

Australian sustainable finance taxonomy methodology report

Defining green and transition and determining
the eligibility of economic activities

Australian Sustainable
Finance Institute



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Acknowledgement of Country

The Australian Sustainable Finance Institute acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters, species and culture. We acknowledge their ongoing status as the First Peoples of Australia and pay our respects to their Ancestors and Elders past, present and emerging.

Release Notice

This report has been prepared by the Australian Sustainable Finance Institute Limited (ASFI) with key technical analysis undertaken by the Climate Bonds Initiative in its capacity as ASFI's lead technical partner for the initial development of the Australian sustainable finance taxonomy.



Executive Summary	4	Recommendations for a transition methodology	16
Background	8	Recommendation 1: Separate phase down and/or out from decarbonisation activities based on the nature of the activity	16
Use case for the taxonomy	8	Recommendation 2: Defining transition	17
A transition methodology for Australia	8	Phase down category	17
Lessons learned from other taxonomies	10	Recommendation 3: Utilise internationally recognised climate-science scenarios to separate transition and phase down and/or out	18
European Union	10	Using climate-science scenarios	18
Singapore, ASEAN (traffic light approach)	10	Next steps and public consultation	20
Principles underpinning a transition methodology	12	Acknowledgements	21
Building on the ASFI transition methodology research considerations	12	TTEG Members	21
Level 1: Entity assessment (not considered for transition methodology determination)	14	Annexure A: Other methodologies for separating transition and phase out activities	22
Level 2: Nature of activity (critical for transition methodology determination)	14	EU Taxonomy	22
Level 3: Performance of activity (not considered for transition methodology determination)	15	Sectoral decarbonisation pathways	23
		Scope 3 analysis	24
		Endnotes	25

Executive Summary

In July 2023, the Australian Sustainable Finance Institute (ASFI), in partnership with the Department of the Treasury, commenced the initial development phase of the Australian sustainable finance taxonomy. The taxonomy's development forms part of the Government's broader sustainable finance agenda to mobilise private capital towards net zero emissions, Australia becoming a renewable energy superpower and other key sustainability goals.

Government recognises that public funding is insufficient to achieve these goals; significant private capital will need to be deployed to fill the decarbonisation funding gap. The scale and pace of capital deployment required is staggering, and credible and reliable information on the sustainability credentials of activities and assets will be crucial to mobilising this capital.

The development of an Australian taxonomy has consistently been identified by the finance sector and the Australian Government as an immediate priority, given the foundational role of taxonomies in identifying, classifying, and defining key activities and assets across the economy that will substantially contribute to Australia's ambitions of building a net zero emissions future, becoming a renewable energy superpower, and contributing to the Paris Agreement goal of limiting the global temperature increase to well below 2°C while pursuing efforts to limit the increase to 1.5°C.

By improving the reliability and rigour of sustainability information, investors and lenders can deploy capital with confidence and regulators can use this market information to counter the rise of greenwashing, ensure transparency and promote trust in the sustainable finance market.

To be effective, the taxonomy must be internationally credible, aligned with science-based global climate and sustainability goals, and go beyond baseline standards established by regulation and policy. Robust science-based information will also help identify those activities which capital markets can confidently invest in and fund without facing material risks from declining demand as the economy transitions, or from the increased cost of carbon as climate regulation ratchets up.

Given this, the Australian taxonomy's primary objectives are to:

- **drive capital into activities that will decarbonise the economy at the speed and scale required to reach our global climate goals; and**
- **improve the quality of market information to ensure sustainability definitions are credible, comparable and easy for investors, lenders and regulators to use to counter the rise of greenwashing, ensure transparency, and promote trust in the sustainable finance market.**

It became clear during the scoping phase of the Australian Taxonomy Project that financial decision-makers in Australia lack access to the information they need to confidently identify sustainable activities that are aligned to their net zero climate targets, and to deploy capital in an efficient and effective way at the scale and speed required for Australia to meet its climate and sustainability ambitions. This challenge is most acute with respect to transition activities, where global best practice is still emerging and there is a lack of consensus around the purpose, intent, and meaning of transition finance.

Recognising this need, the Australian Government determined that the Australian taxonomy should identify both green and transition activities.¹ As a priority in the taxonomy's initial development phase, the Taxonomy Technical Expert Group (TTEG) – which provides input into and endorsement of Australian taxonomy products – has developed a methodology defining green and transition activities and how sectors and activities will be assessed as eligible or not for inclusion in the taxonomy under one of those two labels.

The TTEG determined that providing a clear definition of green and transition upfront will help create market certainty over which activities are eligible for inclusion in the taxonomy's green and transition categories, and how climate mitigation criteria will be developed, including future additions and revisions.

The transition methodology, as detailed in this paper, seeks to answer the following key questions:

1. What does transition mean in the context of the taxonomy and what should it be used for?
2. Do all activities and/or sectors need transition criteria? If not, which sectors should be eligible for inclusion in the transition category and how should we determine this in an objective way?

Considerations in developing the transition methodology

In agreeing the transition methodology, the TTEG considered:

- **The key motivations behind the inclusion of a transition category in the Australian taxonomy.**

This was informed by the ASFI taxonomy scoping phase and the mandate for taxonomy development from the Australian Government, which identified a clear need to drive capital flows towards the type of activities that will enable Australia to decarbonise its economy and capitalise on the opportunities of a net zero emissions world.

- **The lessons learned from international approaches to categorising transition activities.**

Transition is, by definition, a process of change over time whereas taxonomy thresholds are static at a point in time and do not easily encourage or reward change. The European Union (EU) transitional activities, for example, are treated in the same way as green, except the definition of 'substantial contribution' for these activities is different to other activities and therefore the bar to achieve this is lower. These thresholds are intended to ratchet down in the future to ensure continued movement, however there is no forward guidance to show how, if, and when thresholds will change in the future so movement is not incentivised.

Drawing on the lesson from the Singapore taxonomy, the transition category may not necessarily be relevant for all activities because certain activities are already in line with a 1.5°C pathway and therefore already meet the relevant green thresholds; and/or certain activities are not compatible in a net zero emissions future and can be substituted by low emissions alternatives so will not be needed in a future net zero world.

- **That the market is seeking clear, understandable and comparable information to make efficient capital allocation decisions and be confident in making claims around transition financing.**

For this reason, the TTEG recognises the need to clearly define upfront what transition means in the Australian taxonomy and set out the methodology for assessing which types of activities will be eligible for transition criteria.

Purpose of the transition methodology

The TTEG determined that the purpose of the transition category should be to:

- recognise those activities that are capable of significant movement towards a 1.5°C trajectory within a defined timeframe
- facilitate decoupling of increasing emissions from increasing production
- facilitate deployment of technologies that catalyse emissions reductions and decoupling
- enable the identification of timeframes for a transition period (e.g. sunset dates by which activities are no longer in transition but need to be 1.5°C aligned)

The TTEG recognises that there will be some activities that remain economically necessary for a period while the economy transitions, but which are ultimately not compatible with a net zero emissions economy. While these activities remain economically important, the taxonomy is primarily future focused. The transition definition aims to ensure sustainable capital is deployed to investment opportunities that will drive decarbonisation and increase in demand in a net zero economy, because this is where capital is needed most if we are to transition our economy and become a renewable energy superpower.

