



Driving Investments in Australian Manufacturing Recommendations to Policy Makers

Executive summary

- Australia is lagging other nations in attracting investments in the manufacturing sector
 - As 12th largest economy, Australia ranked 5th for FDI inflows in 2022, punching above its weight by attracting ~\$AUD90B of inflows. However, **specific to manufacturing, it was only ranked 13th globally** with manufacturing-related FDI inflows of ~\$AUD9B in 2022
 - Unlike most sectors where domestic investment was prioritised, **in 2022 manufacturing saw greater investments abroad vs. within Australia**, with ~\$21.8 bn spent abroad by Australian manufacturers, vs. ~\$12 spent in Australia (by local and global firms).
- Engagement with Australian manufacturing companies identified **4 key clusters of challenges manufacturers are facing when investing in Australia**
 - **Unit cost of CAPEX and time to go live:** Securing project approval in Australia is complex and takes longer than other developed countries
 - **Point vs. End-to-end regulatory regimes encourage import substitution:** eg. Safeguard mechanism opens doors for import substitution due to increased local conversion cost; low or no local content requirements; product or efficiency incentives without consideration of local capabilities or supply chains; unrestricted exports of waste materials with circular manufacturing potential
 - **Input cost effectiveness (OPEX):** Energy costs (e.g., electricity, natural gas) in particular are adding a competitive disadvantage over other developed markets
 - **Access to technology and qualified labour:** Australia lacks a heavy engineering contractor ecosystem to deliver large scale EPC scopes, and is reliant on importing specialist labour to deliver projects (e.g., equipment commissioning)
- Looking abroad, **we have identified a set of best practice examples that improve investment attractiveness and returns in manufacturing**
 - **What matters when you invest:** Unit cost of CAPEX and time to market, input cost effectiveness and access to technology and qualified labour
 - **Select key policy levers:** Incentives for energy efficiency and R&D investments; End-to-end carbon policy acknowledging global trade, centralised review and approval process; National energy policy, Advanced manufacturing university/R&D programs
 - **Best practice examples for Australia to learn from:** NZ's support for hard to abate industries, UK heat pump investment roadmap, EU carbon border adjustment mechanism, USA State Economic Development Agencies approval processes, Power-to-X policy in Denmark, Industry 4.0 programs in Germany
- We bring forward **5 recommendations to address challenges** faced in attracting investment in Australian manufacturing
 - **Single front door for capital investments:** Dedicated focal and centralised process to simplify and expedite the project approvals process
 - **End-to-end view on regulations:** Assess and address cost implications of energy transition policies to maximise local supply chain involvement and discourage import substitution
 - **National energy policy:** Arrest rising energy input costs via targeted action to secure availability of gas (e.g., prospective gas reservation policy) and electricity (e.g., intelligent grid development)
 - **Competitive manufacturing ecosystem:** Fund research and skills development, create internationally competitive R&D tax incentives with premium-rate for manufacturing linked R&D, and support establishment of an internationally competitive heavy engineering sector
 - **Mitigate cost disadvantages:** Accelerate depreciation of manufacturing investments, without caps that exclude larger projects. Treat grant funding for domestic manufacturing as non-assessable, non-exempt income. and allow write off of approval costs after approvals are received

5 recommendations to boost investment in Australian manufacturing



Single front door for large capital investments

- Centralised process with centres of excellence providing predictable, high-quality decisions (environmental reviews, specialised courts)
- Dedicated government account manager with decision authority and senior Minister level sponsorship shepherding the process end to end
- Commitment to rapid delivery timeframe in-line with private sector timelines (incl. promotion of pre-approved industrial zones/parks)



End-to-end view on regulations

- Safeguard against import substitution
 - Observe the EU carbon border adjustment tax, and adopt it, if successful (Australia as “policy taker” vs “1st principles design”)
 - Consider minimum domestic content requirements in certain instances
- Use [some of] proceeds from carbon regulation to
 - Support carbon abatement in hard to abate industries
 - Incentivise energy efficiency investments
 - In case of end-user subsidies for energy efficient technology, connect program with local content requirements to limit subsidies flowing to foreign companies
- Implement export restrictions on export of un-processed ferrous scrap metal to facilitate domestic circular industries
 - Availability and use of high-quality ferrous scrap metal is an immediate way to lower carbon emissions from steel production



National energy policy

- Prospective gas reserve policy for Eastern Seaboard with government action on ensuring gas availability
- Proactive investments into an intelligent grid capable of handling future [more intermittent] energy supply mix
- National PtX strategy and a technology agnostic review of baseload power options



Competitive manufacturing ecosystem

- University and private/public partnership R&D programs
 - Industrial application research (industry 4.0) funding at universities as well as education and re-training a workforce that is fit for future
 - Internationally competitive R&D tax incentives, with premium-rate for manufacturing-linked R&D
- Technology access
 - Maintain free and low tariff access to technologies and intermediate goods for the Australian manufacturing sector
- Develop an internationally competitive heavy engineering sector capable of assuming a master contractor role in large capital projects
 - Incentivise creation of the sector as the government/Australia is the ultimate client through competency building and procurement process
 - Facilitate a collaborative accord process between unions and industry that improves both working conditions as well as construction productivity and provides certainty for the full life of the project (employment, conflict resolution, cost)



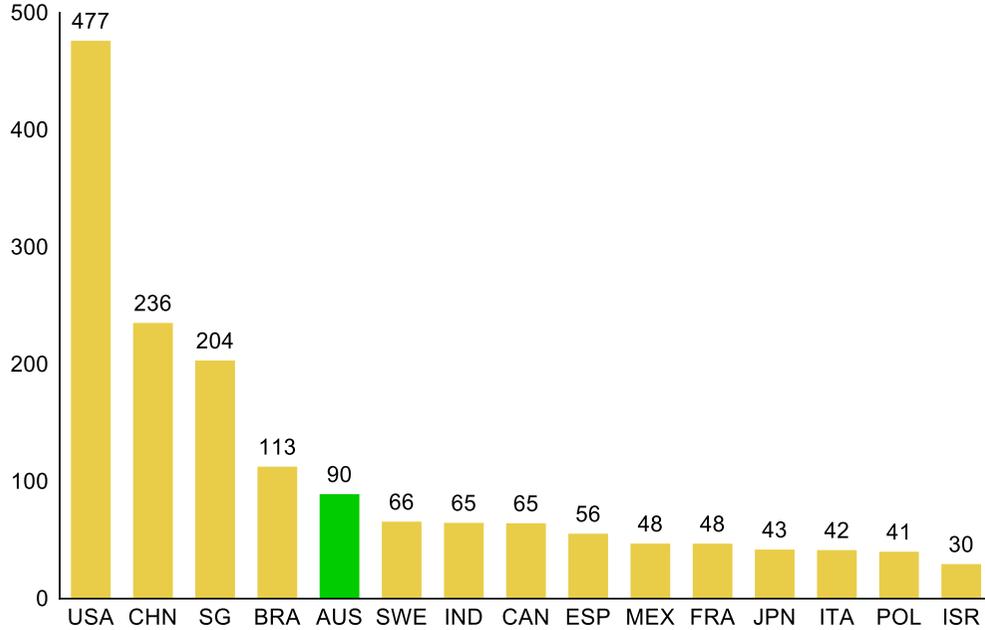
Mitigate cost disadvantages

- Accelerated depreciation of manufacturing investments, without caps to exclude larger projects
- Grant funding incentives for domestic manufacturing to be treated as non-assessable, non-exempt income

As 12th largest economy, Australia ranked 5th for FDI inflows in 2022, punching above its weight, but only ranked 13th for FDI in manufacturing

