Use of Carbon Credits in Aluminium Industry Decarbonisation Strategies: Issues and Guidance

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Introduction

The International Aluminium Institute (IAI) has identified pathways for decarbonizing the aluminium industry by 2050, using a combination of electricity decarbonization, direct emission reductions, and recycling and resource efficiency as depicted in Figure 1. Although these pathways chart aggressive efforts to dramatically reduce greenhouse gas (GHG) emissions associated with aluminium production, they still anticipate some residual emissions by midcentury.

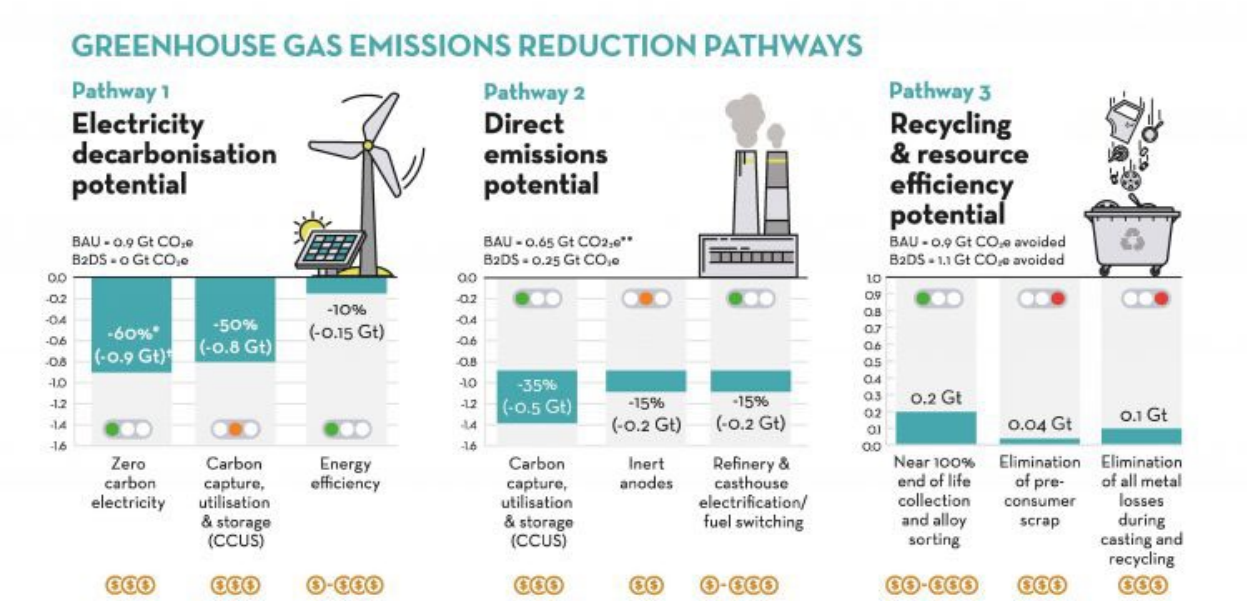

Figure 1. IAI's GHG Emission Reduction Pathways[1]

As the world increasingly focuses on how to achieve net zero emissions, aluminium producers may want to explore the use of carbon credits as a complement to their decarbonization strategies. Carbon Credits, for example, can provide a means to net out residual emissions, to achieve carbon neutrality, or to channel investment into climate change mitigation as part of broader, net zero-aligned corporate ESG strategies.

Use of carbon credits, however, can sometimes pose reputational risks. Risks can arise from (1) using carbon credits of suspect quality; and/or (2) using carbon credits in ways that are perceived as irresponsible, e.g., in lieu of decarbonizing operations in line with agreed GHG reduction pathways.

This document provides general guidance related to managing the reputational risks of using carbon credits. With respect to credit quality, it explains essential quality criteria; discusses project types and sectors to prioritize or potentially avoid; and offers advice on strategies for procuring higher quality credits. It explains potential considerations and concerns related to carbon credits associated with emission reductions versus removals, and with so-called "natured-based solutions." With respect to responsible use, the guidance discusses current initiatives and thinking around the use of carbon credits

[1] https://international-aluminium.org/resource/aluminium-sector-greenhouse-gas-pathways-to-2050-2021/

in the context of voluntary climate action and net zero targets. This is a rapidly evolving space, so readers are advised to track these various initiatives over time as they develop. The guidance concludes by identifying general elements of company strategies for responsible carbon credit use.

