market in 2024. h | Undisclosed | Real estate | 7 October 2023 |
| 37 | Whitehaven Coal | BHP Group and Mitsubishi Development Pty Ltd (BMA) | Whitehaven Coal acquired 100% of the Daunia and Blackwater metallurgical coal mines from BMA. | USD\$3.2b | Mining | 18 October 2023 |
| 38 | Daiwa Energy & Infrastructure Co Ltd | Gunnedah 499 Solar Farm Pty Ltd; Kootingal Solar Farm Pty Ltd, Temora Solar Farm Pty Ltd | Daiwa Energy & Infrastructure Co Ltd through its subsidiary NSW DEI INVESTMENT MANAGEMENT Pty. Ltd fully acquired a solar farm project from Canigou Australian Solar Energy Limited and has entered into a construction contract supported by ENECHANGE Ltd | Undisclosed | Renewable energy | 20 October 2023 |
| 39 | ROHTO Pharmaceutical Co Ltd | Australis Scientific Pty Ltd | ROHTO Pharmaceutical Co Ltd was the largest investor in health tech venture Australis Scientific Pty Ltd's Series Seed funding round. | Undisclosed | Medical | 26 October 2023 |
| 40 | Angel Group Co Ltd | SenSen Networks Ltd | Angel Group Co Ltd acquired SenSen Networks, an Australian company developing software for enterprise video, sensor data acquisition, data fusion and big data analytics. | Undisclosed | Software | 27 October 2023 |
| 41 | Persol Holdings Co Ltd | Urban Maintenance Systems Pty Ltd | Persol Holdings Co Ltd , a Japanese based human resources and staffing service company, through its Australian subsidiary Programmed acquired the Australian business, Urban Maintenance Services Pty Ltd, which provides building maintenance, grounds maintenance services, graffiti management and facility management. | Undisclosed | Facilities management | 2 November 2023 |

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|---|---|--|-------------------|-----------------------|---------------------------|
| 42 | ENGIE SA | Mitsui & Co Ltd | Mitsui & Co Ltd sold its 28% shareholding in IPAH to ENGIE SA . IPAH operates power generation, electricity and gas retail services. | Undisclosed | Electricity / Energy | 22 November 2023 |
| 43 | Optimus Group Co Ltd | Autopact Ltd | Optimus Group is to acquire a 91.7% shareholding in Autopact Ltd, an automotive dealership group. | 270.56 | Consumer / Automotive | 24 November 2023 |
| 44 | 7-Eleven International LLC | Convenience Group Holdings Pty Ltd | 7-Eleven International LLC , a subsidiary of Seven & I Holdings Co Ltd, acquired 100% of convenience and petrol retailer Convenience Group Holdings Pty Ltd, which operates 7-Eleven in Australia. | 1170 | Consumer | 30 November 2023 |
| 45 | Komatsu Ltd | iVolve Holdings Pty Ltd | Komatsu Ltd through its wholly owned subsidiary in Australia, has acquired iVolve Holdings Pty Ltd a provider of fleet management system ("FMS") for construction and mining equipment. | Undisclosed | Technology | 1 December 2023 |
| 46 | Mitsubishi Estate; AsheMorgan; Odakyu Electric Railway, Hankyu Hanshin Properties, JR West Real Estate & Development, Kintetsu Real Estate, MUFG, Nishimatsu Construction. | Mirvac; Blackstone | Mitsubishi Estate established a value add fund together with AsheMorgan which acquired 60 Margaret Street in Sydney. Numerous Japanese companies participated in the fund as equity investors. | 779 | Real estate | 4 December 2023 |
| 47 | Shiseido | Patrick Kidd Holdings Pty Ltd (Patricks) | Shiseido invested in Patricks, a high-end men's grooming brand. | Undisclosed | Consumer / Wellbeing | 7 December 2023 |
| 48 | Hitachi Ltd | Katzion | GlobalLogic, a Hitachi Ltd Company, entered a definitive agreement to acquire engineering firm Katzion. | Undisclosed | Industrial | 12 December 2023 |
| 49 | ITOCHU Corporation | UON Pty Limited | ITOCHU and UON Pty Limited have concluded a capital and business alliance agreement under which ITOCHU will become a strategic minority shareholder in OUN. | Undisclosed | Industrial | 12 December 2023 |