The top 15 countries ranked by FDI inflows

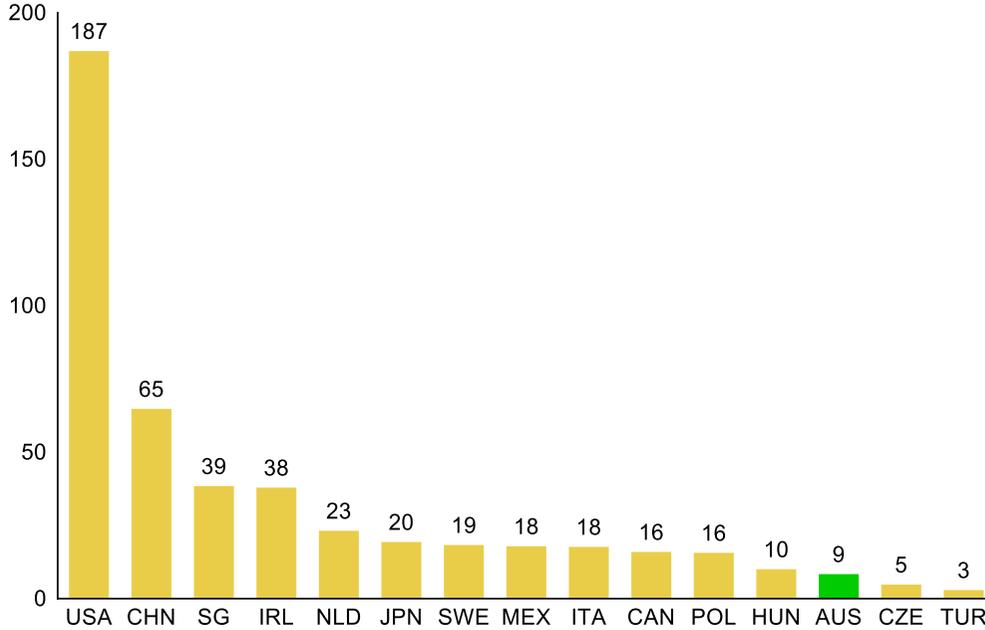
Total foreign direct investment inflows by country
2022 (\$BAUD)



CAGR (18-22): USA 14%, CHN -6%, SG 18%, BRA 10%, AUS 3%, SWE 91%, IND 4%, CAN 7%, ESP -7%, MEX 2%, FRA -3%, JPN 34%, ITA -4%, POL 17%, ISR 2%

...shift significantly for manufacturing only inflows

Total foreign direct investment inflows by country for manufacturing
2022 (\$BAUD)



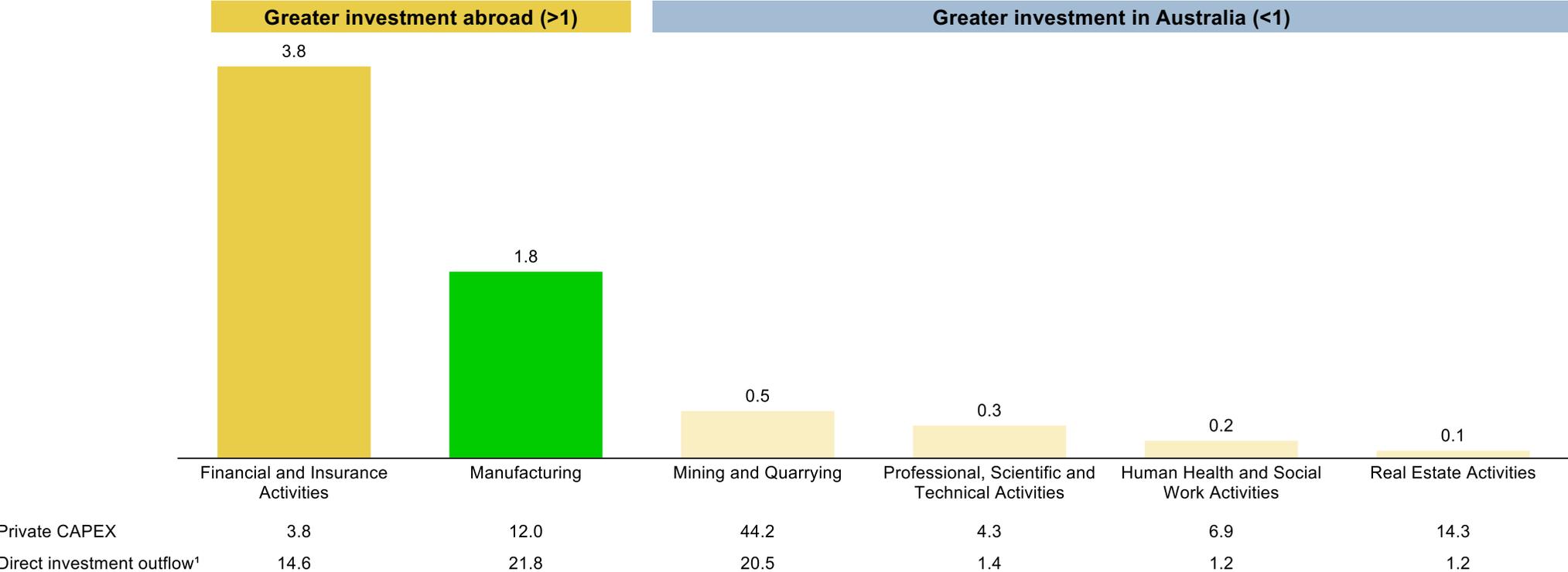
CAGR (18-22): USA 0%, CHN 5%, SG -2%, IRL -22%, NLD -2%, JPN 9%, SWE 24%, MEX -4%, ITA 13%, CAN 0%, POL 21%, HUN 23%, AUS -5%, CZE 1%, TUR 4%

Note: OECD data for FDI Flows (Filtered by Million USD, inward for 2022). All FDI in USD has been converted to AUD with \$1.31 USD/AUD - exchange rate for 2022 has been adjusted to align with the ABS data point of ~\$89B of FDI inflows (financial transactions). The Singaporean value has been adjusted using \$1SIN = 1.0458AUD; Source: OECD, UNCTAD, ABS; Singapore Department of Statistics; Chinese Bureau of Statistics

Manufacturing as a sector saw greater investments abroad vs. within Australia, while others sector prioritised domestic investments

Ratio of direct investment transactions abroad vs. private CAPEX by Australian industries

Financial transactions of investment outflows & CAPEX in 2022 (\$B)



Note: [1] Direct investment financial transactions; Private New Capital Expenditure used as a proxy for investment in Australia, Source: ABS

Manufacturing investment is driven by a multitude of interrelated variables. A comprehensive approach is required to increase investment levels

Reasons for investment

To serve increased demand

- Increase capacity to serve growing end markets
- Substitution of products

①

- *Long term sound macroeconomic policies with well trained and growing workforce*
- *Green investment incentives to fuel demand*

Policy levers



What matters when you invest

Unit cost of capex and time to market

- Timeline (absolute and variance) of regulatory review Certainty and complexity of regulatory review
 - Cost and speed of construction
- ④
- *Centralised review process*
 - *Principle based regulatory review*
 - *Workforce availability and construction productivity*

Policy levers



To drive productivity

- Unit cost reduction / Automation
- Energy efficiency
- Continuous process improvement/innovation

②

- *Flexible labour markets*
- *Incentives for energy efficiency invest.*
- *Accelerated depreciation for mfct. inv.*
- *Globally competitive R&D incentives*

Input cost effectiveness

- Cost of energy, labour, raw materials, intermediate goods and transport

⑤

- *National energy policy incl. intelligent grid fit-for-purpose (e.g., PtX policy)*
- *Prospective gas reserve policy*
- *Local infrastructure support*
- *Shipping and transport red tape reduction, incl. low tariffs*

To comply with regulation

- Environmental regulations (e.g. carbon)
- Health & Safety
- (Revised) product standards

③

- *Benchmarked environmental regulation*
- *Cost benefit analysis of safeguard against import substitution*
- *Approval process cost tax write-offs*