What is Carbon Credit Quality?

The term "carbon offset" refers to GHG emission reductions or removals that are achieved to *compensate* for CO_2 emissions. Companies typically offset their emissions through the use of "carbon credits," which are transferable instruments certified by governments or independent certification bodies to represent an emission reduction of one metric tonne of CO_2, or an equivalent amount of other GHGs. The purchaser of a carbon credit can "retire" it to claim the underlying reduction towards their own GHG reduction goals – i.e., to offset their emissions.

The central idea behind carbon credits is that they can substitute for GHG emission reductions that an organization could have achieved within its own operations. For this to be true, emissions to the atmosphere must be the same (or lower) when a carbon credit is used as they would have been if the entity had reduced its own emissions directly. Carbon credits that meet this condition are said to preserve "environmental integrity." The *quality* of a carbon credit refers to the *level of confidence* one can have that the use of the credit will fulfill this basic principle.

The concept may sound straightforward, but it is challenging to guarantee in practice. To have a high-quality carbon credit, the associated emission reductions or removals must be:[2]

1. **Additional**: Was the incentive provided by carbon credits decisive in enabling the reductions to happen?
2. **Not overestimated**: Were the reductions quantified accurately against a realistic baseline?
3. **Permanent**: Are the reductions/removals permanent, or if they can be reversed (e.g., through forest fires), are there compensation guarantees?
4. **Not claimed by another entity**: Does the credit convey an exclusive claim, or are reductions/removals being double counted?
5. **Not associated with significant social or environmental harms**: Is the activity generating the reductions/removals not making other problems worse?

Existing carbon offset programs seek to ensure high-quality credits, in part by establishing standards related to these criteria, and ensuring that offset projects are validated and verified against those standards by accredited, third-party auditors. However, these programs have at times had a mixed track record.

Part of the challenge is that carbon credit quality is not always simple to determine. Carbon credit quality is not black and white, because of the multiple criteria involved and the fact that key criteria, like "additionality," require assumptions about counterfactual conditions – i.e., what would have occurred in the absence of carbon credit incentives? These questions are more a matter of confidence than an absolute fact. This means that quality exists along a continuum of relative confidence. Carbon offset programs, by contrast, are forced to make a binary decision: do they issue a carbon credit or not? Most carbon offset programs will say that every credit they issue is equally valid, but buyers should feel justified in the relative quality of individual credits from different projects.

[2] For a more detailed description of these quality criteria visit: https://www.offsetguide.org/high-quality-offsets/

Managing Carbon Credit Quality Concerns

One risk for companies that voluntarily offset emissions is that they may acquire low-quality carbon credits that do not represent valid mitigation claims. Multiple studies have questioned the quality of credits issued under the Kyoto Protocol's Clean Development Mechanism (CDM), for example, and numerous popular press articles have exposed instances where carbon credits were purchased from projects that were not additional – i.e., the projects would likely have been implemented even if they had not received carbon credit revenue. The use of such credits exposes the buyers to accusations of "greenwashing" because the atmosphere would have been better off if the buyers had simply reduced their own emissions instead. Especially when using carbon credits to meet *voluntary* emission reduction targets, acquiring higher-quality, additional carbon credits is important to minimize these reputational risks.

Prioritizing or avoiding specific project types

Although many kinds of activities can deliver GHG reductions and removals, some types of activities can more easily meet carbon credit quality criteria than others. For example, it is relatively easy to conclude that industrial gas destruction projects are additional: as long as they are not required by law, there are few if any reasons to undertake them aside from generating carbon credits.[3] By contrast, careful scrutiny may be required to determine whether carbon credits were decisive in enabling renewable energy projects, which have their own revenue streams and are often financially competitive without carbon revenue.

Perhaps the easiest way to reduce the risk of buying low-quality carbon credits is to restrict purchases to credits that come from lower-risk project types. Table 1 provides an overview of the *relative* offset quality risks associated with common types of carbon offset projects, distinguishing between higher, medium, and lower risk project types.[4]

[3] While additionality is not usually a concern, some kinds of industrial gas projects do have issues with baseline estimation and overestimation of reductions.