| No | Buyer | Target/ Seller | Description of Transaction | Deal Value (A\$m) | Industry | Date Announced/ Completed |
|----|---------------------------------------|---|--|-------------------|------------|---------------------------|
| 50 | Mitsubishi UFJ Financial Group (MUFG) | Link Administration Holdings Ltd (Link) | MUFG , through its subsidiary Mitsubishi UFJ Trust & Banking Corporation, acquired ASX-listed Link under a scheme of arrangement. | 1200 | Technology | 18 December 2023 |
| 51 | MS Journey Pty Ltd | Millennium Services Group | MS Journey , a subsidiary of SoftBank Robotics Singapore, acquired through a scheme of arrangement all the shares in ASX-listed Millennium Services Group, an Australian cleaning and security services group | 57.2 | Cleaning | 22 December 2023 |

Schedule 5: Details of partnerships surveyed in 2023

| No | Party A | Party B | Details of partnership | Industry | Date |
|----|---|---|---|-------------------------------|-----------------|
| 1 | The Japan Bank for International Cooperation (JBIC) | The Government of Western Australia | JBIC signed an MOU with the Government of Western Australia to further promote investment by Japanese companies into Western Australia in the energy and resources sectors. This MOU builds upon an MOU signed between the two parties in November 2011. | Materials / Energy / Hydrogen | 26 January 2023 |
| 2 | Port of Himeji | Pilbara Ports Authority (PPA); Western Australia | Pilbara Ports Authority (PPA) and the Port of Himeji signed an MOU to support cooperation and knowledge exchange between the two ports on renewable energy and net zero carbon emission initiatives. | Energy | 1 February 2023 |
| 3 | Mitsui O.S.K. Lines (Mol Group) | Port of Newcastle | The MOL Group and the Port of Newcastle signed an MOU focused on developing a clean energy hub at the Port of Newcastle, involving the construction of a Clean Energy Precinct for producing, storing, and exporting green hydrogen and ammonia. This project, supported by \$100 million in Australian federal funding, aims to promote decarbonisation and local job creation. | Energy / Infrastructure | 1 February 2023 |
| 4 | Artesian Venture Partners Pty Ltd | Mitsubishi UFJ Financial Group Inc. (MUFG) | Artesian Venture Partners Pty Ltd Signed an MOU with MUFG to collaborate in the growth of the start-up ecosystem in Australia. | Financial Services | 2 February 2023 |
| 5 | IDOM Innovations | RMIT | IDOM Innovations and RMIT University announced a partnership to establish the IDOM Innovation Centre at RMIT's City Campus, focusing on global automotive and AI solutions. | Technology | 1 March 2023 |
| 6 | Kawasaki Heavy Industries and Iwatani Corporation (Japan Suiso Energy); and J-POWER and Sumitomo Corporation Joint Venture (JPSC JV) | Hydrogen Energy Supply Chain (HESC) | Japan Suiso Energy and the JPSC JV have committed approximately \$2.1 billion through its Green Innovation Fund to support the Hydrogen Energy Supply Chain (HESC) project in Victoria, Australia. This project, in its commercial demonstration phase, aims to create the world's first liquefied hydrogen supply chain. The project involves producing clean hydrogen gas, primarily from coal in the Latrobe Valley, with CO2 capture and storage in the Bass Strait, and exporting 30,000 tonnes per year of this hydrogen to Japan. | Hydrogen | 7 March 2023 |