Access to technology and qualified labour

- Access to latest technology
 - Well educated workforce
- ⑥
- *Workforce training / re-skilling*
 - *Free trade agreements to ensure access to technology and mfct equipment*
 - *Advanced mfct university/ R&D programs*

① End to end regime to support energy efficient investments

USA IRA, CHIPS Act and BIL

BACKGROUND

- **Inflation Reduction Act of 2022 (IRA)**
 - **~\$370M of funding** (tax incentives, grants and loan guarantees) **toward clean energy** (e.g., batteries and renewables, clean electricity and transmission, clean transportation), with **~\$50M allocated to the manufacturing sector** and specific measures for recycling and circular manufacturing.
- **Creating Helpful Incentives to Produce Semiconductors and Science of 2022 (CHIPS Act)**
 - **~\$280M of funding to catalyze investments in domestic semiconductor manufacturing**, and support **commercialization of leading-edge technologies**, such as quantum computing, AI, clean energy and nanotechnology
- **Bipartisan Infrastructure Law (BIL)**
 - **~\$1.2T of funding** (grants, trust, loans) in **transportation networks, broadband, and public works projects** across the US

BEST PRACTICES

- **Clear mechanisms:**
 - Funding predominantly via tax credits – an **established mechanisms with clear rules and market familiarity**
- **Comprehensive scope:**
 - Policies cover a wide range of sectors, ensuring a **holistic approach to addressing national priorities** (e.g., addressing climate concerns, ensuring national security and modernizing infrastructure)
- **Long-term investment:**
 - Policies provide funding commitments over ~10 year timeframes, **promoting certainty to enable significant investment decisions**

RESULTS

- **Increased domestic manufacturing:**
 - Strong financial incentives and local content requirements to grow domestic manufacturing volumes across multiple sectors and industries
- **Greenhouse gas emissions:**
 - Estimated 40% reduction in economy-wide GHG emissions below 2005 levels by 2023 through combined effect of the 3 policies
- **Surety of supply, and enhanced national security:**
 - Addresses supply chain shortages estimated to have impacted US economic growth by >\$300B in 2021

② Incentives for energy efficiency investments

Co-funding of BlueScope Steel's electric arc furnace in NZ

BACKGROUND

- BlueScope Steel is building a **new electric arc furnace (EAF)** at its New Zealand Steel (NZ Steel) works at Glenbrook, for ~NZ\$300M
- The EAF will be powered by renewable energy sources (geothermal), and will **reduce Scope 1 and 2 greenhouse gas emissions by >45%**, by replacing the existing oxygen steelmaking furnace and two of four coal fueled kilns. The inputs that will be used to manufacture steel through the EAF include a significant proportion of ferrous scrap metal.
- The **New Zealand Government will co-fund the investment**, agreeing to contribute up to NZ\$140M (~47% total project cost) through the **Government Investment in Decarbonising Industry (GIDI) fund**

BEST PRACTICES

- **Collaborative approach to technology**
 - The co-investment demonstrates a **collaborative approach to development of new technology** and the **promotion of sustainable manufacturing practices**
- **Strategic alignment**
 - The project supports government's commitment to **reduce GHG emissions and promote renewable energy sources**, and aligns with broader strategic goals to **increase productivity and competitiveness, and to promote innovation and R&D**
- **Employment**
 - The investment will **create job opportunities in the Glenbrook community** and support the growth of the manufacturing sector in New Zealand

RESULTS

- Co-funding and government support provide **confidence to commit to accelerated feasibility study**, and helps to position New Zealand as a leader in sustainable manufacturing practices

"This agreement is a landmark deal and shows the power of well-constructed public/private partnerships."

"Investing in an EAF makes sense when there's a reliable and affordable supply of both firmed renewable energy and domestic scrap steel, along with the right public policy settings and support. That's what we see in New Zealand and that's why we are very pleased to progress this significant decarbonization project,"

Mark Vassella, BlueScope's
Managing Director and CEO

③ Safeguard against import substitution due to domestic carbon regime

EU Carbon border adjustment mechanism (CBAM)

BACKGROUND

- The EU's Carbon Border Adjustment Mechanism (CBAM) is a proposed policy aiming to **prevent carbon leakage by imposing a carbon price on imported goods** from countries with less stringent climate policies
- The CBAM is part of the European Green Deal and the **EU's broader goal to achieve climate neutrality by 2050**
- The policy's intent is to **promote “fair pricing” by ensuring the carbon price reflects the actual emissions** associated with imported goods

BEST PRACTICES

- **Flexibility:**
 - The policy **can be adjusted** as necessary to account **for changes in global climate policies and trade agreements**
- **Transparency:**
 - Policy includes implementing a **transparent system for monitoring and reporting emissions** associated with imported goods

RESULTS

- **Reduced carbon leakage:**
 - Offsets incentives that may see manufacturers shift production to other countries with laxer emission constraints
- **Increased global competitiveness of EU industries**
 - Increasing the final price of less carbon efficient alternatives will **make domestically manufacture products relatively less expensive**
- **More stringent international policies**
 - The policy is expected to **incentivize other countries to adopt more stringent climate policies** to reduce their carbon price exposure

4 **Current AUS challenge:** Project approval in Australia takes longer than in other developed countries

Often these approvals get delayed much beyond the indicated timelines leading to distress for investors

The West Australian

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Approval delays could squander Australia's hopes for net zero by 2050

Matt McKenzie | The West Australian
Thu, 16 November 2023 11:30PM

Nearly half of Australia's business leaders say they are not confident the country will come ahead of today's key summit on climate change.

The results are contained in a survey of 1,000 business leaders conducted by the Convention & Exhibition Centre.

Andrew Taylor
October 22, 2023 - 5:00am

Local councils are taking up planning applications, blowing out timelines.

The housing industry says it is adding unnecessary levels of bureaucracy that is already failing to meet demand.

The Sydney council that takes 288 days to scrutinise development applications

Australian housing approvals sink to lowest level in 12 years amid rising costs and planning delays

NAB survey finds construction costs and interest rate concern among borrowers, while developers cite approvals process

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Australian giant gas project facing potential delays due to court injunction

AUTHORITIES & GOVERNMENT

November 3, 2023, by Melisa Cavcic

Australian energy giant Santos is being prevented from continuing its planned work on the Barossa gas field development project offshore Australia due to an interim injunction, which was granted by the Federal Court of Australia. In a few days, the decision will be made on a potential further extension of the injunction until the final hearing. If granted, this has the potential to hinder the project's schedule and cost estimates.

④ Centralised review process

Finland Single court for wind power investments

BACKGROUND

- Finland's environment ministry has proposed a **national environmental permit agency** which is envisioned to act as a single stakeholder for wind power investments
- This is aimed at **streamlining the approvals process** for wind energy projects, **encourage investments** and accelerate the **deployment of renewable energy**
- The agency will be responsible for **Environmental Impact Assessment** for wind energy projects, which was earlier carried out regionally with limited resources

BEST PRACTICES

- **Unified responsibility**
 - **Accelerated decision making** for faster project approvals
 - **Centralized** EIA procedure, preliminary and follow-up controls, permits and applications for exceptions
- **Strategic considerations**
 - **Reduced reliance on energy imports** by boosting domestic generation
 - **Enable strong geo-political stance** through reduced dependence on Russia amidst Ukraine war (~50% of Finland's energy imports were from Russia pre Ukraine war)
- **Stakeholder engagement:**
 - The approval process ensures **proper consultation with stakeholders**, including local communities and environmental groups

