



WHAT ARE THE RIGHT DECISIONS IN THE ENERGY TRANSITION? NAVIGATING KEY POLICY CHALLENGES.

The transition to clean, sustainable sources of energy is well underway but ever evolving. In the race to decarbonise businesses will face choices that have no clear “right” answer or that result in an ethical weighing up.

We have unpacked three key crossroad issues that businesses commonly come across in their energy transition journey:

- **Geo-politics and favourable regimes:** How is the global landscape shifting and what are the impacts for Australian projects and investments.
- **Are carbon offsets OK and what are the key decision points?** Considering the latest schools of thought and challenges in offsetting emissions to reach net zero targets.
- **Tunnel vision:** Other big picture issues to watch out for, including modern slavery in renewable component production and end-of-life waste issues. How can companies engage effectively on these issues?

Geo-politics of the energy transition

Geo-politics of the energy transition is reshaping the role of countries in energy security and the provision of energy. Energy geo-politics is now more diverse than it was in the oil and gas dominated era, with local production of renewable energy inputs, availability and processing of critical minerals, technology development and new clean energy pacts reshaping alliances, dominance and investment flows. The energy transition requires a dramatic increase in the supply of critical minerals, yet the supply chains remain vulnerable to a range of geopolitical risks. While the dependency and supply dynamics fundamentally differ from those of fossil fuels, mining and processing of critical minerals is geographically concentrated, with a few countries and a few major companies playing a dominant role. While there is no scarcity of reserves for critical minerals, global capabilities for mining and refining them are at present limited.¹

In the race to attract clean energy talent, resources and investment,

the United States (**US**) decided that it wants to be the winner by setting aside US\$520 billion worth of programs, tax credits and funding for decarbonisation and clean energy in the US under the *Inflation Reduction Act of 2022 (IRA)*. The US announced the IRA in late 2022, attracting significant investment away from other countries and into the US. Funding is only available to companies that manufacture clean energy technology in the US (or are deemed to be “local” by evolving pacts with favoured nations such as Australia). From an Australian perspective, the recently signed Climate, Critical Minerals, and Clean Energy Transformation Compact (**Compact**) between Australia and the US establishes that US President Joe Biden will support the Congress taking action to treat Australian suppliers and activity as domestic activity in the US for the purposes of the Defense Production Act and to open tax incentives in the IRA to Australian companies.² This may go some way to stemming the flow of clean energy investment and talent from Australia to the US, and provide impetus for new Australian clean energy projects and further financial incentives for existing ones. For industries like hydrogen, without this support there would be a massive incentive for hydrogen-based industries to be based in the United States.³ This does however raise the question whether from a global perspective, there is a good global climate outcome if the US is seeking to claim the lion’s share of investment and associated benefits.

On the one hand, the US should be applauded for the IRA and the significant benefits it will have for the development of clean energy technologies and reduction of carbon emissions. However, on the other hand, the preferential treatment of US manufacturing and snubbing of long-established trade partners also means that the IRA has been labelled as “green protectionism” and a global “clean energy arms race”.⁴ Concerns

have been raised by the European Parliament that the local-content requirements of the IRA also have the potential to undermine the free trade principles that are at the core of the World Trade Organisation.⁵

An area where this is playing out particularly clearly is in the manufacturing of electric vehicles (**EVs**). Under the IRA, tax credits will only apply to EVs that have been assembled in the US. Critical minerals required for EV batteries are also required to be bought from the US, or a country with which the US has a preferential trade agreement, and specifically seeks to avoid minerals from ‘foreign entities of concern’ such as China. The Compact recognises the interrelationship between critical minerals and the clean energy transformation in creating sustainable markets that will provide the inputs necessary to reduce emissions.⁶ Given Australia has the world’s sixth-largest reserves of rare-earth minerals (though they remain largely untapped with only two mines producing them)⁷, this provides future opportunities for growth in the commercialisation of its rare-earth mineral assets.