Key decisions related to the transition methodology

Informed by the above, the Australian taxonomy transition criteria has been designed in accordance with the below key decisions of the TTEG:

DECISION 1:	<p>The Australian taxonomy green category will apply to activities that are consistent with achieving net zero greenhouse gas emissions in accordance with the Paris Agreement temperature goal.</p> <p>The transition category should apply to activities that need to be decarbonised because they have a continued role or uses in a future net zero emissions economy. This means activities should not be eligible for inclusion in the transition category where:</p> <ul style="list-style-type: none">• they have low carbon emissions substitutes; and• emissions cannot be substantially reduced or decoupled from the activities and they will therefore decline and ultimately be phased out.
DECISION 2:	<p>The following working definitions will be used to distinguish between different types of activities for the purpose of determining whether they are eligible to be classified as transition activities.</p> <p>Transition activities comprise activities that, based on current technology readiness²:</p> <ul style="list-style-type: none">• have a continued role or uses in a net zero greenhouse gas emissions economy;• do not have low carbon emissions alternatives;• can be decarbonised across scope 1,2 and 3 emissions even if decarbonisation is only economically feasible in the long term; and• the risk of locking in future high carbon assets can be mitigated. <p>Phase down activities are activities that, based on current technology readiness and credible global climate-science scenarios, are inconsistent with and therefore have a diminished role or use in a net zero future economy. These are activities:</p> <ul style="list-style-type: none">• with low carbon alternatives currently available, or in advanced stages of development;• that pose a risk of high carbon lock in; and• with no pathway to decarbonise scope 1,2 and 3 emissions without phase down and/or out (e.g. internal combustion engine passenger vehicles). <p>The TTEG recognises that climate science is evolving and technologies are advancing. Accordingly, the methodology assumes periodic updates to assessing the eligibility of activities for green and transition categorisation based on the latest scientific and technology readiness information.</p>
DECISION 3:	<p>Eligibility: That internationally recognised, credible 1.5°C aligned climate science scenarios be used to assess the above definitions and identify which activities are eligible to be categorised as green and/or transition.</p>

Next Steps

This report should be read together with the Do No Significant Harm (DNSH) and Minimum Social Safeguards (MSS) methodology report for the Australian taxonomy, which sets out the process for determining the classification of the other environmental objectives and social considerations in the taxonomy and how they will be defined for the purpose of ensuring that green and transition activities for climate mitigation do not undermine Australia's other sustainability and social goals.

Having finalised the methodology to determine eligibility for the taxonomy's green and transition categories, the TTEG is now assessing:

- which economic activities in key sectors of the economy will be eligible for inclusion in the taxonomy (as either green or transition); and
- developing the relevant performance level for green and transition activities using objective technology- and science-based technical screening criteria.

FIGURE 1
Defining green and transition

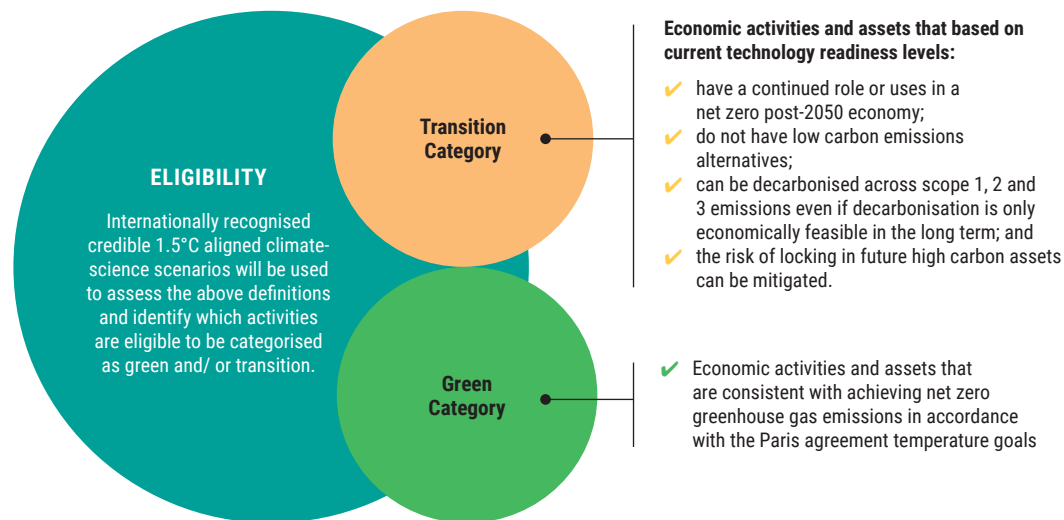
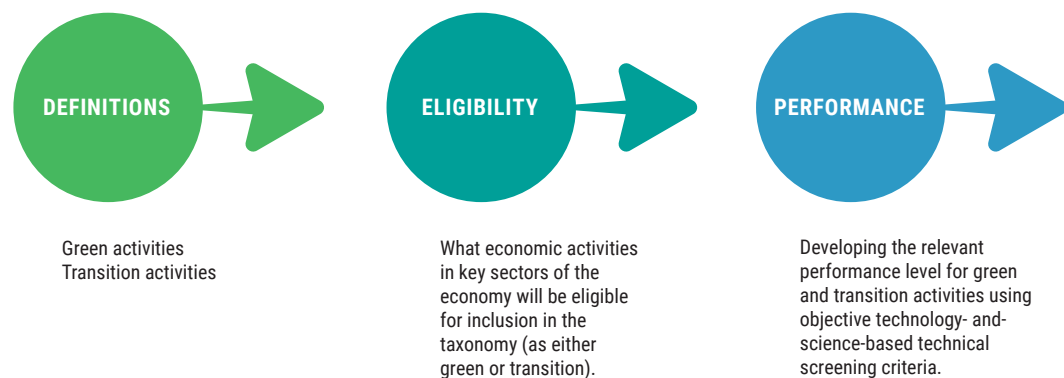


FIGURE 2
Determining eligibility of green and transition activities



Use case for the taxonomy

The financial system plays a key role in shaping Australia's future. The activities of Australian financial institutions, and the regulatory policies and programs that influence those activities, will significantly determine Australia's ability to meet its climate and sustainability goals and commitments.

The scale of finance and investment required to transition the Australian economy in line with its commitments is well beyond what governments can deploy alone, especially under tight fiscal conditions. Unlocking private finance and investment will be critical to building a net zero emissions future in Australia and contributing to the Paris Agreement goal of limiting the global temperature increase to well below 2°C while pursuing efforts to limit the increase to 1.5°C. A sustainable finance taxonomy is a key piece of the enabling financial regulation architecture that will help unlock private finance and investment towards achieving this.

Accordingly, the primary objective of the Australian taxonomy is to help drive capital flows towards the types of activities that will enable Australia to decarbonise its economy and capitalise on the opportunities of a net zero emissions world.³ This requires forward thinking about a net zero emissions future. The aim of the taxonomy is to drive investment that will help Australia achieve this objective, rather than direct finance towards incremental investments that ultimately do not lead to a low emissions future. This is the logic underpinning the transition category and methodology for the Australian taxonomy.

A transition methodology for Australia

Australian taxonomy scoping phase:

Between early 2022 and July 2023, ASFI undertook taxonomy scoping work. The scoping work was industry funded and led by ASFI, working closely with government and regulators.

ASFI worked with a Technical Advisory Group (TAG) and broader stakeholders to inform the taxonomy scoping deliverables. The TAG comprised 56 members and observers from across the financial services sector, ESG market specialists, academics and international taxonomy experts, including from Circular Australia. The TAG had seven observers, representing the Australian Banking Association, the Financial Services Council, and the Australian Department of Treasury and Council of Financial Regulator agencies (the Reserve Bank of Australia (RBA), the Australian Securities and Investments Commission (ASIC) and the Australian Prudential Regulation Authority (APRA)).

