DRIVING AUSTRALIAN CLIMATE INNOVATION

Unlocking capital to support a clean industrial revolution

Investor Group on Climate Change

APRIL 2023

Australia's New Industrial Opportunity

Climate Industries Need Capital

Australia's path to net zero will need new businesses and innovation in transport, agriculture, manufacturing and more.

These innovative 'transition industries' businesses will require capital at scale.

Investors Need Exposure to Climate Solutions

Institutional investors manage more than $4 trillion in the Australian pension system alone.

Many have set ambitious targets for investing in "climate solutions".

Despite businesses' need for capital and investors' targets, the Australian ecosystem hasn't offered enough opportunities that are attractive for these investors.

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The Global Clean Tech Boom

Australia is competing for capital investment in a global market invigorated by the USA's climate package, the Inflation Reduction Act, Europe's Green Deal and others.

The USA's climate policy package, the Inflation Reduction Act (IRA) includes:

- Total subsidies over $600 billion (equivalent to 1/2 Australian GDP)
- $42 billion in new investment in clean energy manufacturing since signed (solar, batteries, EV, supply chains)
- By 2030, over $2.5 trillion in new investment, 1% increase in US GDP, and 9 million new jobs

"Australia can't and should not attempt to match the scale of clean subsidies emerging globally.

"The nation can't outspend the USA and others but we can outsmart them and use our unique resources to realise our competitive advantage."

- Investor Group on Climate Change CEO, Rebecca Mikula-Wright:

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Australian Investment Portfolios and the Australian Economy are Carbon Intensive.

Emissions intensity (tCO2e) per $m of revenue:

Australia (ASX200)	**USA** (S&P200)	**London** (FTSE 250)
420	**324**	**112**

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Australian Institutional Investors Find More Climate Solutions Opportunities Overseas.

Renewable Energy Infrastructure Deals (M&A and Commercial Debt) since 2017:

Australia	Europe
<100	2000+

Of the world's 100 largest clean energy businesses none originate from Australia.

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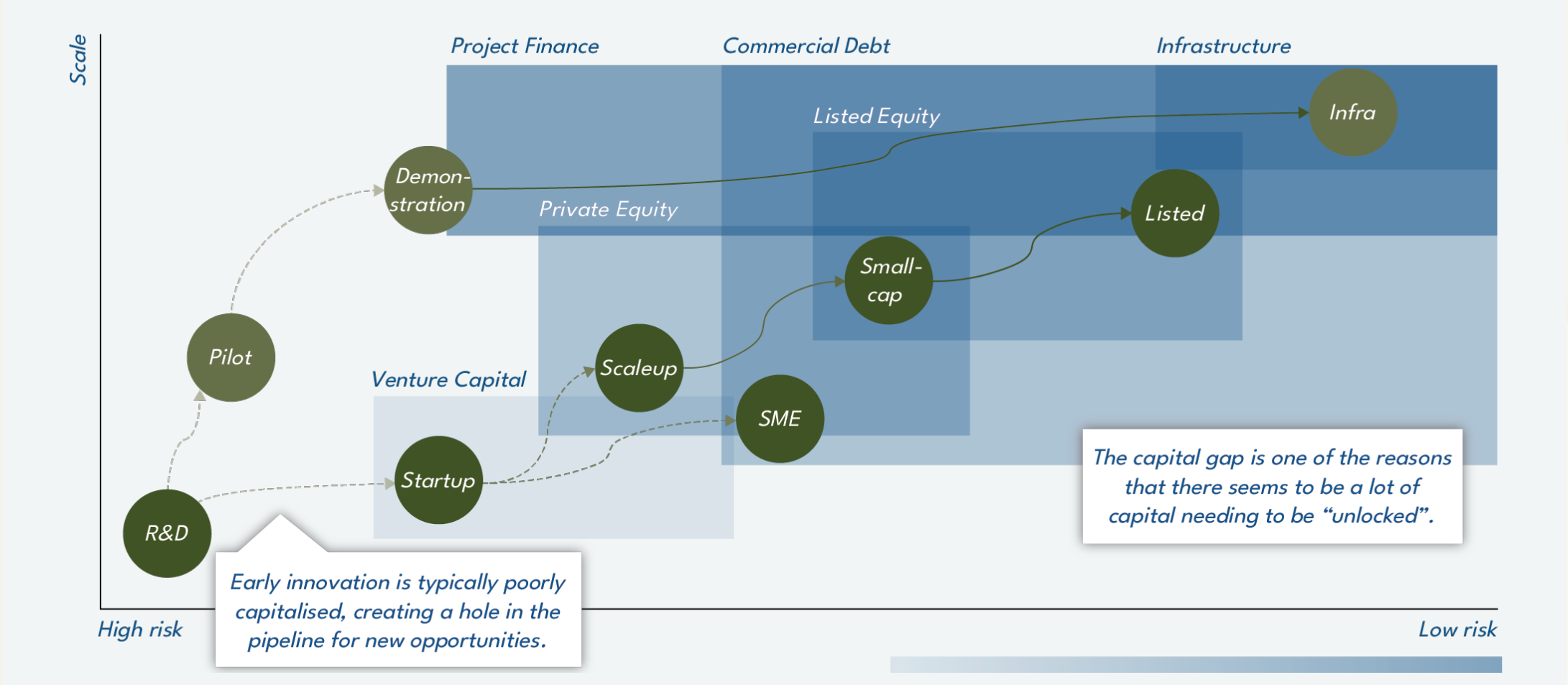
From R&D through scaleup stages, businesses tend to be poorly capitalised.