RESULTS

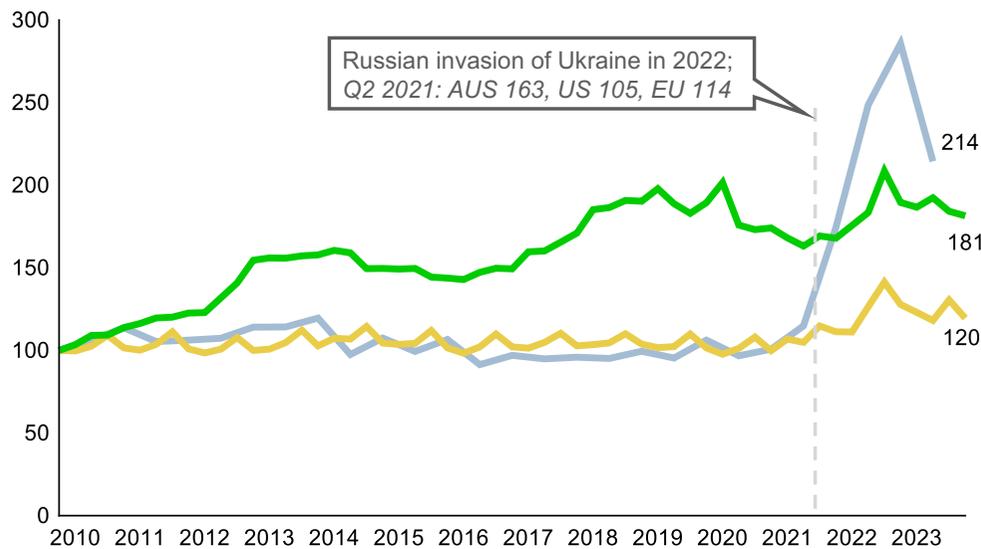
- **Efficient permitting:**
 - Approvals process expected to become **more efficient** by reducing the number of handoffs and procedural delays
- **Increased investment:**
 - This will drive increased interest and investments in wind energy **projects**
 - Wind power in Finland has been the fastest growing source of electricity in recent years, positioning it as the country's third largest electricity source
- **More renewable infrastructure:**
 - Faster and greater deployment of renewable infrastructure **improves the carbon intensity of Finnish energy systems**

5 **Current AUS challenge:** Australia's energy cost are adding a competitive disadvantage over other developed markets like the U.S.

Electricity and natural gas price comparison between Australia, the United States and the European Union¹ (2009-2023)

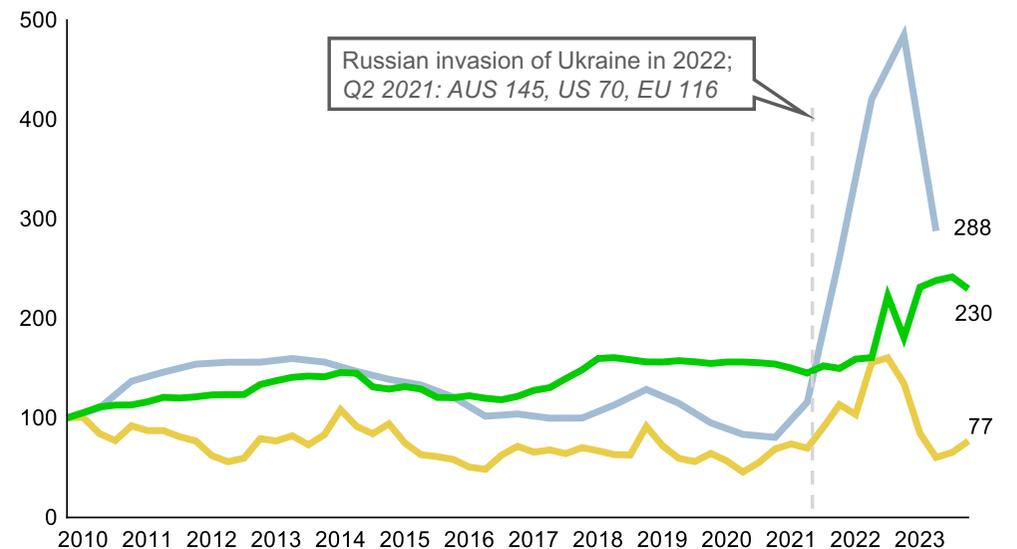
Electricity prices (manufacturing) (2009-2023)

Index (Q4 2009 = 100)



Natural gas prices (manufacturing) (2009-2023)

Index (Q4 2009 = 100)



— Australia — United States — European Union

Note: (1) European Union includes 27 countries from 2020

Source: Australian Bureau of Statistics, 6427.0: Producer Price Indexes, Input to the manufacturing industries; U.S. Energy Information Administration, Natural gas and electricity industrial prices; Eurostat, Electricity prices for non-household consumers (Band IG: Consumption 150 000 MWh or over), Gas prices for non-household consumers (Band I6: Consumption 4 000 000 GJ or over)

5 Input cost effectiveness (OPEX)

Power-to-X policy in Denmark

BACKGROUND

- Power-to-X (PtX) refers to the use of **excess renewable energy** (e.g., wind and solar) **to convert water into hydrogen through electrolysis**, whereby the hydrogen can then be used directly as a fuel, or can be converted into other fuels, chemicals and materials
- PtX is seen as an **essential part of achieving Denmark's goal to reduce greenhouse emissions by 70% by 2030** compared to 1990 levels
- **Key elements PtX policy include:**
 - **R&D:** Investing and partnering to accelerate deployment of PtX solutions
 - **Market development:** Providing incentives, subsidies, and regulatory support
 - **Infrastructure development:** Building infrastructure to support production, storage, and distribution of PtX products

BEST PRACTICES

- **Comprehensive scope:**
 - The policy provides a **holistic approach to developing the PtX industry, across the value chain** (e.g., R&D, infrastructure and market development) **and across sectors** (e.g., transportation, industry and energy)
- **International collaboration:**
 - Denmark actively participates in international initiatives, partnerships and networks, **sharing knowledge, experience and best practices** to support development and adoption of PtX technologies

RESULTS

- **Increased investment:**
 - Denmark has attracted public and private investments for PtX projects
- **Technological advancements:**
 - Ongoing R&D efforts have led to **advancements in green hydrogen production, electrofuels, and integrating PtX technologies** into various sectors
- **Climate goal progress:**
 - **Increased focus on PtX technologies** is expected to contribute significantly to the country's ambitious climate goals

⑥ Access to technology and qualified labour

Industry 4.0 programs and funding in Germany

BACKGROUND

- Germany's Industry 4.0 strategy aims to **support the digital transformation of the manufacturing sector**, leveraging advanced technologies such as the Internet of Things (IoT), artificial intelligence (AI), and robotics to increase efficiency and competitiveness
- **Key elements of the policy include:**
 - **R&D:** promoting R&D in advanced manufacturing and supporting collaboration between industry, academia, and research institutions
 - **Skills development:** Investing in education and training programs to develop a skilled workforce capable of driving Industry 4.0 initiatives
 - **Financial incentives:** Providing funding and incentives for businesses to participate in 4.0 technology & application research

BEST PRACTICES

- **Cooperative working groups**
 - Working groups consisting of experts from business, associations, works councils and academia **shape input to the development of international Industry 4.0 standards** from standardisation and IT security to economic, legal and social dimensions
- **Industry 4.0 R&D cluster**
 - Promotion and financial support building out R&D network clusters including universities and private research institutes, as well as SME support institutions across Germany
- **Platform for sharing and co-creation:**
 - “Plattform Industrie 4.0” is a **central network which promotes sharing of concepts, support and recommendations, use cases for practical application of technologies**

RESULTS

- **Increased investment in and adoption of technology:**
 - Growing investment in and adoption of Industry 4.0 technologies, showcasing Germany's commitment to staying at the forefront of digital transformation in the manufacturing sector
- **Improved productivity and competitiveness:**
 - Multiple elements are expected to contribute to improvements including higher levels of automation and robotics, data-driven decision making, enhanced supply chain management, improved quality and reduced waste and increase innovation