The taxonomy scoping work focused on identifying key framework design elements for an Australian sustainable finance taxonomy, including a scoping paper on international taxonomies, which analysed Australia's economic and environmental context, key international taxonomies and implications for taxonomy development in Australia and which, together with feedback from public consultation, informed a framing paper that sets out recommendations on the key design elements for an Australian taxonomy.

The Australian Taxonomy Framing Paper, published in March 2023⁴, outlines fifteen recommendations for the design of an Australian taxonomy, including that it adopt:

- a traffic-light colour coding framework to communicate and distinguish between green, transition and excluded activities; and
- a clear, transparent methodology for categorising transition activities, endorsed by a Taxonomy Board.

The Taxonomy Framing Paper also identifies the primary purposes of the Australian taxonomy, which are to:

- direct capital flows into economic activities that substantially contribute towards sustainability objectives;
- facilitate an orderly and just transition to a sustainable economy by promoting investments that enable the transition to a net zero economy along with broader sustainability attributes and outcomes for social equity; and
- address greenwashing and promote transparency by providing regulators and financial institutions with a robust and credible tool for classifying finance, lending, investment, and underwriting activities as having certain sustainability attributes.

This aligns with the Australian Government's sustainable finance objectives,⁵ which are to ensure Australia's sustainable finance architecture improves financial market transparency and credibility to:

- mobilise the private sector investment needed to support net zero and other sustainability goals;
- ensure Australian entities can access capital to support the transition and are aligned with positive sustainability outcomes; and
- ensure climate and sustainability-related opportunities and risks are well understood and managed.

Following the Taxonomy Framing Paper, ASFI published the Australian Taxonomy Transition Methodology Research Paper (July 2023)⁶, which aims to inform the development of a transition category as part of the development of an Australian taxonomy. The paper sets out ten key considerations for the design of a transition methodology in the development phase of the work.

Australian taxonomy initial development phase:

The Australian Taxonomy Project commenced in July 2023. It is a joint industry-government initiative, led by ASFI in partnership with the Department of the Treasury, to develop an Australian sustainable finance taxonomy. Funding and partnership from the Australian Government reflects shared appetite across government, finance and industry for new frameworks to support sustainable finance markets in Australia.

The project is drawing on the recommendations from ASFI's scoping phase, building on work done on sustainable finance taxonomies internationally and working with a wide range of relevant experts and stakeholders.

The initial taxonomy development phase will run for twelve to eighteen months. It will cover climate mitigation criteria for a minimum of three and up to six priority sectors, and associated technical work on data requirements, a methodology for incorporating transitional activities, Minimum Social Safeguards and a 'Do No Significant Harm' framework.

The six priority sectors are:

- electricity generation and supply (energy)*;
- minerals, mining and metals*;
- construction and the built environment*
- manufacturing/industry;
- transport; and
- agriculture.

(indicates the first sectors to be developed).*

The sector coverage aligns with the six sector decarbonisation plans that the Australian Government is developing for the Australian economy to help mobilise the private sector investment needed to support net zero, invest in Australia's ability to become a renewable energy superpower, and achieve its other sustainability goals.

In accordance with the mandate set by the Australian Government,⁷ there are four key principles to guide the development of the Australian taxonomy:

- the taxonomy should be credible and science-based;
- the taxonomy should be usable for a range of different users;
- the taxonomy should be interoperable and broadly compatible with international approaches to sustainable finance taxonomies; and
- the taxonomy should be tailored to Australian priorities. These include supporting the allocation of capital towards transition activities; aligning with broader Government climate policy objectives; supporting the foundation for broader regulatory frameworks on sustainable finance; and being adaptable to incorporating other climate and sustainability objectives such as nature in the taxonomy.

The Australian Council of Financial Regulators' Climate Working Group (CWG) is overseeing the development phase of the Australian taxonomy, as part of its role supporting the development and implementation of the Government's Sustainable Finance Strategy.

ASFI, with endorsement from the CWG, has established a Taxonomy Technical Expert Group (TTEG) comprising 25 experts in sustainable finance; whole-of-economy decarbonisation; climate and environmental science and policy; human rights; and Indigenous rights and perspectives. This group is tasked with providing strategic direction over, input into and endorsement of taxonomy products for consideration by Government.

A sub-committee of the TTEG was tasked with considering a clear and transparent methodology for categorising transition activities. These considerations – which were subsequently endorsed by the full TTEG – have provided the methodological bedrock of the proposed approach and will guide the further development of the transition methodology.

The methodology sought to answer several key questions:

- What does transition mean and what should it be used for?
- Which sectors/activities should have transition criteria? What is this based on?
- How do we treat activities that are economically necessary for an interim period but which are not compatible with a net zero emissions economy?

Lessons learned from other taxonomies

Transition categories, sectors and activities have already been incorporated into various taxonomies around the world in different ways. Several lessons can be learned from these examples.

One challenge faced by all jurisdictions is to help direct capital towards a moving target. Transition is, by definition, a process of change over time whereas taxonomy thresholds are static at a point in time, and do not easily encourage or reward change. This means that taxonomy developers have put in place different mechanisms to cover transition activities and, to an extent, encourage movement over time. This includes a revision schedule to allow for regular updating of taxonomy criteria in line with increasing climate ambition, changing regulations, sunset dates, development of clean technologies, etcetera. Examples of the European Union (EU) and traffic light approach to incorporating transition are set out below.

European Union

In the EU taxonomy, 25 activities are classified as 'transitional'. These are treated in the same way as green in that there is a single threshold for the activity to classify as sustainable. The key difference is that the definition of 'substantial contribution' for these activities is different to other activities and therefore the bar to achieve this is lower. These thresholds are intended to ratchet down in the future to ensure continued movement.

A key lesson from the EU process is that, while the ratchet mechanism is noted, there is no forward guidance to show how, if, and when thresholds will change in the future; only an intention to review the taxonomy every three years. This makes a transition process hard to demonstrate over time.

A further criticism is that, while the lower bar of substantial contribution is useful for these activities, it is not useful for encouraging and rewarding performance of those that are currently poor performers.

Singapore, ASEAN (traffic light approach)

Traffic light taxonomies are designed to address some of the issues of the EU approach, most notably the lack of directional support for poor performers within a sector. The traffic light approach puts forward:

- a **green** category to identify activities already in line with 1.5°C;
- an **amber** category to identify activities and measures that are facilitating significant movement towards green (transition); and
- a **red** category for ineligible activities.

The process of developing amber criteria was not simple however, and a number of lessons were learned along the way, including:

1. **Amber transition cannot last forever:** transition cannot last for an indefinite period and an activity should be following a predetermined net zero pathway by a specific date (sunset date). The establishment of a sunset date was therefore key to the development of criteria.
2. **Lock in of poor performing new projects and/or assets:** new projects were generally not eligible for amber classification. This is designed to avoid building new assets that would lock in average or poor sustainability performance into the future. In contrast, amber transition criteria were seen as important for existing assets that need to decarbonise

as much as possible while not being able to meet green criteria for existing assets.

3. **Not all activities need amber transition criteria:** the amber category may not necessarily be relevant for all activities because:

- certain technologies are already in line with the 1.5°C pathway and therefore already meet the relevant green thresholds
- the activity only refers to new assets and consequently needs to comply with the green thresholds
- the activity is not part of a net zero carbon emissions future and cannot transition (red category).

4. **The line between red and amber is not always useful or recommended:** to determine a boundary between red and amber requires good data. Data can show what performance thresholds are unachievable, stretching or easy to achieve, etcetera. Where data is not available, thresholds can become arbitrary and not useful. They may also be unhelpful in facilitating movement of the worst performers in a sector.

