National Action Plan
Critical Success Criteria
DRAFT

September 2024

To achieve the goals of emissions reduction and to transform Australia's economy to one based on green exports and clean power generation, Australia needs a nationally coordinated approach across industry, business, government, investors and community.

BZE's "National Action Plan" for decarbonising key industrial centres, and accelerating production of clean commodities such as green iron builds on our Renewable Energy Industrial Precincts (REIP), National Supergrid and Export Powerhouse research, showing the critical infrastructure and foundations required.

As the first step towards this national coordination, we are developing Critical Success Criteria - a framework for evaluating the readiness of energy intensive industrial regions to decarbonise and deliver Australia's economic ambitions. These insights will give a clear picture of the sequence of place-based decarbonisation activities to build our superpower ambitions.

In 2024 we need your feedback to ensure these Criteria capture the perspectives of your industry sector or region.

Please read the following pages and then share your views via our webform at https://bit.ly/CSC-outreach.

If you have any questions, please feel free to get in touch with Kelvin Wicks on kelvin.wicks@bze.org.au.

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Introduction

To help accelerate Australia's shift to renewable powered industries, BZE is calling for a cohesive overarching national clean industry master plan to realise a just, prosperous, renewable-energy superpower economy. Over the next three years, BZE is committed to leveraging our research portfolio, networks and access to decision-makers to deliver a **National Action Plan (NAP)** that both decarbonises Australia while building our capability to become a Renewable Energy Superpower.

As the first step towards national coordination, BZE is developing *Critical Success Criteria (CSC)*, a framework for evaluating the readiness of high-energy industrial regions to decarbonise and deliver Australia's economic ambitions. These insights will also develop a clearer picture of the sequence of place-based decarbonisation activities that can build our superpower ambitions.

Structure and terminology

The critical success criteria have been developed building on the pillars and principles of our earlier work on Renewable Energy Industrial Precincts. There are currently seven criteria in total: 1) enabling infrastructure, 2) industry capability & capacity, 3) policy, 4) social acceptance, 5) value to the economy, 6) community capabilities and capacity, and 7) governance. Below each criteria are sets of indicators grouped in themed categories. Each indicator is measuring:

- A prerequisite condition that must exist in order for a successful and equitable energy transition to take place.
- An existing industrial region's ability to deliver economic and emissions goals

Example. When transmission infrastructure (indicator 1.1.2) is built at sufficient size and on time, Australia can progress to 100% renewable energy.

How are these criteria to be used?

Analysis across the indicators will help identify the highest priority actions, and sequence of actions required in a given region or for a given commodity. Low scoring indicators are likely to represent barriers that need attention, high scoring indicators may present great opportunities for the rest of Australia to replicate these best practices.

E.g. 1 If there is plenty of renewable generation but this is not connected to industry via transmission, then renewable generation would receive a high score and transmission would receive a low score.

E.g. 2 If there are plenty of green manufacturing facilities ready to be built but not enough waste facilities to support all the new developments for the location, then the relevant indicators under industry capability would receive a high score and water and waste under enabling infrastructure would receive a low score.

Criteria overview

1 Enabling infrastructure	• Energy system • Transport system • Water system and waste management
2 Industry Capability & Capacity	• Workforce capacity to deliver • Innovation and technology development • Knowledge • Collaboration and Industrial Ecosystem Building
3 Policy	• Federal policy • State policy • LGA policy
4 Social Acceptance	• Effective engagement and participation • Community benefits and impacts • Planning
5 Value to economy	• Zero-emissions economic development • Emissions reduction • Investment attraction
6 Community capabilities and capacity	• Social infrastructure
7 Governance	• Industrial governance • Planning

Criteria 1 - Enabling infrastructure

Definition: *Enabling infrastructure refers to the key energy, transport, waste and water infrastructure dependencies of the transition.*

Measure: Readiness of physical infrastructure essential for the energy transition

Why is meeting this criteria critical? Enabling infrastructure is essential for integrating renewable energy, electrifying industrial processes, and supporting green fuels and feedstocks like hydrogen, which are crucial for reducing emissions and enhancing the efficiency of cleantech and clean commodities manufacturing.

1.1 Energy system

Indicators	Definition
1.1.1 RE generation	Renewable energy generation is adequate to meet clean industry demand.

1.1.2 Transmission network readiness	High voltage power networks can connect sufficient RE generation to meet clean industry demand.
1.1.3 Distribution network readiness	Lower voltage power networks have capacity to connect sufficient RE generation to meet clean industry demand.
1.1.4 Hydrogen network readiness	Hydrogen energy supply and network is sufficient to meet clean industry demand.

1.2 Transport system

Indicators	**Definition**
1.2.1 Port readiness	Movement of commodities via ports is sufficient to meet clean industry needs.
1.2.2 Rail readiness	Movement of commodities via rail is sufficient to meet clean industry needs.
1.2.3 Road readiness	Movement of goods and commodities via roads is sufficient to meet clean industry needs.
1.2.4 Transport networks	Integration of transport infrastructure for efficient movement of goods and products is sufficient to meet clean industry needs.