[4] For further explanation, see: https://www.offsetguide.org/sticking-to-lower-risk-project-types/

Table 1. Overview of Lower, Medium, and Higher Risk tables presenting relative offset quality risk for different project types.

Lower-Risk Project Types	Medium-Risk Project Types	Higher-Risk Project Types
- CO_2 usage	- Methane capture and utilization	- Agriculture
- Methane destruction (w/o utilization)	- Methane avoidance	- Biomass energy
- N_2O avoidance from nitric acid production	- Energy distribution	- Energy efficiency, industrial demand side
- N_2O, adipic acid	- Energy efficiency, household demand side	- Energy efficiency, supply side
- Ozone-depleting substance (ODS) destruction	- PFCs & SF_6 avoidance/reuse	- Forestry & land use
- Direct air carbon capture and storage	- Renewable energy, small scale	- Fossil fuel switching
- Enhanced weathering		- Fugitive gas capture or avoidance
		- Low-carbon transportation measures
		- Renewable energy, large scale

Source: https://www.offsetguide.org/sticking-to-lower-risk-project-types/

There are two potential drawbacks to this approach. First, there are fewer project types that have *low* and *medium* quality risks. Second, project types with *low* and *medium* quality risks make up a smaller portion of the overall market for carbon credits because they tend to produce lower volumes of credits.[5] Nevertheless, the additional effort to locate credits from these project types can save time overall as there will be less need to scrutinize the relative quality of individual projects through due diligence.

Conducting due diligence on individual projects

One way to avoid low-quality credits is to thoroughly research the individual projects from which they are derived. High-quality projects can be found even within categories that may pose higher overall risk, but locating such projects can be a challenge.

Conducting due diligence on projects to investigate their level of quality requires time, resources, and a solid understanding of carbon credit criteria. Sophisticated buyers may be able to undertake this kind of due diligence themselves. Microsoft, for example, has devoted considerable effort to and resources to evaluating carbon removal activities and published is findings.[6] However, due diligence can also be outsourced to consultants or (trusted) carbon credit brokers. Availability of these services is growing, with credit rating initiatives like BeZero, Sylvera, and Calyx Global (see next section) offering bespoke rating services for individual clients.

[5] Forest Trends' Ecosystem Marketplace. 2021. 'Market in Motion', State of Voluntary Carbon Markets 2021, Installment 1. Washington DC: Forest Trends Association. Online State of the Voluntary Carbon Markets 2021 - Forest Trends (forest-trends.org). AND So, I., Haya, B., Elias, M., 2022. Voluntary Registry Offsets Database. Berkeley Carbon Trading Project. University of California, Berkeley. Available: https://gspp.berkeley.edu/faculty-and-impact/centers/cepp/projects/berkeley-carbon-trading-project/offsets-database.

[6] Joppa, L., Luers, A., Willmott, E., Friedmann, S. J., Hamburg, S. P. and Broze, R. (2021). Microsoft's million-tonne CO_2-removal purchase — lessons for net zero. Nature, 597(7878). 629–32. DOI:10.1038/d41586-021-02606-3.

The level of effort required for due diligence can vary, depending on the project type. To identify potential issues or focus areas, one place to start is the detailed risk tables at www.offsetguide.org (see footnote 4). This website also provides as set of detailed questions to examine during due diligence with respect to each of the major quality criteria identified above: https://www.offsetguide.org/avoiding-low-quality-offsets/conducting-offset-quality-due-diligence/

A variety of information sources can be used to inform due diligence. A primary source will be project documents obtained from crediting programs registries,[7] including project design documents; submittal forms; monitoring, validation, or verification reports; and other documentation submitted to the crediting program. However, thoroughly investigating promising projects may also require direct outreach to project developers, stakeholders, project funders, brokers, and/or relevant regulatory entities.

Relying on independent carbon credit ratings and labels

One option for IAI members could be to consult carbon credit quality ratings produced by third-party initiatives. Growing recognition of the reputational risks of using carbon credits has led to the launch of multiple initiatives in the past two years that seek either to rate the quality of carbon credits (e.g., on a sliding scale) or to provide a high-quality label for carbon credits. Some of these initiatives are led by private startup companies (e.g., BeZero, Sylvera, Calyx Global), and one – the Carbon Credit Quality Initiative – is led by a group of non-governmental organizations. At least one new carbon credit exchange – Climate Impact X – seeks to selectively list credits that meet criteria for higher quality.