5. **Technology whitelists or measures can be more usable than thresholds (in some sectors):** where data is not available and thresholds are not meaningful, identifying technology whitelists or 'eligible measures' could be helpful for some activities in hard-to-abate sectors that are difficult to decarbonise and/or where no one technology allows a significant reduction in greenhouse gas emissions consistent with ambitious thresholds in line with a 1.5°C pathway. However, these activities may be decarbonised due to the concurrent application of multiple measures, which have the compounding effect of allowing the activity to achieve significant emissions reductions.

6. Transition is movement but thresholds are static:

in order for an activity to be categorised as amber, an activity needs to demonstrate that it is in the process of improvement and, therefore, show movement towards green over time.

7. Ineligible activities are not always the same as activities that do cause significant harm:

while some activities that do not meet the criteria for green or amber may cause significant harm, this is not always the case. Specifically, there are some activities where performance may change quite rapidly over time, so labelling poor performance as doing significant harm in the short term may be counterproductive. Further, there are some activities for which taxonomy thresholds have not been defined, in most cases due to minimal or no material impact on a given environmental objective.



Principles underpinning a transition methodology

To determine what transition means, several key principles were discussed by the TTEG methodology sub-committee to integrate into the methodology underpinning the definition of transition.

The transition category should be designed to:

- Ensure it does not lead to greenwashing by labelling activities that are not compatible with a future net zero emissions economy.
- Facilitate an orderly transition by guiding capital to those activities that are needed in a Paris Agreement-aligned, net zero emissions economy. This will mitigate material risks to investments in activities that face declining demand as the economy transitions, or that face increased cost of carbon as climate regulation ratchets up. Accordingly, there should not be a transition category for other sectors.
- Ensure no lock in of high carbon technologies/ activities (e.g. new activities and/or facilities that are not best in class or retrofitting of existing activities and/or plants that adopt and/or lock in only marginally improved technologies when better options are available).
- Include activities based on climate mitigation outcomes for a Paris-Agreement aligned, net zero emissions economy rather than on the economic necessity of the activity.
- Differentiate between activities that are not compatible with a net zero emissions economy versus those that are compatible and therefore have a continued or increased role in a future net zero emissions economy.

In developing technical criteria for activities within the transition category:

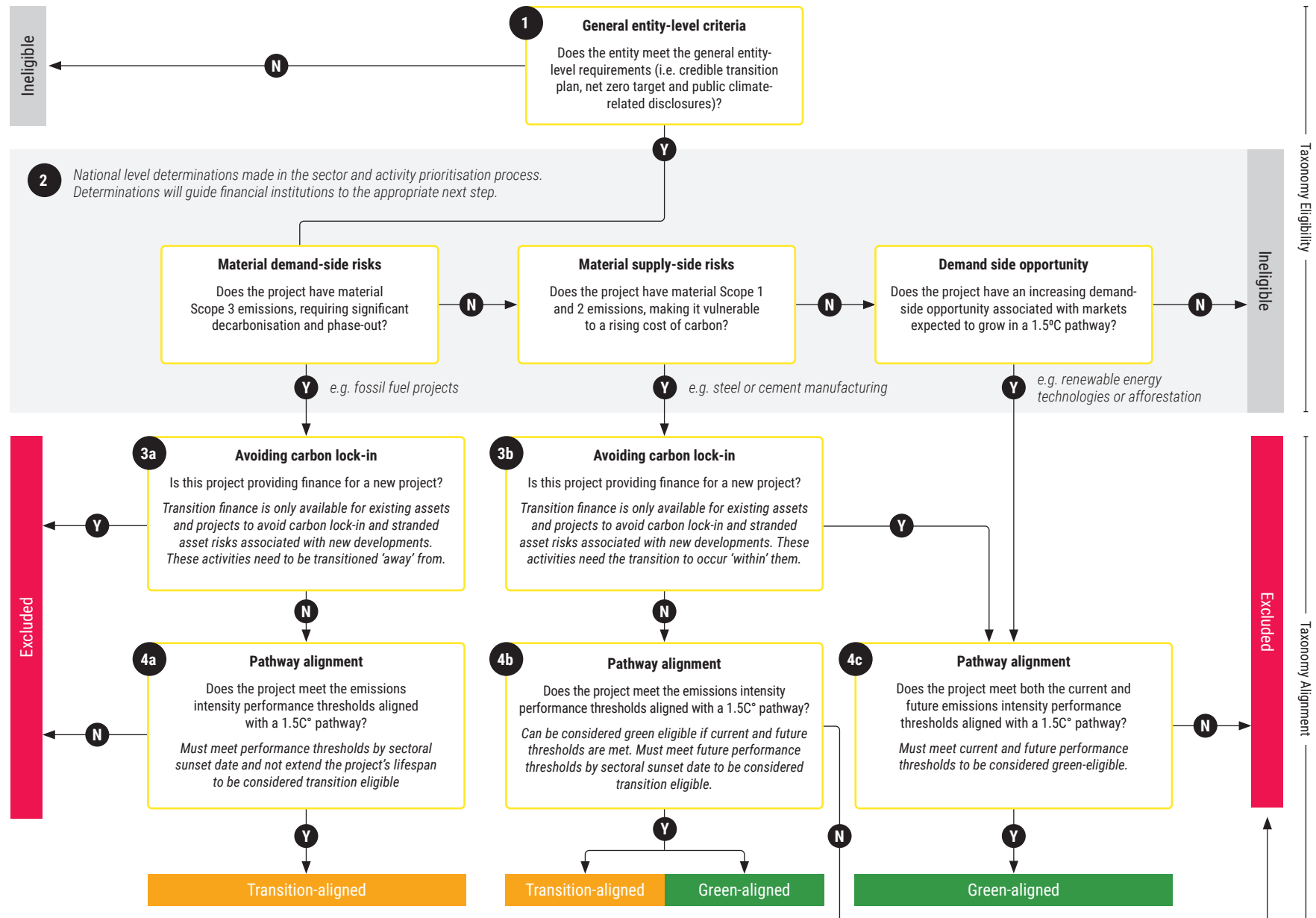
- Criteria should facilitate movement or improvement over time.
- Activities cannot remain in transition indefinitely; there needs to be a sunset date.
- The transition activities should facilitate significant reduction in emissions (not marginal).

Building on the ASFI transition methodology research considerations

In July 2023, ASFI released initial thinking on the transition methodology for an Australian taxonomy⁸, which is the underpinning of this paper and the methodological discussions. A core component of this work is the decision tree below, which consists of three levels. The first is an entity assessment, which proposes that general entity level checks be conducted to determine if an entity is eligible to apply the taxonomy. At level two, activities are assessed based on their nature, that is, their intrinsic decarbonisation characteristics. At level three, more detailed checks are outlined to assess whether there is carbon lock in and pathway alignment.

This decision tree diagram was developed to summarise early thinking on the topic and is the starting point for the methodological discussions of the TTEG, but it is not the end point. This means that while conceptually this diagram has been utilised, the detail around how decisions are made and which questions are asked have been expanded upon. Further, the decision tree is not designed for the taxonomy end-user. It will guide the thinking and the development of criteria in the next stage of work.

FIGURE 3
ASFI transition methodology decision tree



Level 1: Entity assessment (not considered for transition methodology determination)

An entity assessment may be incorporated into different parts of the taxonomy, for example, as an entry point (as above) or the taxonomy could itself be used to analyse whole entities. The rules around how the taxonomy should be applied, including how it interacts with other parts of the sustainable finance regulatory architecture, will be considered and addressed at a later stage in the Australian taxonomy development process. Accordingly, it is not considered during the determination of the transition methodology.