The US has decided to lead its decarbonisation and clean energy movement with significant economic and financial incentives, and it’s clear that the IRA is a global, game-changing initiative that has the potential to leave countries behind that do not or cannot respond with similar funding and policy initiatives. Already, some major players in the energy transition sector have responded to the IRA, including:

- the European Commission with the proposed *European Green Deal Industrial Plan* that will provide \$272 billion for the energy transition. It is intended that the Plan will enhance the competitiveness of Europe’s net-zero industry and support the fast transition to climate neutrality. The Plan aims to provide a more supportive environment for

1 Diversifying Critical Material Supply Chains Minimises Geopolitical Risks, IRENA, 12 July 2023

2 Press Conference of the Prime Minister of Australia, Transcript, 21 May 2023 – Hiroshima, Japan

3 Same as above

4 Media reaction: US Inflation Reduction Act and the global ‘clean-energy arms race’ - Carbon Brief

5 EU’s response to the US Inflation Reduction Act (IRA) (europa.eu)

6 United States – Australia Statement of Intent: Climate, Critical Minerals, and the Clean Energy Transformation, 20 May 2023

7 Australia has a key role to play in reducing China’s rare-earth dominance, The Strategist, Matthew Page and John Coyne, 25 February 2021

“What is clear is that major global economies are viewing the energy transition as one of the major economic opportunities of this decade. Bold initiatives such as the Inflation Reduction Act are triggering the faster roll out of funding, policy initiatives and strategies that countries may otherwise have delayed.”

the scaling up of the European Union’s manufacturing capacity for the net-zero technologies and products required to meet Europe’s climate targets. This is based around four pillars:

- a predictable and simplified regulatory environment,
 - speeding up access to finance;
 - enhancing skills; and
 - open trade for resilient supply chains;⁸
- South Korea announcing US\$5.3 billion in support for Korean battery makers. This support includes loans and guarantees, as well as some policies like expanding loan limits, lowering interest rates and insurance costs, and a new project to develop cheaper batteries that are prevalent in China. The Korean government also said it will invest in supporting battery makers to develop lithium iron phosphate (or LFP) batteries. LFP batteries are increasingly favoured by global automakers due to their low price and fewer risks related to fire⁹; and
 - countries such as Japan, Germany and Australia making pacts with

the US to cooperate on critical minerals, hydrogen and EVs, which may allow them to access tax credits under the IRA.¹⁰

There is no clear-cut answer on whether the IRA (and other following green investment schemes) is a positive climate initiative or spurring a global “clean energy arms race”. Some commentators note that Europe is not an innocent bystander. This is because the EU is planning to implement a carbon border adjustment mechanism on imports produced in countries with higher CO₂ emissions, including the US.¹¹ However, while some may decry the global effect of incentivising the concentration of green initiatives in wealthy first world nations, few would be disappointed in the scale and magnitude of the financial commitment considering past criticisms of the first world’s global climate-change apathy, lost opportunities and broken climate promises.¹²

What is clear is that major global economies are viewing the energy transition as one of the major economic opportunities of this decade. Bold initiatives such as the IRA are triggering the faster

roll out of funding, policy initiatives and strategies that countries may otherwise have delayed. However, developing nations may be left behind, and even well-heeled developed countries such as Australia are struggling to secure resources as they divert to the US. Picking winning countries, winning places of manufacture or even winning technologies could be a dangerous game when the end goal ultimately needed is a significant reduction (and potentially capture) of carbon emissions. However, significant Government support is crucial to the decarbonisation at the scale and the pace we need.

Are carbon offsets OK and what are the key decision points?

Carbon credits are a much discussed but often necessary means of reaching net zero on current technology. Companies are grappling with a host of complex issues, including:

- the threshold issue of if or when it is acceptable to use carbon credits to offset emissions;
- what type of carbon offset is most suitable or aligned with the

8 EU’s response to the US Inflation Reduction Act (IRA) (europa.eu)

9 Korea to offer 7 trillion won of support to battery makers in response to IRA (joins.com)

10 Japan, US in pact for critical minerals supply chain; Tokyo expects EV tax benefits | S&P Global Commodity Insights (spglobal.com)

11 Media reaction: US Inflation Reduction Act and the global ‘clean-energy arms race’ - Carbon Brief

12 UN Climate Report: It’s ‘now or never’ to limit global warming to 1.5 degrees

companies' goals and purpose, including:

- the use of domestically generated or international units;
- the quality vs cost of the units and alignment with the various standards; and
- the emerging issue of the distinction between carbon reductions and carbon removals – which is better and what it means practically.