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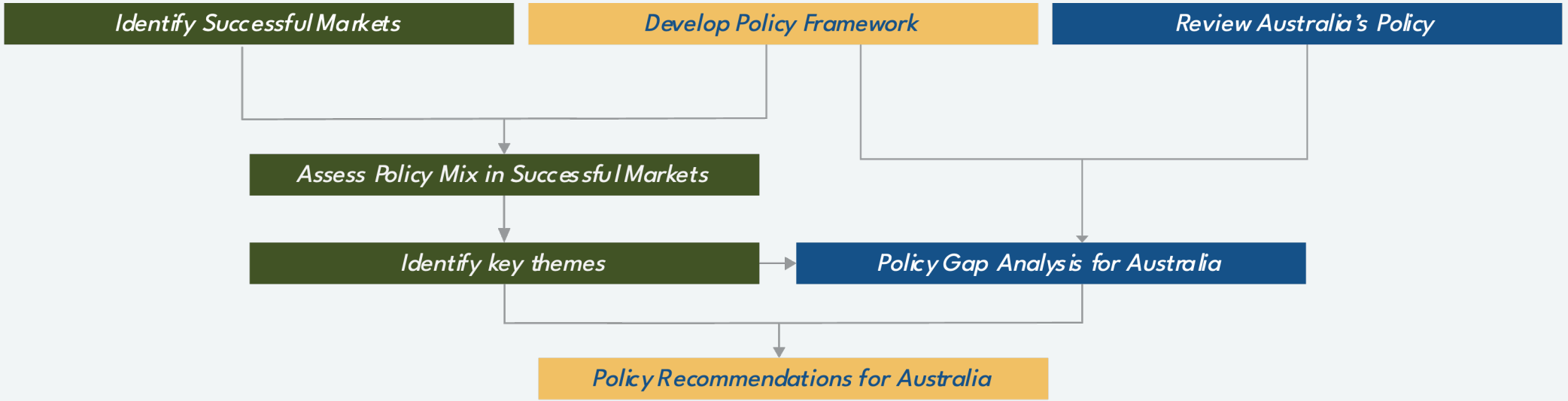
The Approach: Looking Overseas for Successful Practices

Which policy mechanisms create conditions for investors to support and gain exposure to transition industries?



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Policy Framework: Push & Pull Factors

Which policy mechanisms create conditions for investors to support and gain exposure to transition industries?

FRAMEWORK PRINCIPLES	Resource Push			Market Pull		
	1. Set Priorities	2. Mobilise Funding	3. Develop Human Capital	4. Enable Markets—Short Term	5. Enable Markets—Long Term	6. Business Innovation Environment
POLICIES & TARGETED ACTION	• Legislated climate-related targets in place • Publicised clean energy priorities in short, medium and long term • Loans and grants for projects and start-ups, public equity or government backed VC • Targeting large-scale demonstration projects • Public Private Partnerships • Funding for higher education, vocational training & researchers • Funding for R&D facilities and laboratories (public or private) • Set corporate R&D tax incentives • Public financing mechanisms to mobilise private capital			• Targets and standards including sustainable investment schemes and taxonomies • Subsidies and direct public funding that leverage private investment • Product standards that rise with ambition over time • Markets for valuing emissions reductions (e.g., carbon pricing mechanism) • Investment in enabling infrastructure for nascent technologies • Regulation supportive of low-carbon businesses • Sustainable public procurement • Stability, duration and consistency of policies		
SUPPORT	***Enabling Conditions*** *Include knowledge management and brokering, education, and connectivity mechanisms.*					

Identifying Successful Markets

Success Metrics

- venture capital flows to climate start-ups,
- demonstration projects (especially hydrogen),
- listed climate-related companies,
- climate-related patenting activity.