Level 2: Nature of activity (critical for transition methodology determination)

The nature of the activity refers to whether the emissions associated with that activity can be reduced or removed. It is intrinsic to the activity and does not change over time. The nature of the activity is the key feature in determining whether it is eligible for inclusion in the transition category. The nature of the activity also determines the type of technical criteria that will be developed and which decarbonisation levers are relevant.

There are three broad levers available for decarbonising an economy consistent with a net zero emissions future:

1. **Phase down** activities that have low emissions substitutes and where emissions cannot be reduced or decoupled from the activity, which means it has no role in a future net zero emissions economy. For these activities, credible, global climate-science scenarios determine that the only feasible pathway to decarbonisation is to reduce or “phase down and/or out” that activity.
2. **Decarbonise** activities that have no low carbon substitute and therefore need to transform within, so emissions growth can be decoupled from the growth

of the activity. The nature of the activity means that it would need to transform how the activity is undertaken: “transition within”, but the activity itself is still needed in a decarbonised world, for example, steel.

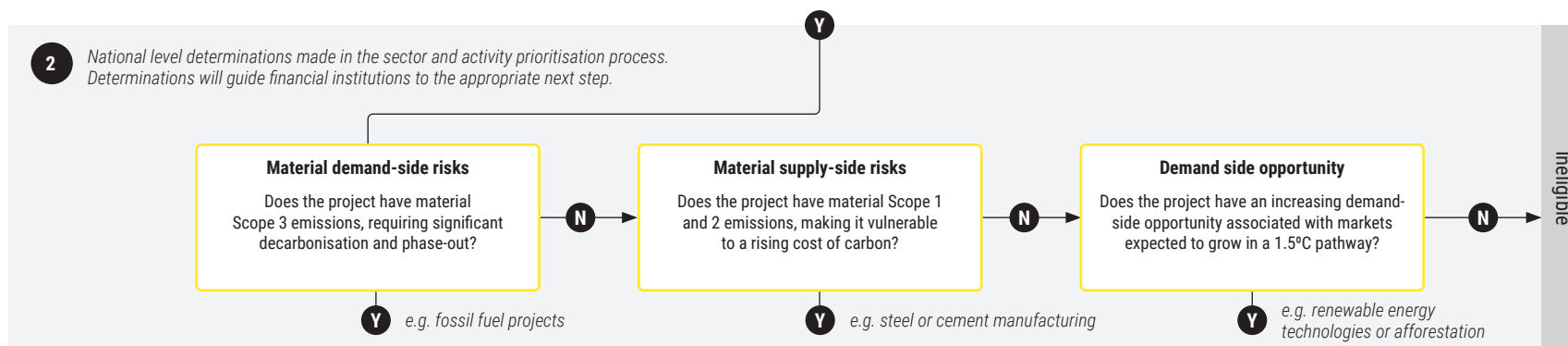
3. **Substitute/replace** high emissions activities with low emissions substitutes.

The levers that are applicable depend on the intrinsic nature of the technology. If the activity is high emitting and cannot be decarbonised across all scopes, it will need to be phased down and replaced with a low emissions substitute. If it is high emissions but cannot be substituted, it will need to be decarbonised.

These three levers map well to the ASFI transition methodology research paper decision tree where:

- Activities with **material demand side risks** are generally those that do have low emissions substitutes and will need to be phased down and, eventually, phased out (Category 1).
- Activities with **material supply-side risks** do not have low carbon replacements and will need to be decarbonised (Category 2).
- Activities with **demand side opportunities** are the low carbon substitutes (Category 3).

FIGURE 4
Decision tree categories



The categorisation decision tree is designed to filter out activities that are not aligned with a 1.5°C pathway consistent with the Paris Agreement. For this purpose, the process is intended to exclude activities that have no pathways to decarbonising scope 1,2 and 3 emissions without phase down and/or out; carbon-intensive activities with an existing low carbon alternative; activities that lock in carbon intensive technologies; and activities that have the potential for short term emissions reductions but are part of a sector inconsistent with a 1.5°C pathway.

Material demand-side risks: This category considers activities that are expected to contract over time because they depend on product markets that are or will experience declining demand, which will affect the profitability and size of the market for the product. The underlying assumption is that, in a global transition scenario, demand for certain products will move towards low carbon Scope 3 emissions options due to changes in consumer behaviour, regulations, or technological advances that will make existing technologies redundant. The timeline for the decline in global demand will vary depending on the phase out period required by a 1.5°C pathway, which will in turn affect the degree of materiality of the transition risks associated with the product itself. For instance, the demand for Internal Combustion Engine (ICE) vehicles is expected to decline over the next ten years as consumers switch to electric vehicles, while thermal coal is experiencing high demand side risks today as lower emissions, more efficient and less expensive technologies are widely available in the market (such as cheaper solar energy).

Material supply-side risks: This category refers to activities for which carbon costs have a material impact as reducing emissions (scope 1 and 2) is the most important driver in maintaining or acquiring market share of a specific product. In practice, carbon intensive products may become increasingly more exposed to the rising cost of carbon, which will subsequently affect both their production and supply costs and, eventually, their viability as their profitability diminishes. An example of an activity in this category is the manufacturing of products

in hard-to-abate sectors such as steel or cement, where carbon intensive manufacturers face substantial transition risks compared to their lower emitting competitors. In addition, activities with material supply side risks need to avoid the lock in of carbon intensive technologies that are inconsistent with a 1.5°C pathway.

Demand side opportunity: This category includes activities that can be automatically considered green because they have both low or zero scope 3 emissions as well as no material scope 1 and 2 emissions. Activities in this category will experience an increasingly higher demand over time, as the world economy transitions to net zero while their production costs are expected to fall due to scale and technological advances. These activities will benefit from significant demand-side opportunities throughout the entire innovation chain and/or are expected to become dominant technologies in a future consistent with a 1.5°C pathway. Examples of activities included in this category are solar and wind renewable energy, batteries and green hydrogen.

Level 3: Performance of activity (not considered for transition methodology determination)

This level defines how an activity is performing and whether or not this is sufficient to be considered green or transition. Performance can change over time. For example, an activity's performance can improve by implementing decarbonising technologies and bringing down emissions.

This is not considered as part of the transition methodology and is the role of the taxonomy itself. Accordingly, the activity performance will be considered during the development of technical criteria for economic activities once the activity has been categorised as green or transition. This will also include timeframes for performance to improve to continue to be considered as green or transition.



Recommendations for a transition methodology

Recommendation 1: Separate phase down and/or out from decarbonisation activities based on the nature of the activity

The Australian taxonomy green category will apply to activities that are consistent with achieving net zero greenhouse gas emissions in accordance with the Paris Agreement temperature goal.

Based on the three levers (phase down, substitute, decarbonise) presented, the TTEG recommended separating 'phase down' activities from those activities that need to be decarbonised.

The recommendation is to use the transition category only to refer to activities that need to be decarbonised because they have a role in a net zero economy. This means activities should not be eligible for inclusion in the transition category where:

- they have low carbon emissions substitutes; and
- emissions cannot be substantially reduced or decoupled from the activities and they will therefore decline and ultimately be phased out.