There is no single global standard for carbon credits or carbon offsets. There is also a mix of credits created (and used) under domestic legislation as well as a handful of recognised registries issuing voluntary credits according to a specific set of criteria checked by third party verifiers.

Scientific and public views range from seeing carbon offsets as a helpful and additional means to help reach climate goals if correctly managed, to views that offsets are actively dangerous – in part due to the rebound effect. That is, if companies think their carbon emitting activities are covered by offsetting, they have no incentive to really reduce their emissions.¹³

When or if is it acceptable to use carbon credits to offset emissions

The answer to when it is acceptable to use carbon credits to offset emissions is (as is the answer to many difficult questions) – it depends. It depends on matters such as whether the:

- company has first used all reasonable efforts to reduce or abate emissions using currently available technology;
- use of carbon offsets is consistent with the companies messaging to the market and public statements (beware greenwashing);
- purpose of the offset is for voluntary or legislated requirements (and whether the legislation allows the use of offsets, and on what terms); and
- company has signed-up to any recognised reporting/target setting initiative, and whether that

regime actually allows the use of carbon credits.

Any company looking to use carbon offsets should consider the above gate-way issues. An Australian company looking to use carbon offsets to meet a voluntary net zero 2030 claim should make sure that reasonable efforts have first been made to reduce/abate emissions, communications to the market have been clear that carbon offsets form part of the net zero strategy and that any recognised reporting regime it has signed up to recognises carbon offsets.

Conversely, beware a company touting significant emissions reductions where hidden (often poor quality) carbon offsets are the backbone of the net-zero strategy.

Once the gate-way issues have been considered, the next step is to look at the type of carbon offset. Should domestic or international units be purchased? Are some carbon units from certain countries or sources cheaper than others, and what are the risks of opting to purchase these? Is a removal credit (ie a credit for removing carbon dioxide from the atmosphere rather than reducing) viewed as better? Is a removal more aligned with any recognised reporting initiative?

Domestic or international units

There are a few considerations in the mix when looking at domestic vs international units. The first is whether the carbon credits are needed for compliance (ie legislative) purposes or voluntary purposes. In most instances, carbon credits for compliance purposes, such as Australia's Safeguard Mechanism, will need to be domestic units. Note there is a difference between ACCUs (Australia's carbon unit) and SMCs (credits under the Safeguard mechanism) – although both ACCUs and SMCs can be used to acquit Safeguard Mechanism liability. International units may be permitted at some point in the future but this is still under discussion.

One of the other key corporate social responsibility considerations is whether, given the emissions are