| No | Party A | Party B | Details of partnership | Industry | Date |
|----|---|---|--|------------------|---------------|
| 7 | Osaka Gas Australia Pty Ltd | Santos | Osaka Gas Australia Pty Ltd , a 100% subsidiary of Osaka Gas Co, Ltd, has entered into an agreement with Santos Ltd (Santos), to conduct Pre-Front End Engineering and Design (Pre-FEED) work on a project to produce carbon neutral synthetic methane, also known as e-methane. | Energy | 7 March 2023 |
| 8 | Electric Power Development Co, Ltd (J-POWER) | Sumitomo Corporation | J-POWER and Sumitomo Corporation have signed a memorandum of understanding to jointly study the feasibility of a clean hydrogen production project extracted from gasified Latrobe Valley Coal and CO2 capture and storage. | Hydrogen | 8 March 2023 |
| 9 | Burnett-Mary Regional Group | Idemitsu; J-Oil Mills | Burnett-Mary Regional Group , an Australian not-for-profit, will use pongamia seed oil to create sustainable aviation fuel, in partnership with Japanese petroleum company Idemitsu and oil company J-Oil Mills . | Biofuel | 10 March 2023 |
| 10 | Goodman Group | Narita International Airport Corporation; Chiba Prefecture | ASX-listed Goodman Group reached an agreement with state-owned Narita International Airport Corporation and Chiba Prefecture to develop a 70ha air cargo logistics hub at Tokyo's Narita International Airport. | Industrial | 16 March 2023 |
| 11 | ENEOS; AMPOL | The Government of Queensland | ENEOS and Ampol individually signed MOUs with the Government of Queensland and an MOU between the two companies to study biofuel production at the Ampol Lytton refinery in Brisbane, Queensland, Australia. MOU with Queensland government signed as part of Queensland's Biofutures 10-year roadmap. | Energy / Biofuel | 23 March 2023 |
| 12 | Mirvac | Clean Energy Finance Corporation (CEFC); Mitsubishi Estate | Mirvac established a build-to-rent venture with cornerstone investors CEFC and Mitsubishi Estate that aims to grow Mirvac's build-to-rent portfolio to at least 5,000 apartments in the medium term, and play a key role in helping solve Australia's housing and rental shortfall. h | Real estate | 1 June 2023 |
| 13 | Mitsubishi Motors Australia | Disaster Relief Australia | Mitsubishi Motors Australia surpassed \$1 million in investments and extended its multi-year agreement to provide fleet vehicles to support community recovery activities across Australia with Disaster Relief Australia. | Transport | 28 June 2023 |
| 14 | ITOCHU | BCI Minerals | ITOCHU agreed to purchase a minimum of 3600 kilotonnes of salt from BCI's Mardie Project, and BCI has nominated ITOCHU as its preferred trading partner for Japan, Korea, and Taiwan. | Food | 27 June 2023 |

| No | Party A | Party B | Details of partnership | Industry | Date |
|----|--|---|--|--------------------------|------------------|
| 15 | ENGIE Renewables Australia | Mitsui & Co | The Yuri Renewable Hydrogen to Ammonia project, a partnership between ENGIE Renewables Australia and Mitsui & Co first announced in 2022 to produce renewables-based hydrogen, received \$3 million from the Western Australian government's Investment Attraction Fund. | Hydrogen / Ammonia | 1 July 2023 |
| 16 | The University of Queensland | The Government of Japan | The University of Queensland has signed an agreement with the Moonshot Research and Development Program, a Japanese Government initiative that will boost research and innovation around commercial production of sustainable biofuels. | Biofuel / Ammonia / Food | 5 July 2023 |
| 17 | Sumitomo Corporation / Rio Tinto | Australian Renewable Energy Agency (ARENA) | Rio Tinto and Sumitomo Corporation will build a hydrogen plant in Gladstone as a part of a \$111.1 million program to lower carbon emissions from the alumina refining process. The Yarwun Hydrogen Calcination Pilot Demonstration Program also received a \$32.1 million co fund from ARENA. Construction will commence in 2024. | Hydrogen | 12 July 2023 |
| 18 | Mitsubishi Heavy Industries | Port of Newcastle | Mitsubishi Heavy Industries signed an MOU with the Port of Newcastle as part of its Clean Energy Precinct initiative, focusing on producing and exporting clean energy, and involving collaboration on technology and infrastructure development. | Energy / Infrastructure | 12 July 2023 |
| 19 | The Japan Rugby Football Union | Rugby Australia | The Japan Rugby Football Union signed an MOU with Rugby Australia that will deepen their cooperation around growing rugby in both countries, along with the wider Asia Pacific region, and will place an emphasis on the mutual development of high-performance programmes. | Sport | 21 July 2023 |
| 20 | The Government of Fukuoka | The Government of New South Wales | The Governments of Fukuoka and New South Wales have signed an MOU regarding the promotion of cooperation in the field of hydrogen, with the long-term aim of importing green hydrogen into Kita-Kyushu City. | Hydrogen | 4 August 2023 |
| 21 | Sumitomo Corporation | Liontown Resources | Sumitomo Corporation agreed to start a joint study for the production of lithium hydroxide in Japan with Australian lithium mining company Liontown Resources . | Minerals / Resources | 7 August 2023 |
| 22 | Sumitomo Corporation (Sumitomo); Toho Gas Co, Ltd; and Kawasaki Kisen Kaisha, Ltd | Woodside Energy Ltd (Woodside) | Sumitomo Corporation, Toho Gas Co, Ltd , Kawasaki Kisen Kaisha, Ltd and Woodside have signed a non-binding memorandum of understanding (MOU) to jointly conduct a feasibility study to establish a CCS (*1) value chain between Australia and Japan. | Carbon offset/capture | 7 September 2023 |