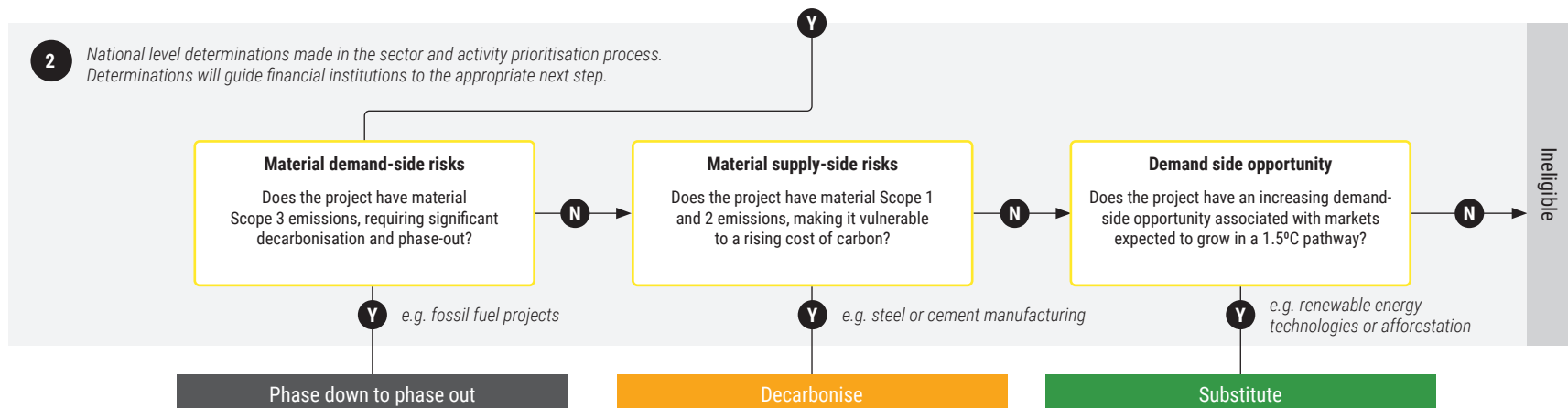
It follows that only activities which fall within the middle category of the image below would be eligible to be categorised as transition.

Due to the dynamic nature of technology, some activities that are currently classified as phase down activities may become eligible for transition or even green categorisation if technology or credible climate-science scenarios change. This dynamic could be easily addressed by ensuring the taxonomy categorisation and criteria are periodically updated in accordance with new technological advances.⁹

At this point in time, the methodology will allow the clear separation of transition and phase down categories.

Recommendations for if and how activities in the phase down category will be defined in the taxonomy, will be determined at a later stage in the taxonomy development process.

FIGURE 5
Decision tree outcomes



Recommendation 2: Defining transition

The TTEG Transition Methodology Sub-committee discussed the definition of transition versus phase down and/or out and recommended the following working definitions, which were endorsed by the full TTEG.

Working definitions

Transition activities comprise activities that, based on current technology readiness¹⁰:

- have a continued role or uses in a net zero greenhouse gas emissions economy;
- do not have low carbon emissions alternatives;
- can be decarbonised across scope 1,2 and 3 emissions even if decarbonisation is only economically feasible in the long term; and
- the risk of locking in future high carbon assets can be mitigated.

The purpose of the transition category should be to:

- recognise those activities that are capable of significant movement towards a 1.5°C trajectory within a defined timeframe;
- facilitate decoupling of increasing emissions from increasing production;
- facilitate deployment of technologies that catalyse emissions reductions and decoupling; and
- enable the identification of timeframes for a transition period (e.g. sunset dates by which activities are no longer in transition but need to be 1.5°C aligned).

Determining the rules around how this category will be applied as part of a larger ruleset on how the taxonomy interacts with other parts of the sustainable finance regulatory architecture will be considered and addressed at a later stage in the taxonomy's development process. For example, the ruleset may outline how green or transition bond issuance would be governed, whether sunset dates and a bond term are linked and disclosure requirements, among others.

Phase down category

Phase down activities are activities that, based on current technology readiness and credible global climate-science scenarios, are inconsistent with and therefore have a diminished role or use in a net zero future economy. These are activities:

- with low carbon alternatives currently available, or in advanced stages of development;
- that pose a risk of high carbon lock in; and
- with no pathway to decarbonise scope 1,2 and 3 emissions without phase down and/or out (e.g. internal combustion engine passenger vehicles).

Noting that it will not be economically possible to switch off most phase down and/or out activities in the short term as the economy is transitioning, this category includes a number of activities that are economically important for a period of time to ensure stability of the economy while low carbon alternatives are scaled up. There may also be opportunities for some immediate emissions reductions to these types of activities.

Accordingly, while the primary focus of this report is to determine the methodology for categorising green and transition activities, activities in the "phase down" category are not, by definition, automatically excluded from the taxonomy, but will not be eligible for a green or transition sustainability classification in the sustainable finance taxonomy. The treatment of these activities will be revisited later in the process.

The potential value of classifying these activities and the purpose of further definition within the phase down and/or out category could be to*:

- provide clarity over which activities are incompatible with a net zero emissions economy and will therefore ultimately decline and be phased out;
- potentially provide guidance over what a credible phase down and/or out period looks like for such activities (for example, the time period) and/or what credible early phase out looks like;

- provide eligible interim or short term investments and measures that facilitate significant emissions reductions while mitigating future carbon lock in risk (i.e. a "whitelist" of measures that allow significant reduction in emissions while the activity is still operational); and
- indicate what a credible transition looks like for entities with phase out activities as part of their mix of activities.

**Noting that this is out of scope for the taxonomy discussions in this phase of discussions.*

Recommendation 3: Utilise internationally recognised climate-science scenarios to separate transition and phase down and/or out

The methodology set out in the ASFI transition methodology research paper uses risk language to separate the different types of transition. While this is useful conceptually, risks can be subjective and easily interpreted differently. To provide a list of activities to develop criteria for will require a clearer and non-subjective approach to categories activities.

Several approaches were analysed for use in this:

- International Energy Agency Net Zero Emissions scenario¹¹ (IEA NZE) and the Australian NZE scenario's developed by ClimateWorks¹²
- 1.5°C sector pathways
- Scope 3 assessment (where high scope 3 emissions would indicate phase out)
- EU Taxonomy transition categorisation
- Climate Bonds Initiative transition decision tree

All of these approaches were assessed to understand whether or not they achieve the key principles and objectives of the transition category defined as the starting point.

This led the TTEG sub-committee to recommend that the first option – internationally recognised, credible 1.5°C aligned climate science scenarios – be used to assess the above definitions and identify which activities are eligible to be categorised as green and/or transition. The full TTEG endorsed this recommendation.

Further detail on the analysis of the approaches to activity categorisation is set out in **Annexure A**.

Using climate-science scenarios

As a starting point, the IEA NZE and Climateworks scenarios will be used. Others¹³ will be explored and cross-referenced in the research phase, although the intention is to be consistent by applying the same scenario across all sectors and activities.

While there are many scenarios available, IEA was selected due to its widespread global use, regular updates, coverage and adoption into other sector pathway work (e.g. Transition Pathway initiative utilises IEA NZE scenario). Climateworks' scenarios are the most detailed and up to date scenarios applicable to the Australian context and will be used to ensure that the Australian context is embedded into key decisions.