1.3 Water system and waste management

Indicators	**Definition**
1.3.1 Water supply	Supply of water is sufficient to meet clean industry needs.
1.3.2 Wastewater management	Sustainable management of wastewater is sufficient to meet clean industry needs.
1.3.3 Solid waste and resource management	Sustainable management of solid waste via circular economy is sufficient to meet clean industry needs

Criteria 2 - Industry Capability & Capacity

Definition: Industry's capability and capacity to implement net-zero solutions

Measure: How well industries can adapt, innovate, and contribute to achieving a sustainable, low-carbon future including access to sufficient resources.

Why is meeting this criteria critical? Australian industries need both the know-how and access to resources including innovation and skilled workforce to capture zero-emissions opportunities for existing and new markets.

2.1 Workforce capacity to deliver

Indicators	Definition
2.1.1 Existing workforce capacity	Existing workforce size and skills meets clean industrial demand.
2.1.2 Reskilling and Upskilling Programs	Pathways to re-deployment within industry are in place to support workers in existing carbon industries.

2.2 Innovation and technology development

Indicators	Definition
2.2.1 Innovation	There is sufficient, localised ability to generate new ideas and methods for clean industry.
2.2.3 Commercialisation	Local companies' ability to commercialise locally.

2.3 Knowledge

Indicators	Definition
2.3.1 Knowledge sharing assets	Sufficient knowledge sharing centres and/or programs are in place that provide access to information within the given place.
2.3.2 Knowledge generation	There are adequate centres for knowledge generation, transfer and application, such as universities and TAFEs.

2.4 Collaboration and Industrial Ecosystem Building

Indicators	Definition
2.4.1 Industry Partnerships	Strategic alliances and partnerships focused on accelerating zero-emissions technologies and practices have been established.
2.4.2 Public-Private Collaboration	Engagement with government bodies, research institutions, and other stakeholders to co-develop solutions for a zero-emissions future is occurring and impactful
2.4.3 Industrial symbiosis / material exchange	Sufficient material exchange is happening.

Criteria 3 - Policy

Definition: Government policy and programs at the federal, state or local level support accelerated emissions reductions

Measure: Is government policy or program being well implemented in regions relevant to the generation, supply or consumption of energy, or the manufacture of a good or commodity.

Why is meeting this criteria critical? Effective and well implemented policies are key drivers of rapid emissions reduction, providing the regulatory framework, incentives and mandates necessary for the energy transition. To be effective, policy and programs should be: in place, demonstrate uptake, and deliver on ground impact.

3.1 Federal policy

Indicators	Definition
3.1.1 Skills and training	Programs in place to support skill and training inline with clean industry needs
3.2.2 Emissions reduction commitment	Policies driving industry target adoption are in place
3.1.3 Approvals processes	Regulatory processes are supported by sufficient resources to enable efficient deployment
3.1.4 Investment framework	There is a reputable, future focused framework in place to recognise and prioritise investment needs and opportunities.
3.1.5 Research and Development	Research and Development that provide a pipeline of innovations and efficiencies are in place.

3.2 State policy

Indicators	Definition
3.1.1 Skills and training	Programs are in place to support skill and training inline with clean industry needs.
3.2.2 Emissions reduction commitment	Effective policies to drive clean industry target adoption are in place.
3.1.3 Approvals processes	Regulatory processes are supported by sufficient resources to enable efficient deployment.
3.1.4 Investment framework	There is a reputable, future focused framework to recognise and prioritise investment needs and opportunities.
3.1.5 Research and Development	Research and Development that provide for a pipeline of innovations and efficiencies are in place.

3.1 LGA policy

Indicators	Definition

3.1.1 Skills and training	Programs are in place to support skill and training inline with clean industry needs.
3.2.2 Emissions reduction commitment	Effective policies to drive clean industry target adoption are in place.
3.1.3 Approvals processes	Regulatory processes are supported by sufficient resources to enable efficient deployment.
3.1.4 Investment framework	There is a reputable, future focused framework to recognise and prioritise investment needs and opportunities.
3.1.5 Research and Development	Research and Development that provide for a pipeline of innovations and efficiencies are in place.

Criteria 4 - Social Acceptance

Definition: Approval and acceptance granted by communities affected the most by the rollout of essential energy infrastructure that will enable Australia to reach 100% renewable energy.

Measure: Communities benefits and impacts from the rollout of renewable energy.

Why is meeting this criteria critical? Communities are critical stakeholders for the timely deployment of renewable energy to meet emission reductions and deliver long term economic prosperity.