5 recommendations to boost investment in Australian manufacturing



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- Centralised process with centres of excellence providing predictable, high-quality decisions (environmental reviews, specialised courts)
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End-to-end view on regulations

- Safeguard against import substitution
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APPENDICES

Governments can attract business investments through multiple policy tools but also require a set of ‘enablers’ to support (F)DI

Policy tools

Financing

- **Direct funding**
 - Payments to support company activities, typically distributed via projects or through equity investment
- **Loans**
 - Low / no interest loans to support businesses to establish presence or make substantial capital investments
- **Tax incentives**
 - Preferential tax policies such as tax credits, deductions, exemptions, and deferrals to lower the tax revenue from companies
- **Subsidies**
 - Incentives to adopt low-carbon energy solutions, provide energy use relief and promote the lease of land, buildings and infrastructure

Trade

- **Free trade**
 - Provide customs duty exemptions for certain raw materials/assets
- **Export incentives**
 - Incentives to promote exports such as tariff exemptions for materials imported for export production
- **Import tariffs**
 - Selective import duties on products, especially when local production exceeds local demand
- **Import quotas**
 - Limit on the volume of a good that may be imported, usually established through an import licensing regime

Innovation

- **R&D network**
 - Industry clusters and institutes to foster innovation and execute research
- **Grants**
 - Financial support to accelerate innovation including funding and tax relief for R&D staff and investments (infrastructure and research)

Talent

- **Immigration**
 - Favourable immigration policies to attract international talent, particularly highly skilled / short-supply workers
- **Education**
 - World-leading university programs aligned to company skill requirements, and investment into upskilling / reskilling workforce to meet evolving technology demands
- **Labour laws**
 - Flexible work contracts to retain low / medium-skilled manufacturing jobs

Standards

- **Disclosure**
 - Enforce regular disclosure of information such as emissions and health and safety incidents to ensure accountability
- **Domestic**
 - Laws requiring products and projects to use a minimum percentage of domestic products

Enablers



Ease of doing business

Streamlined process with supporting infrastructure for new businesses



Speed & ‘stability’ of policies

Time taken for govts. to implement policies and the ‘stability’ of those decisions (e.g. not being reversed by changing gov. parties)



Protections & safeguards

Sound legal systems to protect investors including IP protection laws



Support from Investment Promotion Agencies

Government bodies to support foreign investors navigate the business landscape or connect with local partners

Financing and trade levers are typically used to drive policy change, most likely due to their easy and speed of implementation

Frequency of use High Med Low

	Short-term (<1 year)	Medium-term (1 – 3 years)	Long term (>3 years)
Financing 	Subsidies: Incentives to adopt specific practices (e.g., low-carbon energy solutions) Tax incentives¹: Preferential tax policies such as tax credits and tax exemptions	Loans: Low / no interest loans to support companies Direct funding: Payments to support companies perform / invest in specific activities	
Trade 	Import tariffs: Selective import duties on imported products Export incentives: Incentives to promote exports	Import quotas: Limit on the volume of a good that may be imported	Free trade: Provide customs duty exemptions for certain raw materials/assets
Innovation 	Grants: Financial support to accelerate innovation		R&D network: Industry clusters and institutes to foster innovation and execute research
Standards 		Domestic: Laws requiring products and projects to use a minimum percentage of domestic products Disclosure: Ensure accountability by enforcing regular disclose of information	
Talent 	Immigration: Favourable immigration policies to attract international talent	Labour laws: Flexible work contracts to retain low / medium skilled manufacturing jobs	Education: World-leading university programs aligned to company skill requirements, and investment into upskilling / reskilling

Note: [1] Tax incentives are considered a 'popular' policy tool used by governments. Policy makers & Academics debate the efficacy given there are success stories, but can also be seen as a 'race to the bottom'

Academic research review: Significant correlation observed over the years between favourable govt. policies and investments in manufacturing sector

Publication	Region	Key findings
R.D. Rees & R.H.C. Miall (1981) The effect of regional policy on manufacturing investment and capital stock within the U.K. between 1959 and 1978 , Regional Studies	UK	<ul style="list-style-type: none"> Changes in regional policy within the UK have been observed to influence the distribution of both investment and capital stock in manufacturing sector A significant portion of manufacturing investment in the UK may have been redirected towards the three primary Development Area (DA) regions as a result of these policies.
Kathuria, V., Ray, P., & Bhangaonkar, R. (2015). FDI (foreign direct investment) in wind energy sector in India: Testing the effectiveness of state policies using panel data . Energy, 80, 190-202.	India	<ul style="list-style-type: none"> State-specific policy index for wind energy (Constructed basis key policies in wind energy- feed-in-tariff, open access transmission, third party sale, banking, and wheeling charges) are found to have significant impact in attracting foreign direct investments in the sector in a study conducted across 8 Indian states
Carboni, O. A. (2017). The effect of public support on investment and R&D: An empirical evaluation on European manufacturing firms . Technological Forecasting and Social Change, 117, 282-295.	EU	<ul style="list-style-type: none"> European manufacturing firms have been found to exhibit higher levels of investment in physical assets when supported by public funding (specifically grants) by government Govt. grants found to have complementary effects on credit financing with additional general effects on investments as granted firms found to make use of additional 5% credit to finance investment expenditure compared to firms which do not receive grants
Aras, F. Ç. (2017). Process of “Make in India” Initiative Program . IOSR Journal of Humanities and Social Science, 22(11), 22-26.	India	<ul style="list-style-type: none"> Make in India initiative, launched in 2014 to drive direct investments and domestic manufacturing, found to have resulted in investments of \$413 Bn as of 2017. Support measures such as mitigation of FDI restrictions, increase in ease of doing business and improvement in manufacturing infrastructure were implemented as part of scheme
Macquarie. (2023). Digging into US Business Investment Strength	US	<ul style="list-style-type: none"> Introduction of CHIPS & Science ACT and Inflation Reduction Act in 2022, has resulted in actual investment uplift of \$165 Bn (Out of \$500 Bn in additional IRA and CHIPS Act related spending announcements) by boosting private sector spending on semiconductor manufacturing and clean energy investment The impact of the acts were found to boost investments in Computer/electronic/electrical manufacturing structures, special industry machinery equipment and other construction machinery
Credit Suisse. (2023). US Inflation Reduction Act What’s the latest tally on IRA-related investments and projects?	US	<ul style="list-style-type: none"> 87 project/partnership announcements have been made in IRA impacted sectors (largely dominated by battery manufacturing and industrial decarbonization solutions), with \$88 Bn in investments made since mid- Aug 2022.

Source: Lit. search

Government Deep Dives: Global case studies on five leading recipients of manufacturing FDI inflow illustrate a varying use of policy tools