To utilise net zero climate scenario for determining which types of activities are eligible to be categorised as transition, the key question is **for which activities is phase down and/or out assumed as a major or only viable option of a net zero scenario?**

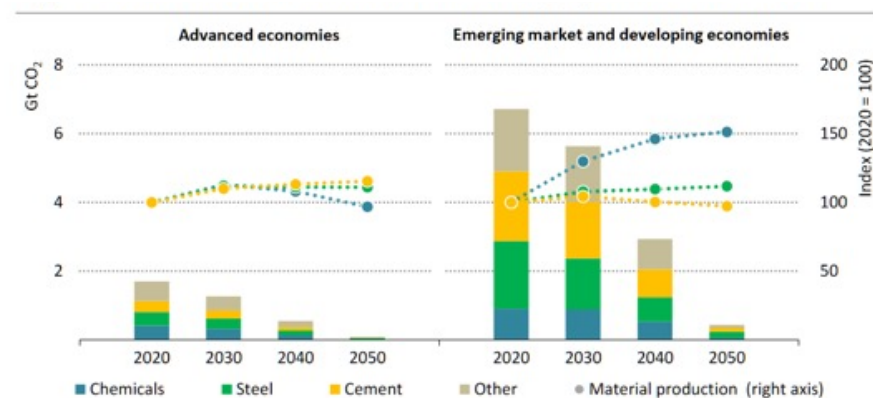
Drawing on the IEA NZE scenario:

- Where there is an assumption in the scenario that the activity will continue or grow but that emissions are decoupled from growth in production, this is eligible to be classified as a transition activity.
- Where phase down and/or out is assumed as the only viable option for an activity to decarbonise, then the activity will be classified as a phase down and/or out activity.

FIGURE 6

Example: Decarbonise/transition activity

In the IEA NZE scenario for chemicals, steel and cement, production increases while emissions decrease.



A preliminary assessment was conducted of the activities in the table below using the IEA NZE scenario. The table shows the results of this analysis, which is aligned with the purpose of the taxonomy.

The use of scenarios in this methodology is solely for the purpose of determining whether activities will be eligible for being categorised as transition activities.

The thresholds and performance of green and transition criteria detailed in the climate mitigation technical screening criteria will draw on various data sources, including more granular sectoral pathways and Australian emissions data including actual reported emissions where available.

FIGURE 7
Example: Phase down and/or out activity

In the IEA NZE scenario coal, oil and natural gas production is assumed to drop significantly between 2020 and 2050.

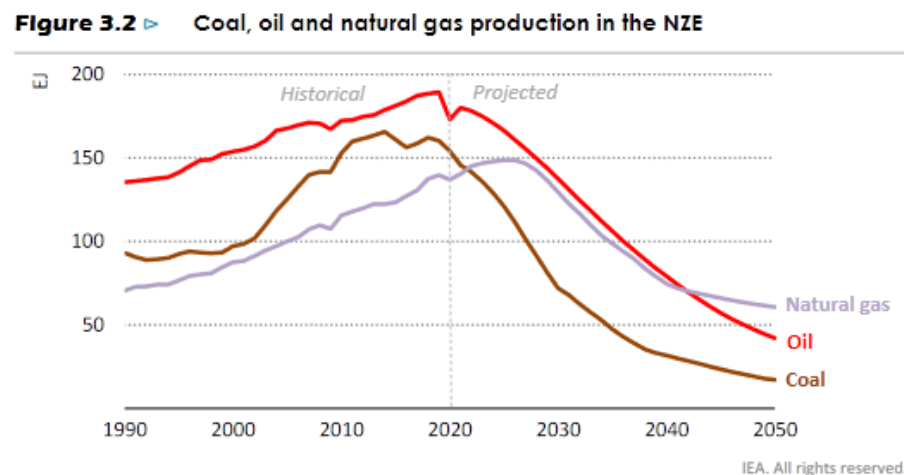


TABLE 1
Preliminary assessment of activities using the IEA NZE scenario

Sector	Activity	Green	Transition	Grey/phase out ¹⁴	Notes
Energy	Gas			✓	NZE scenario shows declining use of fossil fuels with the gap made up for with increasing renewable energy (RE) capacity
	Coal			✓	
	RE	✓			
Mining	Critical raw materials	✓ (?)	✓		NZE shows large investment in CRMs
	Coal			✓	NZE shows declining use of coal
	Other	?	mix	mix	NZE unclear about other minerals
Buildings	New	?	?	?	Further research required
Industry		✓ (?)	✓		NZE shows increasing use with decreasing emissions
Agri	Crops				Further research required
	Livestock				Further research required

✓ Criteria to be developed for this category and activity

? Not able to assess in preliminary assessment - further assessment required

Next steps and public consultation

This transition methodology report sets out the methodological framework for:

1. defining the taxonomy transition category;
2. determining how activities and sectors will be assessed as eligible or not for transition criteria; and
3. identifying the key data and information sources that will be used to undertake the eligibility assessment.

Once the activities and sectors that are eligible for transition criteria have been identified, the relevant performance level for green and transition activities using objective technology- and science-based technical screening criteria will be developed.

ASFI will undertake a period of extensive public consultation on the technical screening criteria for all green and transition activities across the first three priority sectors early in the second quarter of 2024. Information on the public consultation process can be found on the ASFI website at: <https://www.asfi.org.au/taxonomy-public-consultation>.



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Annexure A: Other methodologies for separating transition and phase out activities

EU Taxonomy

TABLE 2
Activities labelled as transition in EU Taxonomy

Industry	Transport	Buildings	Other
Cement	Passenger urban transport*	Renovation of existing buildings	ICT
Aluminium	Freight rail, freight road	Energy (CDA only)	R&D
Iron & Steel	Urban and suburban transport, road passenger transport		Missing
Carbon Black	Motorbikes	Electricity generation from fossil gas*	Mining
Soda ash	Inland water transport & retrofitting	High efficiency heat/cool from gas	Agri
Chlorine	Sea and coastal transport	Nuclear R&D	
Basic organic chemicals	Leasing of aircraft	Nuclear power	
Plastics in primary form	Passenger and freight air transport		
Other low carbon technologies			
Manufacture of aircraft			

Utilising the above classification was not seen as usable given that key sectors are missing in agriculture and mining. The other reason was that the edited definition of significant contribution put forward in the delegated act does not align with the ultimate objective of the taxonomy outline above.

TABLE 3
Preliminary results if using EU Taxonomy transition criteria for Australia (not recommended)

Sector	Activity	Green	Transition	Grey/phase out
Energy	Gas	✗ (?)	✓	
	Coal	✗	✗	✓
	RE	✓	✗	
Mining	Critical raw materials	?	?	?
	Coal	?	?	?
Buildings	New	✓		
	Existing (upgrades)	✓	✓	
Industry	Cement, steel, etc.	✓	✓	
Agri	Crops	?	?	?
	Livestock	?	?	?

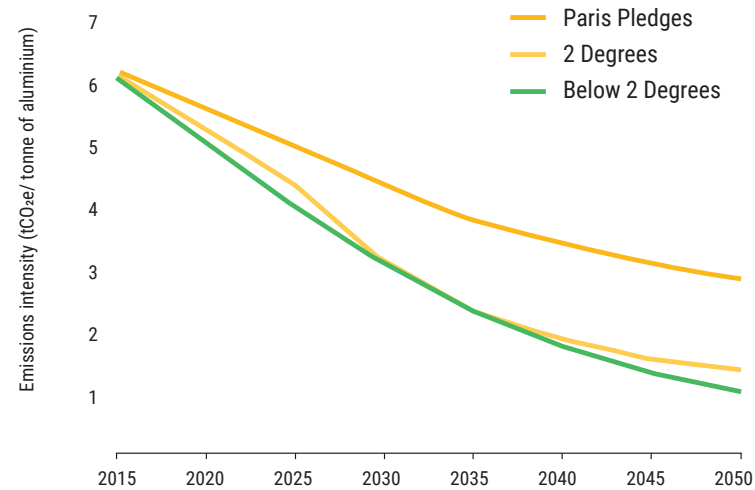
Sectoral decarbonisation pathways

Sector decarbonisation pathways have been developed by various academic bodies and NGOs and show how sectors will need to decarbonise over time. These are usually based on intensity metrics (for example, tonne of CO2 per tonne of product) and demonstrate declining emissions intensity over time to 2050.