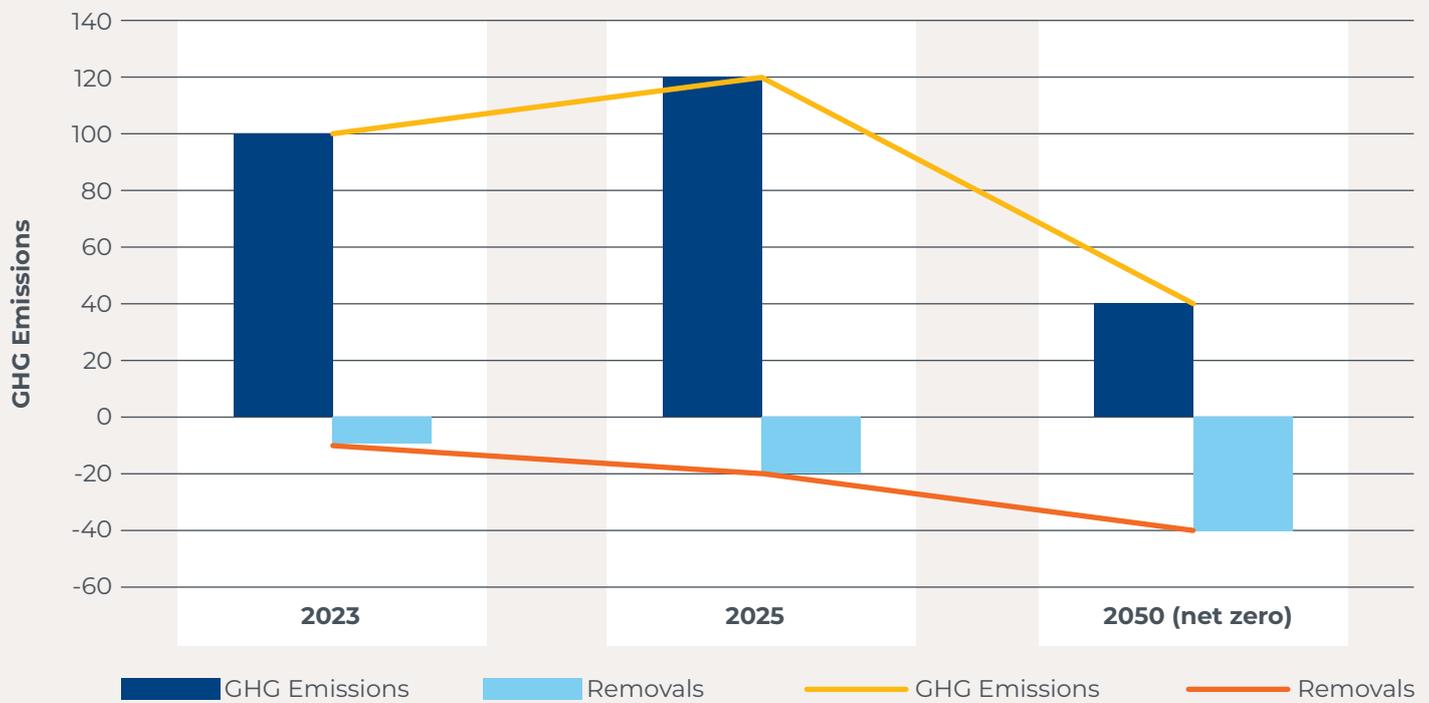
produced locally – the carbon credits (and related environmental/climate benefits) should also be local. This is also a 2-sided coin, as taking this view can deprive developing nations of climate investment (on the basis the carbon credit projects may be based in a developing nation). From a legal and greenwashing standpoint, it is important not to infer local carbon credits (or renewable energy certificates) are used when this is not the case. This can particularly be an issue when a company is using poor quality, unverified carbon offsets from an international source – but passing these off as being to a higher standard (or misleading by omission).

Quality vs cost of the units and alignment with the various standards

As with most commodities, in the voluntary carbon credit space there is generally a trade-off between cost and quality (as well as cost being driven by the type of carbon credit that is currently most in demand or favoured from an environmental, social and governance perspective).

For example, a technology-based verified carbon credit (**VCC**) (e.g., cookstoves) would generally be cheaper than nature-based VCC, and removal credits (like ARR which relates to actions like planting trees) are generally more expensive than reduction credits (like REDD which relates to actions like the protection of forests). Quality is mostly linked to whether quality is 'good enough' so that the company is shielded from accusations of greenwashing. This is where people have been trying to rely on third parties such as the ICVCM's proposed CCPs and carbon rating agencies to outsource their due diligence work and act as a shield when they purchase and retire credits that are deemed 'good enough' by such third parties.

Also in the case of voluntary units, overlaid with the cost/quality decision is the decision of which standard to align with. Whether it be the GHG Protocol, the Voluntary Carbon Markets Integrity Initiative (**VCMI**), the Science-Based Targets Initiative (**SBTi**), or another recognized initiative.



The intended use/purpose of the carbon credits will also affect the type of credit you can use. VCM claims, e.g., relate to *beyond value chain mitigation activities* and therefore allow both reductions and removals (see further on the reductions/removals debate in the section below).

Carbon reductions vs carbon removals

There is an evolving distinction between carbon credits derived from carbon reductions vs carbon removals.

At the outset, we would like to clarify that the SBTi does not permit the use of carbon credits towards meeting a company's declared science-based targets. For the substantial number of SBTi-aligned companies, only greenhouse gas (GHG) mitigation activities occurring within their value chain or operations can count towards meeting their science-based targets. The Oxford Net Zero however recognises that the real supply of credits in the market now

are reduction credits so they do allow for the use of reduction credits for now to offset emissions, with the aim to reach 100% carbon removals by mid-century. However, for example, if you're an airline using VCCs for CORSIA purposes, then all you need to care about is whether the VCC is acceptable for the purposes of the CORSIA phase that you're using it for. In other words, what your purpose is also important to the reduction vs removal credit debate.