Identified Markets

- Germany,
- Netherlands,
- South Korea,
- Denmark, and
- California.

We identified five jurisdictions that performed strongly across the metrics, with some regional and industrial diversity.

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Key Insights and Themes From Successful Markets

Consistent Policy

*All jurisdictions had **constant long-dated policies**, which were frequently **iterated and improved upon**. The steadfast direction of policy has enabled investors, founders and stakeholders to build successful climate solution businesses.*

Push & Pull Balance

Policy symmetry creates demand for new industries, while simultaneously supplying the resources needed to meet that demand.

Industrial Direction

Identifying and supporting sectors which either answered a local decarbonisation need or presented a significant growth pathway is common.

Public At-Risk Capital

The presence of public funding actors is generally seen to crowd-in private capital.

Enabling Environment

Governments support the build-out of physical infrastructure, help to co-ordinate knowledge and to build support across civil society.

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Current Australian Policy Assessment: Push

Framework fundamentals	High-level actions	Approaches & policy levers	Australia's policy performance*
RESOURCE PUSH	Set priorities	Legislated climate-related targets in place	◕
		Publicised clean energy priorities in short, medium and long term	◑
		Embed R&D components in broader energy policy	◑
	Mobilise funding	Loans & grants for projects & start-ups, public equity or government backed VC	◑
		Public financing mechanisms to mobilise private capital	◔
		Set corporate R&D tax incentives	◑
		Targeting large-scale demonstration projects	◑
	Develop human capital	Funding for higher education, vocational training & researchers	◑
		Funding for R&D facilities and laboratories (public or private)	◔
		Scholarships, awards, grants, training, tax incentives for R&D staff	◔

*Based on current policy settings

◔ Weak ◑ Satisfactory ◕ Strong ● Very strong

- Stronger in push policies than pull.
- Strong in legislating targets.
- Significant room for improvement:
  - Public Financing to mobilise private capital
  - Human capital development

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Current Australian Policy Assessment: Pull

Framework fundamentals	High-level actions	Approaches & policy levers	Australia's policy performance*
MARKET PULL	Enable markets—short-term	Public procurement of pre-commercial technologies & green products	Weak
		Subsidies and tax incentives for emerging technologies	Weak
		Embed climate considerations in tax code	Weak
	Enable markets—long-term	Investment in enabling infrastructure for nascent technologies	Weak
		Product standards (e.g. environmental), with rising ambition over time	Weak
		Carbon Pricing Mechanisms (tax, levy, subsidy or cap & trade)	Weak
	Business innovation environment	Stability, duration and consistency of policies	Weak
		Address permitting, regulatory and administrative bottlenecks	Satisfactory
		Mitigate risks associated with access to finance	Satisfactory
		Facilitate norms, standards and safety regulations	Strong

*Based on current policy settings

Weak · Satisfactory · Strong · Very strong

- Strong facilitating norms.
- Significant room for improvement:
  - Enabling short and long term markets
  - Policy stability

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Australian Policy Recommendations

Overall, increase the strength of 'pull' measures that build market demand for transition industries' goods and services, while continuing to expand 'push' measures.

- Include a strong carbon constraint system (normally a carbon price), starting by expanding the Safeguard Mechanism.
- Develop sector-specific transition plans that are supported by clear industrial development priorities.
- Set national industrial development priorities, embedded in industrial development plans.
- Extend the Technology Investment Roadmap to
  - guide industry and science policy, including via CSIRO and the Cooperative Research Centres
  - direct additional research and development (R&D) incentives, including at-risk investment and
  - inform targets for public finance, including procurement.
- Update mandates for the CEFC and ARENA to enable investments with higher risk tolerance in priority sectors.

Policies should be stable, have broad political support, and be coordinated across portfolios, and national, state and local governments.

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Download the Full Report

- In-depth background, methodology, explanation, and analysis
- Case Studies:
  - Denmark's path to being a wind-energy superpower,
  - Early stage tech funding in the Netherlands,
  - Bi-partisan support for Germany's Energy Research Programmes,
  - Critical minerals supply chain.
- Detailed Reviews of Market Conditions in each jurisdiction:
  - Germany,
  - Netherlands,
  - South Korea,
  - Denmark, and
  - California.
- Sources, references, and links to further resources.

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