| No | Party A | Party B | Details of partnership | Industry | Date |
|----|--|---|---|------------------------------|-------------------|
| 23 | Ishikawajima-Harima Heavy Industries (IHI) | Energy Estate Pty Ltd; CS Energy (Owned by the Government of Queensland); Idemitsu Renewable Development Australia Pty Ltd | Ishikawajima-Harima Heavy Industries has announced that its Australian subsidiary, IHI Engineering Australia Pty. Ltd, will participate as a joint development partner in the "HyNQ - North Queensland Clean Energy Project" in Australia. This project aims to produce and export green ammonia. The project plans to produce 500,000 metric tons of green ammonia annually at the Abbot Point port in North Queensland, with the goal of contributing to carbon neutrality and the development of low-carbon energy solutions. | Energy / Ammonia | 15 September 2023 |
| 24 | The University of Tokyo | The University of Queensland | The University of Tokyo and the University of Queensland have signed another Memorandum of Understanding (MOU) to expand on 25 years of collaborative research. The MOU has increasingly broadened its scope towards Queensland's renewable energy industries, particularly hydrogen and biofuel. | Energy / Hydrogen / Biofuel | 15 September 2023 |
| 25 | Mitsubishi Heavy Industries | The Government of Victoria | At the Asia CCUS Network Forum, the Government of Victoria signed an MOU with Mitsubishi Heavy Industries for cooperation on information sharing experiences with the deployment of CCS. | Carbon offset/capture | 27 September 2023 |
| 26 | EX-Fusion | EOS Space Systems Pty Limited | EX-Fusion and EOS Space Systems Pty Limited signed an agreement to explore the possibility of cooperation on combating space debris by marrying EOS Space's tracking technology with EX-Fusion's high powered lasers. | Technology / Space | 8 October 2023 |
| 27 | Mitsubishi Electric Corporation | Australian Department of Defence | Mitsubishi Electric Corporation's wholly owned subsidiary, Mitsubishi Electric Australia has signed an agreement with the Australian Department of Defence for a joint development project to develop laser capability to enhance surveillance and survivability of Australian defense platforms. | Defence / Technology | 19 October 2023 |
| 28 | The Japan Bank for International Cooperation (JBIC) | Clean Energy Finance Corporation of Australia (CEFC) | JBIC and the Clean Energy Finance Corporation of Australia signed an MOU to strengthen collaboration in hydrogen and promote Japanese-Australian ties in decarbonisation. | Energy / Hydrogen | 27 October 2023 |
| 29 | Nippon Telegraph and Telephone Corporation (NTT) | Food Agility CRC; University of Technology Sydney | NTT has entered a three year partnership with Food Agility CRC and the University of Technology Sydney . The Project focuses on developing | Sustainability / Development | 13 November 2023 |