Only includes countries that rank in the top 15 for manufacturing inflows

		United States	Singapore	European Union ²	India
Foreign Direct Investment ¹	All inflows	~\$447B AUD (Rank #1)	~\$204B AUD (Rank #3)	~\$69B AUD ³ (Rank #6*)	~\$65B AUD (Rank #7)
	Manufacturing only inflows	~\$187B AUD (Rank #1)	~\$39B AUD (Rank #3)	~\$91B AUD (Rank #2*)	\$21B AUD (Rank #5) ⁴
Policy Tools	Financing	<ul style="list-style-type: none"> Utilise a combination of grants, loans and tax credits typically associated with well-defined financing criteria (e.g., To enable energy-intensive industries to invest in plant efficiency or carbon capture) 	<ul style="list-style-type: none"> Typically leverage long-term tax incentives to drive investment in conjugation with targeted up-front funding (e.g., the 100% investment tax allowance as well as Government loans as part of the ASP) 	<ul style="list-style-type: none"> Predominately use grants and loans to finance policies, with tax incentives used sparingly, most likely due to the complexity of the governing body 	<ul style="list-style-type: none"> Commonly link financial incentives to policy target outcomes (e.g., For the green hydrogen incentive payments are made per kg of green hydrogen produced)
	Innovation	<ul style="list-style-type: none"> Typically use grants to fund specific research and innovation projects (e.g., Funding to establish R&D for carbon storage mechanisms) 	<ul style="list-style-type: none"> Attractive long-term tax reductions for qualifying innovation-related activities (e.g., Reduced tax rate of 5 – 10% for qualifying IP income for 10 years) 	<ul style="list-style-type: none"> Targeted innovation objectives, however funding mechanism not immediately transparent (e.g., Funding to develop, deploy and scale clean hydrogen technologies) 	<ul style="list-style-type: none"> Limited and targeted to only high-need areas (e.g., Identifying and developing Green Hydrogen Hubs)
	Standards	<ul style="list-style-type: none"> Large commitments to support home-grown manufacturing that are aligned to overall strategy (e.g., minimal percentage of domestic steel used in Federal projects) 	<ul style="list-style-type: none"> Limited use of standards and demand levers most likely due to the small population and reliance on other countries to procure manufactured goods 	<ul style="list-style-type: none"> Typically used to reinforce overarching objectives instead of driving demand to aid specific policies (e.g., Funding support regional development) 	<ul style="list-style-type: none"> High domestic demand due to the country continuing to undergo rapid development and growth (GPD CAGR over last 10 years ~6.9%)
	Talent	<ul style="list-style-type: none"> Selectively invest in expanding American talent, compared to focusing on migration (e.g., Investing in university courses) 	<ul style="list-style-type: none"> Predominately focused on attracting international talent through visa programs (E.g., Tech.Pass) 	<ul style="list-style-type: none"> Free flow of people across EU allows for easy talent movement, however, limited additional focus suggests individual countries are primarily responsible for talent 	<ul style="list-style-type: none"> Limited direct focus with industry growth naturally creating large number of jobs
	Trade	<ul style="list-style-type: none"> Tactical tariffs that support policies (e.g., Export restrictions on USA chips and equipment to support CHIPS and Science Act) 	<ul style="list-style-type: none"> Generally, operate as a free port and open economy with a collection of free trade agreements 	<ul style="list-style-type: none"> Tactical tariffs that support policies (E.g., Carbon levy imposed on non-EU imports) 	<ul style="list-style-type: none"> Limited – Currently lack import tariffs on steel to support growth ambition, and lack emissions trading mechanisms or import levies on high emissions products

Note: [1] OECD data for FDI Flows (Filtered by Million USD, inward for 2022). All FDI in USD has been converted to AUD with 1.31 USD/AUD - exchange rate for 2022 has been adjusted to align with the ABS data point of ~\$89B of FDI inflows (financial transactions); the Singaporean value has been adjusted using \$1SIN = 1.0458AUD; [2] Inflows for the top 15 EU countries in manufacturing including Netherlands, Sweden, Italy, Poland, Hungary, Czechia; [3] Total inflows are less than overall manufacturing inflows due to negative values for total inflows in the Netherlands; [4] Inflows based on the average of 2014 - 2023 [*] If ranked on slide 4 for FDI inflows; Source: OECD, UNCTAD, ABS; Singapore Department of Statistics; Chinese Bureau of Statistics

USA: Recent policies focus on accelerating areas of interest through attractive financing and innovation supported by internal demand and trade disincentives

/ NON-EXHAUSTIVE / SELECTED POLICIES

	Inflation Reduction Act (IRA)	Infrastructure, Investment & Jobs Act (IIJA)	Federal Demand Policies	CHIPS and Science Act
Date commenced	January 2023	November 2021	November 2021	August 2022
Industries	Manufacturing, Construction and Energy	Manufacturing and Infrastructure	Manufacturing	Manufacturing and Science & Technology
Headline	USD 369B to accelerate the transition to net zero emissions delivered through tax credits, funding and investments including USD ~15B in manufacturing sector tax credits	USD 1.2T to enhance transportation infrastructure, power grid and EV projects, as well as provide climate resilience with over USD 200B focused on metals-intensive funding	Domestic preference laws and procurement requirements to increase demand for USA manufactured materials and products	USD 280B to bolster US semiconductor capacity, accelerate R&D and expand the STEM workforce
Policy snapshot	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – Tax credits given to industrial carbon capture technologies – Grants, loans and tax credits for energy-intensive industries to invest in plant efficiency or carbon capture – Funding allocated to investment and production of green energy • Innovation <ul style="list-style-type: none"> – Low-cost financing for projects intended to cut GHG emissions as part of a clean energy technology accelerator – Investment to support efforts to develop and implement GHG reduction strategies • Standards <ul style="list-style-type: none"> – Financial support for low-carbon materials procured for federal projects 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – USD 0.5B of grants available to fund industrial emission demonstration projects in emission-intensive sectors (e.g., Steel) – USD 8B funding to promote green hydrogen hubs and build connective infrastructure • Innovation <ul style="list-style-type: none"> – USD 2.5B funding to establish a carbon capture technology program for natural gas, coal and other industry facilities – USD 2.5B funding to establish R&D for carbon storage mechanisms • Standards <ul style="list-style-type: none"> – USD 300B to enable critical transportation projects to increase demand for steel by 1.5M tons of steel per year 	<ul style="list-style-type: none"> • Standards <ul style="list-style-type: none"> – Set of domestic preference laws requiring that iron and steel used in federally funded projects should be produced in the US (Build America, Buy America Act) – Procurement guidelines requiring a minimal percentage of domestic steel to be used in projects and products (Build America, Buy America Act) – Prioritise products with lower levels of emissions (98% of US federal government purchases with a total purchase value of USD >665B in 2022) (Buy Clean Initiative) – Focus on increasing data transparency via supplier reporting with USD 350M in additional grants for technical assistance (Buy Clean Initiative) 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – USD 39B in manufacturing incentives and financial assistance for companies to build, expand, or modernise domestic facilities • Innovation <ul style="list-style-type: none"> – USD 11B for research & development programs – USD 10B to manufacturing partnerships, supply chain, network and AI research – USD 20B to accelerate the commercialisation of new technologies • Talent <ul style="list-style-type: none"> – USD 2B to establish university-based research centres focused on semiconductor technologies, provide workforce training and expand the workforce – USD 61B to support early-stage research and build the STEM workforce
Supporting Trade	<ul style="list-style-type: none"> • 25% tariff on all fabricated structural steel imported from China • Suspended Steel and Aluminum tariffs with the EU (Free Trade) 			<ul style="list-style-type: none"> • Export restrictions on USA chips and equipment
Impact example	<ul style="list-style-type: none"> • Nippon Steel's acquisition of U.S Steel with support from the IRA • Foreign investment in battery plants – BMW in South Carolina, Hyundai and LG in Georgia, and Panasonic in Kansas 			<ul style="list-style-type: none"> • Companies announced USD >166B in manufacturing semiconductors & electronics within the year sign of Act commencement
Investment Promotion	<ul style="list-style-type: none"> • SelectUSA has facilitated more than USD 200B in investment, creating and/or retaining over 200k U.S. jobs 			

Source: Lit. search (Refer to source files page)

Singapore: A combination of short-term and long-term financing to attract and retain businesses, complemented by attractive immigration policies to target skills