4.1 Effective engagement and participation

Indicators	**Definition**
4.1.1 Knowledge sharing hubs	Places where community, government and industry disseminate, discuss and co-design place-based energy solutions are being utilised effectively.
4.1.2 Effective First Nations engagement	First Nations communities are appropriately and respectfully engaged about the energy developments on Country.
4.1.3 Effective Community engagement	Engagement is occurring early, genuinely and developers are working to incorporate community needs into designs.
4.1.4 Level of community involvement	There is active participation of community members in planning, decision-making, and implementation.
4.1.5 Public awareness and education	There is high effectiveness of programs aimed at increasing community awareness and understanding of zero-emissions goals, technologies, and practices.

4.2 Community benefits and impacts

Indicators	Definition
4.2.1 First Nations community benefit sharing	First Nations community benefits from energy infrastructure are effective and appropriately in place.
4.2.2 Wider community benefit sharing	Direct wider community benefits from energy infrastructure is informed by community needs.
4.2.3 Landholder benefit sharing	There are direct landholder benefits from energy infrastructure.
4.2.4 Grow local workforce	Local communities are given priority to work on RE projects and access to skills, training, and support.
4.2.5 Best practice implementation	Energy and supporting infrastructure either benefits or minimises impacts on community requirements.
4.2.6 Demographic planning	Population modelling is undertaken to inform community dynamics and identify potential challenges (ageing population, broad skill requirements both within net zero industries and within communities in general).

4.3 Planning

Indicators	Definition
3.2.2 Land use planning	Alternative land uses values are known and inform renewable energy site identification to minimise impact on nature, agriculture and cultural values.

Criteria 5 - Value to economy

Definition: The positive benefits decarbonisation activities bring to the Australian economy and its long term economic prosperity.

Measure: economic activity and emissions reduction.

Why is meeting this criteria critical? Maintaining the Australian way of life, its communities and nature for generations to come.

5.1 Zero-emissions economic development

Indicators	Definition
5.1.1 Regional value to economy	There are sufficient efforts aimed at enhancing the economic growth and prosperity of this place
5.1.2 Attracting new industries	Companies are actively investing and establishing operations in clean industrial precincts

5.1.3 International linkages	International trading partners are substantially interested in the commodities and products being produced.
5.1.4 Economic diversification	The expansion of economic, zero emissions, activity covers various sectors, forms of renewable energy, green commodities, etc.

5.2 Emissions reduction

Indicators	**Definition**
5.2.1 Domestic emissions reduction impact	The impact of emissions reduction on national accounts is substantial.
5.2.2 Exported emissions reduction impact	The impact of emissions reduction on exports is substantial.

5.3 Investment attraction

Indicators	**Definition**
5.3.1 Public finance commitment	Taxpayer funded finance provided is sufficient.
5.3.2 Exported emissions reduction impact	Private finance announced is sufficient.

Criteria 6 - Community capacity & capabilities

Definition: The community's ability to support the influx of workers, machinery and equipment to build new energy assets and the associated impact on essential local infrastructure and services such as housing, waste, education and health.

Measure: Influx of workers impact on essential infrastructure and services.

Why is meeting this criteria critical? To avoid negative impacts to local communities such as unaffordable housing, strain on health services and other essential infrastructure such as waste.

6.1 Social infrastructure

Indicators	**Definition**
6.1.1 Housing, health and education	Community has adequate housing, health services and education, etc. to meet their needs through construction and operation of energy and manufacturing infrastructure
6.1.2 Resource management	Community has adequate water, waste, etc. infrastructure to meet their

infrastructure	needs through construction and operation of energy and manufacturing infrastructure
6.1.3 Local government capacity	Local government has capacity to maintain and manage additional social infrastructure.

Criteria 7 - Governance

Definition: The framework of rules, practices, processes, and relationships by which a region or precinct is directed, controlled, and held accountable.

Measure: Representative governance entity with practices and processes that coordinate activities and ensure members activities and common resource coordination are aligned to agreed strategic benefits including emissions reduction and economic benefits.

Why is meeting this criteria critical? Ensures industrial players and ecosystems work effectively towards shared goals of decarbonisation and business viability.

7.1 Industrial governance

Indicators	Definition
7.1.1 Industrial symbiosis	Industrial symbiosis is a collaborative strategy where different industries or businesses work together to use each other's by-products, waste, energy, water, or materials to reduce overall waste and resource consumption. This approach aims to create a circular economy by optimising resource use and minimising environmental impact.
7.1.2 Emissions reduction targets	Business emissions targets are in place that align with science based targets and do not rely on offsets or gas as a transition fuel.
7.1.3 Industry coordination	There is a formal group convening to coordinate operations and principles of collaboration.

7.2 Planning

Indicators	Definition
7.2.1 Coordinated infrastructure plan for common user infrastructure	TThere is a formal plan for common user infrastructure.
7.2.2 LGA decarbonisation plans	There is a local government decarbonisation strategy.
7.2.3 Regional adaptation plan	There is adequate adaptation planning at a regional level

Next Steps

Thank you for your input into this process. Please let us know if you would like to be kept informed as we test the Critical Success Criteria to develop the National Action Plan.