Distinction between reduction and removal credits: In essence, a carbon dioxide removal credit is a unit representing human activity that removes carbon dioxide from the atmosphere and durably stores it.¹⁴ A reduction credit represents a human activity that leads to a unit representing a decrease in the emission of GHG into the atmosphere.¹⁵ The key distinction is that a removal credit is a subtraction of GHG from the atmosphere while a reduction credit simply decreases the amount of GHG added to

the atmosphere (i.e. it avoids the occurrence of a GHG emission).

Necessity of both reductions and removals: There has been a surge of interest in removal credits, with a group of mostly technology companies recently announcing a budget of over USD 1 billion for such removal credits.¹⁶

However, the Intergovernmental Panel on Climate Change (IPCC) has clearly stated¹⁷ that both reductions and removals will be needed to achieve the Paris Agreement goal of "pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels".¹⁸ This is illustrated in the diagram above.

While both reduction and removal credits have their place on the journey to net-zero, they are most relevant at different points in time. To meet the 1.5°C target, the IPCC states that global GHG emissions would have to peak at the latest by 2025 and be followed by rapid and deep reductions.¹⁹

¹⁴ Adapted from the definition of "carbon dioxide removal" in the IPCC Glossary, <https://apps.ipcc.ch/glossary/>.

¹⁵ "Reduction" is not a defined term in the IPCC Glossary. This definition is based on the way in which the term is used in IPCC reports generally.

¹⁶ <https://www.cnbc.com/2023/04/12/jpmorgan-hm-workday-join-frontier-co2-removal-program.html>.

¹⁷ See the Synthesis Report of The IPCC Sixth Assessment Report (AR6), Section 3.3.2, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf.

¹⁸ See Article 2(1)(a) of the Paris Agreement, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

¹⁹ See the Summary for Policymakers of The IPCC Sixth Assessment Report (AR6), Section B.6.1, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

Reduction credits are therefore a short and mid-term priority.

By contrast, removal methods are currently at varying stages of development and are also generally costlier than reduction methods.²⁰ Thus, they are better suited to a long-term role in counterbalancing residual emissions that are difficult to reduce. Such a role is consistent with the fact that the Paris Agreement²¹ does not require GHG emissions to be reduced to zero. Rather, it requires “a **balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases**”.

Tunnel vision: What are the other big picture issues to watch out for?

In the rush to grasp opportunities to advance a sustainable energy transition it can be hard to strike the right balance and properly engage with big picture sustainability issues. True sustainability in operations and outcomes is not about quick fixes or being perfect. It is about being sophisticated and proactive, which includes actively engaging with big picture issues and how they might reasonably be mitigated.

The natural tendency is often to focus on the sustainability credentials of the energy transition objective. Non-legal ESG audits also provide general insight and some protection, but they can be a “tick a box” approach and often miss critical risks.

In that context, we are increasingly seeing big picture issues arise within

supply chains, particularly those located in challenging overseas jurisdictions. There has also been a rapid increase in the regulatory scrutiny and public concern on these issues, which can obviously have severe reputational and commercial implications.

- One illustrative example is the recent public scrutiny on alleged forced Uyghur labour and related human rights issues in Xinjiang province in China that affects about 45% of the world's polysilicon supply for solar panels.
- Legal obligations to combat modern slavery globally are evolving but in some jurisdictions remain largely a reputational risk with a focus on reporting and continuous improvement.
- Other big picture issues can also raise severe financial and personal risks, such as foreign bribery with possible fines in the millions and even imprisonment.

Where the record demonstrates genuine engagement on such matters and there is substance to back it up, a business can generally be confident that it is best placed to maintain control over the narrative and show that it is doing everything it reasonably can to operate truly sustainably. Standards and public expectation is an area that is constantly evolving and needs to be closely monitored.

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²⁰ See the Synthesis Report of The IPCC Sixth Assessment Report (AR6), Section 3.3.3, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf.

²¹ https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

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