/ NON - EXHAUSTIVE / SELECTED POLICIES

	Technology Schemes	Manufacturing Incentive Schemes	Automation Support Package	ASEAN Agreements
Date commenced	Since early 2010s	Since early 2010s	2016	Since early 1990s
Industries	All technology-related industries	Manufacturing	All industries	All industries
Headline	Collection of schemes aimed at attracting and retaining talent and financial incentives to enable cost-effective innovation	Highly lucrative tax off-sets for companies that make a substantial investment or contribution to the Singapore economy	Financial support to accelerate automation across all Singapore businesses	ASEAN aims to accelerate economic growth, social progress and cultural development and regional stability
Policy snapshot	<ul style="list-style-type: none"> • Talent <ul style="list-style-type: none"> – Companies can hire a quota of new foreign employees (Tech@SG Program) – Technology entrepreneurs, experts, and business leaders can receive a work visa without requiring sponsorship (Tech.Pass) – The government can co-fund mandatory wage increases (Progressive Wage Credit) • Innovation <ul style="list-style-type: none"> – Reduced tax rate of 5 – 10% for qualifying IP income for 10 years, then a 0.5% increase in tax rate until the cap is reached (IP development incentive) – 200% tax reduction for qualifying IP registration and licensing-related costs (IP acquisition expenses) – 250 – 400% tax reduction for qualifying R&D projects (Enterprise Inn. Scheme) 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – Eligible businesses can receive a tax exemption or a concessional tax of 5 – 10% for 5 years (Pioneer tax incentive) – Eligible businesses can receive a 5 – 10% concessional tax for up to 40 years (Development and expansion incentive) – Initial allowance of 25% for qualifying capital expenditure incurred for the construction or renovation of an approved building, and an annual allowance of 5% of the qualifying expenditure for 20 years (Land Intensification Allowance (LIA) scheme) 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – Funding support up to 70% of qualifying costs (e.g., equipment, consultancy and training) for the roll-out or scaling of automation projects – 100% investment tax allowance for approved capital expenditure – Government-backed loans for equipment and factories 	<ul style="list-style-type: none"> • Trade <ul style="list-style-type: none"> – Trade in Goods: Agreement aimed at enabling the free flow of goods between ASEAN countries – Services: Agreement aimed at substantially eliminating restrictions to trade in services among ASEAN countries – Free Trade agreements with dialogue partners including Australia, New Zealand, China, India, Japan, South Korea, and Hong Kong • Talent <ul style="list-style-type: none"> – Movement of Natural Persons: Transparent procedures for migration applications for the temporary entry or entry of stay
Supporting Trade	<ul style="list-style-type: none"> • Free trade agreements with ASEAN and dialogue partners • Generally, operates as a free port and open economy 			
Impact example	<ul style="list-style-type: none"> • Procter and Gamble are investing >\$100M in a state-of-the-art manufacturing facility in Singapore, sighting Singapore as global hub for trade, technology and talent 	<ul style="list-style-type: none"> • As of 2019, the ASP has helped >300 companies automate their operations 		
Investment Promotion	<ul style="list-style-type: none"> • Recognised as one of the leading investment promotion agencies, the Singapore Economic Development Board provides information on doing business in Singapore, provides connections to business partners, insights on the region and selected assistance to increase capacity and build new capabilities 			

Source: Lit. search (Refer to source files page)

European Union: Policies tend to centre around normalising EU states to ensure target outcomes can be collectively achieved

/ NON-EXHAUSTIVE / SELECTED POLICIES

	EU Green Deal	Clean Energy Directives	European CHIPS Act
Date commenced	March, 2022 <i>(Still being scaled)</i>	June '23	September 2023
Industries	Manufacturing, Construction and Energy	Manufacturing, Construction and Energy	Manufacturing and Technology
Headline	€620B funding to deliver climate action projects under the EU Green Deal	The European Union's framework for the taxation of energy products including electricity, motor and most heating fuels	More than €43B to be invested by 2030 to double the EU's global semiconductor market share
Policy snapshot	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – ~€25B in financing sustainable infrastructure investments – ~€2B in support for companies in fossil fuel industries by providing access to financial support for decarbonisation – ~€11B of European Investment banks loan for public infrastructure projects with insufficient commercial financing – Gas package subsidies for reducing hydrogen transmission and distribution costs • Innovation <ul style="list-style-type: none"> – ~€1B to develop, deploy and scale clean hydrogen technologies – ~€25B to finance low-carbon technology projects and enhance energy efficiency and modernization of lower-income members • Standards <ul style="list-style-type: none"> – ~€90B to support regional development – ~€20B for investments in transport, energy, & digital / telecom – ~€22B to fund capital-intensive environmental and transport investments 	<ul style="list-style-type: none"> • Standards <ul style="list-style-type: none"> – Minimum renewable energy consumption of 42.5% by 2030 (Renewable Energy Directive) – 42% green hydrogen consumption for manufacturing by 2030 and 60% by 2035 (Renewable Energy Directive) – Increase of emissions reduction target from 43% to 61% by 2030 (Energy Tax Directive) • Financing <ul style="list-style-type: none"> – Minimum excise duty rate applied to energy products based on the level of pollution involved (Energy Tax Directive) 	<ul style="list-style-type: none"> • Innovation <ul style="list-style-type: none"> – Investments in next-generation technologies – Providing access across Europe to design tools and pilot lines for the prototyping, testing and experimentation of cutting-edge chips – Support for innovative start-ups, scale-ups and SMEs in accessing equity finance – Building semiconductor international partnerships with like-minded countries • Talent <ul style="list-style-type: none"> – Fostering skills, talent and innovation in microelectronics
Supporting trade	<ul style="list-style-type: none"> • Carbon levy imposed on non-EU imports of carbon-intensive products to mitigate domestic renewable steel production's cost disadvantage due to the added carbon pricing in the EU 		
Impact example	<ul style="list-style-type: none"> • <i>No sustainable investments identified corresponding to EU Green Deal (Jan '24)</i> 	<ul style="list-style-type: none"> • Strategic investments by international tech giants such as Intel are expected within EU territories 	
Investment promotion	<ul style="list-style-type: none"> • InvestEU supports sustainable investment, innovation and job creation in Europe, and has approved €18.8B 		

Source: Lit. search (Refer to source files page)

India: Preference to use financial incentives aligned to policy objectives

/ NON-EXHAUSTIVE / SELECTED POLICIES

	National Green Hydrogen Mission	Steel Policies (Multiple)	Perform, Achieve and Trade (PAT) scheme	India Semiconductor Mission
Date commenced	2023	Since 2005	2012	December 2021
Industries	Manufacturing	Manufacturing and construction	Manufacturing, Construction and Energy	Manufacturing and Technology
Headline	USD 2.4B scheme to support renewable hydrogen production & electrolyser manufacturing	Collection of policies aimed at increasing India's domestic production of steel	Mechanism for improving energy efficiency of energy-intensive industries against set target	Significant financial support to establish technology manufacturing plants
Policy snapshot	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – USD 1.6B for Green Hydrogen: Incentives starting from Rs 50/kg in 1st year, reducing to Rs 40/Kg and Rs 30/Kg over the next 2 years – USD 0.5B Electrolyser: Incentives to start at Rs 4,400/kW which taper down over 5 years – USD 0.15B for pilot projects • Standards <ul style="list-style-type: none"> – Transparent mission outcomes (e.g., 5MMT of green hydrogen by 2030) • Innovation <ul style="list-style-type: none"> – USD 0.05B committed to R&D - Focus on identifying and developing regions capable of being developed into Green Hydrogen Hubs • Talent <ul style="list-style-type: none"> – Skill development programme coordinated by the Ministry of Skill Dev. & Entrepreneurship – 600k new green jobs 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – USD 0.85B to expand production of speciality steel through a production incentive mechanism (PLI Scheme) – Increase India's domestic steel production capacity from 100MT per annum to 300MT by 2030 • Standards <ul style="list-style-type: none"> – Strong demand with infrastructure development projects and National Rail Plan 2030 to support logistics infrastructure further driving investment – Enhanced availability of domestically generated scrap to reduce the consumption of coal (Steel Scrap Recycling Policy) – Regulatory environment that is easy and simple for business investment (Make in India) 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – Incentivises high-energy industry players to reduce energy consumption by setting energy consumption targets, and awarding companies Energy Saving Certificates (ESCCerts) if they achieve their targets. Companies unable to meet their assigned target are required to purchase ESCerts from the overachievers through a centralised online trading mechanism 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – Funding of up to 50% of project cost or setting up of Semiconductor Fabs or Display Fabs – Funding up to 50% CAPEX for setting up of Compound Semiconductors / Silicon Photonics (SiPh) / Sensors (including MEMS) Fab/ Discrete Semiconductor Fab and Semiconductor ATMP / OSAT facilities – Reimbursement of up to 50% for approved applicants who are engaged in semiconductor design (Product Design Linked Incentive) – 4 – 6% of net sales turnover over 5 years for approved applicants whose semiconductor design (Deployment Linked Incentive)
Supporting Trade	<ul style="list-style-type: none"> • Import tariffs of 40% on solar modules and 25% on solar cells (Supports manufacturing, however, slows decarbonisation plan progress) 			
Impact example	<ul style="list-style-type: none"> • 34 companies have bid on the green hydrogen subsidies (Dec 2023) 			<ul style="list-style-type: none"> • AMD plans to invest US\$400M while Foxconn is lining up US\$2B over the next five years
Investment Promotion	<ul style="list-style-type: none"> • Invest India act as an advisor, guide and facilitator for global and domestic businesses looking to invest in India 			