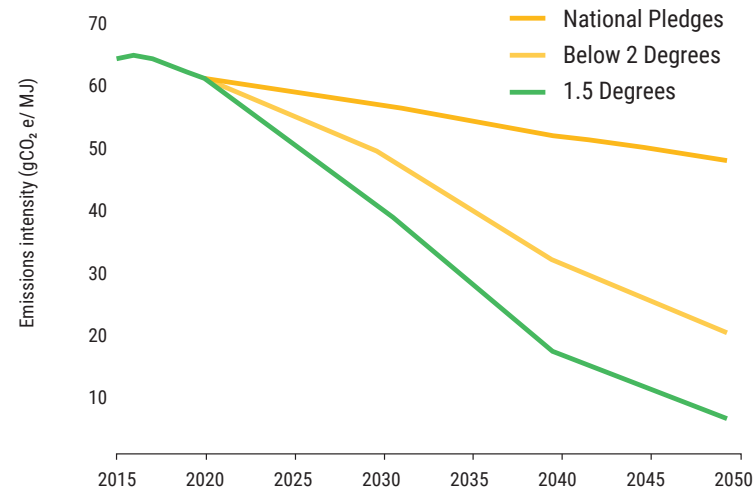
While these will be useful in determining thresholds for climate mitigation technical performance criteria, they do not provide guidance on how and if sectors will require phase out as a key lever for decarbonising the sector. While this is sometimes implied – for example, the oil & gas scenario covers scope 1,2 and 3 emissions – there is limited specific guidance about how this will be achieved and where it is anticipated that production will drop. As a result, the pathways do not look materially different for a phase out sector versus a transition sector (see below). This was therefore seen as not usable for determining whether an activity should be classified as transition, even although it may be useful in determining the performance thresholds of activities.

FIGURE 8
Example: Transition Pathway Initiative sector pathways for Aluminium and oil and gas ¹⁵

Aluminium¹⁶ (has a role in 2050 but no alternative available)



Oil & gas¹⁷ (limited role post 2050 as alternatives are available)



Source:
 Transition
 Pathway
 Initiative

Scope 3 analysis

Scope 3 emissions data was also analysed for use where the concept is that high scope 3 emissions would be phased out sectors. This was challenging to use for a few reasons namely that:

- boundaries of scopes and activities are challenging (for example, coal mining has high scope 3 emissions but electricity generation from coal does not); and
- most sectors have high scope 3 emissions, even those that do not need to be phased out, such as agriculture.

Accordingly, scope 3 was ruled out as the basis for determining whether an activity should be classified as transition.

FIGURE 9

Scope 1, 2, and 3 emissions by sector



Endnotes

- 1 The mandate for the initial development of the Australian Sustainable Finance taxonomy is set out in the terms of reference between ASFI and the Australian Council of Financial Regulators Climate Working Group, available at <https://www.asfi.org.au/taxonomy-governance>.
- 2 Current technology readiness level (TRL) is defined using the TRL index. The TRL index is a globally accepted benchmarking tool for tracking progress and supporting development of a specific technology through the early stages of the innovation chain, from blue sky research (TRL 1) to actual system demonstration over the full range of expected conditions (TRL 9), which is used by the Australian Renewable Energy Agency (ARENA) and the International Energy Agency (IEA).
To determine whether an activity, process or asset is eligible for categorisation as green or transition based on its deployment or use of an emissions reduction technology, the taxonomy will assess technology readiness against definition TRL 9, when the technology is in its final form and operated under the full range of operating mission conditions. For more information see: <https://arena.gov.au/assets/2014/02/Technology-Readiness-Levels.pdf> and <https://www.iea.org/reports/innovation-gaps>.
- 3 The current phase of work is looking at climate mitigation, future phases aim to cover other climate and sustainability-related objectives.
- 4 ASFI, Designing Australia's Sustainable Finance Taxonomy, March 2023, available at: <https://static1.squarespace.com/static/6182172c8c1fdb1d7425fd0d/t/64221052e1667558180e4ae9/1679954013353/Framing+Paper+Update+March-compressed.pdf>.
- 5 Australian Government, Sustainable Finance Strategy Consultation Paper, November 2023, available at: [Sustainable Finance Strategy - Consultation paper \(treasury.gov.au\)](https://www.treasury.gov.au/consultation-paper).
- 6 ASFI, Australian Taxonomy Transition Methodology, July 2023, available at: <https://www.asfi.org.au/publications/research-paper-on-taxonomy-transition-methodology>.
- 7 The mandate for the initial development of the Australian sustainable finance taxonomy is set out in the terms of reference between the ASFI and the Australian Council of Financial Regulators' Climate Working Group, available at <https://www.asfi.org.au/taxonomy-governance>.
- 8 ASFI, Taxonomy Transition Methodology, July 2023, available at: <https://www.asfi.org.au/publications/research-paper-on-taxonomy-transition-methodology>.
- 9 The EU Taxonomy Regulation is scheduled to be reviewed every 3 years although what this review will entail and whether it will entail changes to technical screening criteria is not clear.
- 10 Current technology readiness level (TRL) is defined using the TRL index. The TRL index is a globally accepted benchmarking tool for tracking progress and supporting development of a specific technology through the early stages of the innovation chain, from blue sky research (TRL 1) to actual system demonstration over the full range of expected conditions (TRL 9), which is used by the Australian Renewable Energy Agency (ARENA) and the International Energy Agency (IEA).
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- 11 International Energy Agency, Net Zero Emissions by 2050 Scenario (NZE), 2023, available at: <https://www.iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze>.
- 12 Climateworks Centre and CSIRO have joint ownership of the AusTIMES model – a detailed whole-of-economy model of Australia. AusTIMES is based on globally recognised frameworks from the International Energy Agency. AusTIMES explores future energy and emissions scenarios and offers insights into achieving emissions reduction goals at the least cost to society. More information available at: <https://www.climateworkscentre.org/news/how-our-economy-wide-decarbonisation-models-are-helping-to-guide-the-energy-transition/>
- 13 Other relevant international scenarios include the Network for Greening the Financial System, Net Zero 2050 Climate Scenario, available at: <https://www.ngfs.net/ngfs-scenarios-portal/explore/> and The Intergovernmental Panel on Climate Change, Global Warming of 1.5 degree scenarios, available at: <https://www.ipcc.ch/sr15/>. Other Australian specific scenarios include the Australian Energy market Operator (AEMO) Integrated Systems Plan, highest ambition scenario, 2023, available at: <https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-inputs-assumptions-and-scenarios-report.pdf?la=en>
- 14 Note these are not necessarily excluded but are not transitional as per the definitions above.
- 15 Transition Pathway Initiative, TPI Sectoral Decarbonisation Pathways, February 2022, available at: <https://www.transitionpathwayinitiative.org/publications/2022-tpi-sectoral-decarbonisation-pathways.pdf?type=Publication>.
- 16 Ibid.
- 17 Ibid.
- 18 CDP, CDP Technical Note: Relevance of Scope 3 Categories by Sector, April 2022, available at: https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/003/504/original/CDP-technical-note-scope-3-relevance-by-sector.pdf.