| No | Party A | Party B | Details of partnership | Industry | Date |
|----|---|--|---|--------------------------------|------------------|
| | | | sustainable sensing, enhancing connectivity and data analytics for urban greening and rural agriculture. | | |
| 30 | Japan Oil, Gas and Metals National Corporation (JOGMEC) | The Government of New South Wales | JOGMEC renewed a Memorandum of Understanding with the NSW State Government in the realm of energy resources, hydrogen, ammonia and CCS. The MOU has been involved in activities to promote investment in NSW, including the exchange of information on coal, oil, gas and metal resources and the formation of joint ventures for resource development. | Energy / Carbon offset/capture | 21 November 2023 |
| 31 | Tokyo Gas | Santos | Santos and Tokyo Gas will collaborate on a joint feasibility study to produce carbon-neutral e-methane in Australia. | Energy | 23 November 2023 |
| 32 | Fujitsu Ltd | Macquarie University | Fujitsu Ltd established the Fujitsu Macquarie AI Research Lab at Macquarie University, with an aim to continue building collaboration on the research and development on AI and related technologies. | Technology | 30 November 2023 |
| 33 | Iwatani Corporation | Cobalt Blue | Iwatani Corporation and Australia's Cobalt Blue are partnering to develop a cobalt-nickel refinery project in Western Australia. The proposed project will see a large-scale demonstration plant for test work to support technical studies. | Development Study | 1 December 2023 |
| 34 | DGA Energy Solutions Australia Pty Ltd | Countrywide Hydrogen | DGA Energy Solutions Australia Pty Ltd, part of the Mitsubishi Corporation Group , signed a letter of agreement with Countrywide Hydrogen to jointly fund and conduct studies on Countrywide's Portland Green energy project. | Energy / Hydrogen | 13 December 2023 |
| 35 | Sumitomo Corporation; JFE Steel Corporation; Sumitomo Osaka Cement Co, Ltd; and Kawasaki Kisen Kaisha, Ltd | Woodside Energy Ltd (Woodside) | Sumitomo Corporation, JFE Steel Corporation, Sumitomo Osaka Cement Co, Ltd, Kawasaki Kisen Kaisha, Ltd, and Woodside signed a non-binding MOU to explore the feasibility of a collaborative carbon capture and storage (CCS) initiative, known as the "Setouchi / Shikoku CO2 Hub Concept". This initiative seeks to address climate change by aggregating CO2 emissions from the Setouchi and Shikoku regions in Japan, then transporting and permanently storing these emissions in Australia. | Carbon offset/capture | 18 December 2023 |
| 36 | JX Nippon Oil & Gas Exploration Corporation (JX); and ENEOS | Santos | Santos, JX Nippon Oil & Gas Exploration Corporation (JX) and ENEOS Corporation (ENEOS) signed an MOU to pursue for a joint feasibility study | Carbon offset/capture | 18 December 2023 |

| No | Party A | Party B | Details of partnership | Industry | Date |
|----|--|-----------------------------|---|-------------------|------------------|
| | Corporation (ENEOS) | | that will evaluate the potential to capture, transport and sequester emissions from Japan, supporting expansion of the Moomba CCS project. | | |
| 37 | Iwatani Corporation, Kansai Electric Power Company Marubeni; and Keppel Infrastructure. | Stanwell Corporation | The Stanwell led Central Queensland Hydrogen Project has been shortlisted for the Australian Government's \$2 billion Hydrogen Headstart Program. It is an existing consortium of Stanwell, Iwatani Corporation, Kansai Electric Power Company, Marubeni and Keppel Infrastructure . The CQ-H2 is the only project out of 6 shortlisted projects in the Australian Renewable Energy Agency (ARENA)'s \$2bn Hydrogen Headstart Program where Japanese entities are involved. | Energy / Hydrogen | 21 December 2023 |
| 38 | Toho Gas | Santos | Toho Gas has signed an agreement with Santos to investigate the potential for carbon neutral e-methane in South Australia's Cooper Basin. | Energy | 30 December 2023 |