Source: Lit. search (Refer to source files page)

Australia: Policies are typically designed as direct funding and tend to have broad objectives

/ NON-EXHAUSTIVE / SELECTED POLICIES

	National Reconstruction Fund	Modern Manufacturing Strategy	Business tax Incentives and Standards	Clean Energy Schemes
Date commenced	Nov 2023	2020	Since 2021	2023
Industries	Manufacturing	Manufacturing	All industries	Manufacturing, Construction and Energy
Headline	AUD 15B scheme to rebuild and revitalise manufacturing and develop new technologies	AUD 1.5B program designed to strengthen Australia's manufacturing sector	A suite of tax rebates and purchasing standards to support businesses	Collection of schemes focused on supporting the transition to Clean Energy
Policy snapshot	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – Up to AUD 3B funding for renewables and low-emission technologies: to invest in green metals (steel, alumina and aluminium), clean energy component manufacturing and reduce GHG and waste – AUD 1.5B funding on medical manufacturing: build local medical manufacturing capability to create secure well-paid jobs – AUD 1B funding on value-adding resources: Expand Australia's mining science technology capability and create jobs – AUD 1B on critical technologies such as AI, robotics and quantum computing – AUD 1B on advanced manufacturing to create new capabilities and opportunities to innovate; In addition to the Advanced Manufacturing Growth Centre (AMGC) not-for-profit support program (Committed AUD 137M) – \$0.5B on agriculture, forestry, fisheries, food and fibre to expand exports and trade potential 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – AUD 107M to develop, establish and scale capability that addresses supply chain vulnerability (Supply Chain Resilience Initiative) – AUD 52.8M to support SMEs implement technology upgrades to their manufacturing processes (Manufacturing Modernisation Fund) – AUD 1.3B to support large-scale manufacturing projects that are either business-to-business or business-to-research collaboration (Modern Manufacturing Initiative) • Innovation <ul style="list-style-type: none"> • AUD 4M to support projects that aid the translation of high-quality research and ideas into commercial outcomes (Modern Manufacturing Initiative) • AUD 30M for the Advanced Manufacturing Growth Centre to support transforming Australian Manufacturing and generate the demand for jobs 	<ul style="list-style-type: none"> • Financing <ul style="list-style-type: none"> – SMEs can receive up to AUD 20K in deductions on spending that supports electrification and more efficient use of energy (In FY24) • Innovation <ul style="list-style-type: none"> – Tax offsets of up to 18.5% for R&D expenditure (R&D program) • Standards <ul style="list-style-type: none"> – Directive for the Australian government to maximise their procurement from Australian businesses (Buy Australian Plan) – 10-year AUD 120 billion infrastructure pipeline (Infrastructure Investment Program) 	<ul style="list-style-type: none"> • Innovation <ul style="list-style-type: none"> – AUD 1.9B to support the decarbonisation of regional Australia, develop new clean energy industries, and facilitate workforce development (Powering the Regions Fund) – AUD 10B in public and private sector investments in clean energy generation and storage (Capacity Investment Scheme) – AUD 2B to support renewable Hydrogen programs (Hydrogen Headstart program) • Standards <ul style="list-style-type: none"> – Plans to introduce a fuel-efficiency standard for all cars, as well as aiming to improve recycling capacity for EVs and batteries (National Electric Vehicle Strategy) • Talent <ul style="list-style-type: none"> – Support for TAFE programs to implement programs for clean energy technicians (Clean Energy Apprentice program)
Supporting Trade	<ul style="list-style-type: none"> • Anti-dumping tariffs on Chinese steel products • [Under consideration] Cross-border adjustment mechanism (e.g., Carbon tariffs on imports) 			
Impact example	<ul style="list-style-type: none"> • Registration and applications currently underway (Jan '24) 	<ul style="list-style-type: none"> • 9 projects funded as part of the Modern Manufacturing Initiative Collaboration Stream • 18 grants awarded as part of the Manufacturing Integration Stream 		
Investment Promotion	<ul style="list-style-type: none"> • Austrade accelerates the growth of exporters, attracts foreign investors and stimulates the visitor economy 			

Source: Lit. search (Refer to source files page)

Source Files and relevant articles

Country	Acts / Policies	References	
USA	Inflation Reduction Act (IRA)	IRA reference #1	IRA reference #3
		IRA reference #2	IRA reference #4
	Infrastructure, Investment & Jobs Act (IIJA)	IIJA reference #1	IIJA reference #2
	Build America, Buy America Act	Build America, Buy America Act #1	Build America, Buy America Act #2
	Buy Clean Initiative CHIPS & Science Act	Buy Clean Initiative #1 CHIPS & Science link #1	CHIPS & Science link #2
Singapore	Technology Schemes	Tech@SG Program Tech.Pass	Progressive Wage Credit
	Manufacturing Incentive Scheme	Pioneer Certificate Incentive Development and Expansion Incentive	Land Intensification Allowance
	Automation Support Package	Overall Business incentives (Singapore)	Enterprise Development Grant reference
	ASEAN Agreements	ASEAN agreements ASEAN agreements with Dialogue Partners	
European Union	EU Green Deal	EU Green Deal reference #1 EU Green Deal reference #2	EU Green Deal reference #3 EU Green Deal reference #4
	Clean Energy Directives	Clean Energy Directives reference	Energy Tax Directive reference
	European CHIPS Act	European CHIPS Act reference #1	European CHIPS Act reference #2
Australia	National Reconstruction Fund	NRF reference #1	NRF reference #2
	Modern Manufacturing Strategy	MMS reference #1 MMS reference #2	MMS reference #3
	Business tax Incentives and Standards	R&D Tax Incentive reference #1 R&D Tax Incentive reference #2	Infrastructure Investment Program Buy Australian Plan
	Clean Energy Schemes	Renewable Energy Financial Incentives Energy tax incentives comparison	Clean Energy Schemes Article
India	National Green Hydrogen Mission	NGHM reference #1 NGHM reference #2	NGHM reference #3 NGHM reference #4
	Steel Policies (Multiple)	PLI Scheme reference National Rail Plan	National Steel Policy reference Make in India reference
	Perform, Achieve and Trade (PAT) scheme	PAT scheme reference #1 PAT scheme reference #2	PAT scheme reference #2
	India Semiconductor Mission	ISM reference #1 ISM reference #2	ISM reference #3 ISM reference #4
Saudi Arabia	National Industrial Strategy	Industrial Strategy reference #1 Industrial Strategy reference #2	Industrial Strategy reference #3
	National Investment Strategy	Investment Strategy reference #1	Investment strategy reference #2
	National Renewable Energy Program	NRE Program reference	Mtujadeda program
	Saudi 2030 Vision	2030 vision reference #1	2030 vision reference #2