The most prominent initiative is probably the Integrity Council for the Voluntary Carbon Market (IC-VCM), which arose out of the Task Force for Scaling Voluntary Carbon Markets, initiated in 2020 by Mark Carney (former president of the Bank of England). While the other initiatives seek to rate the relative quality of credits, the IC-VCM will establish a high-integrity carbon credit label, designed to certify higher-quality credits issued by existing programs. All these initiatives are still nascent to some extent, but most expect to launch full services some time in 2023.

In addition to these initiatives, the International Civil Aviation Organization (ICAO) has launched the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which began its pilot phase in 2021. Under this scheme, airlines have agreed to offset any growth in emissions from international air travel after 2019. ICAO has established criteria for carbon credits that may be used for this purpose, and has reviewed and approved several existing carbon crediting programs for the purpose of supplying eligible credits.[8] For the most part, ICAO has simply approved all credits issued by major existing crediting programs, rather than trying to be selective about different methodological standards or mitigation activities. However, ICAO's list of eligible emissions units could be used as a basic screen for credits issued by programs that meet minimum governance and methodological requirements.

Sticking to higher quality credits, as rated by one or more of these various initiatives, could be one way to reduce reputational risks associated with using carbon offsets. This would be a low-cost way to outsource the evaluation and screening of carbon credits. However, it is not yet clear whether and to what extent the voluntary market and its various stakeholders might consolidate around a particular

[7] These include: Verra Registry (VCS Program), Climate Action Reserve (CAR) Registry, American Carbon Registry (ACR) Registry, and Gold Standard Registry.
[8] See: https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx

rating system or approach. IAI members may wish to further explore which of the various rating approaches is most aligned with their needs and objectives.

Special Considerations: Removals vs. Reductions and Nature Based Solutions

The current voluntary carbon market has seen a surge in interest in two broad types of carbon credits: (1) credits for carbon dioxide removals (achieved either through forest or ecosystem restoration, or through technological means); and (2) credits associated with "nature-based solutions," which refers collectively to mitigation actions that reduce and/or remove GHG emissions through various types of ecosystem preservation and restoration.

Carbon dioxide removals vs. emission reductions

Climate change mitigation activities can help limit global warming by either **reducing** GHG emissions (relative to a baseline scenario) or **removing** emissions from the atmosphere. Projects that reduce fossil fuel use, for example, or that reduce – or capture and destroy – emissions of non-CO_2 gases like methane or nitrous oxide, result in emission reductions. Emission reductions can also result from activities that prevent deforestation and land-use change, as they avoid release of carbon stored in trees and soils.[9] By contrast many nature-based activities, such as reforestation projects, capture and remove CO_2 from the atmosphere and store it in biological carbon sinks. Non-biological carbon dioxide removal (CDR) technologies are also being developed, such as direct air capture and carbon storage (DACCS) technologies like those used in the Orca project in Iceland.

There is an ongoing public debate about the value of emission reductions versus removals in addressing climate change. Demand for removal-based carbon credits has grown substantially in recent years and current prices for removal credits are around five times higher than prices for emission reduction credits.[10] Much of the demand for removal credits appears to arise from the perception that because the world must achieve a balance of emissions and removals *globally* (as suggested in Article 4.1 of the Paris Agreement), individual actors, such as corporations, should do the same in the context of their own decarbonization or "net zero" strategies.

While CO_2 removal will ultimately be needed to avoid the worst impacts of climate change, both emission reduction and removal activities meaningfully reduce atmospheric GHG levels. Whether to emphasize GHG reduction or removal offset credits is ultimately a matter of buyer preference, and should depend on a range of considerations, including whether the goal is to support multiple co-benefits (such as with nature-based mitigation and removals), support technology innovation (such as CDR technologies), or achieve high-quality, low-cost emission reductions (as with various types of emission reduction activities).

Finally, note that some carbon market actors distinguish between emission reductions, removals, and "avoided emissions," and maintain that reductions and/or removals are inherently more credible – and produce higher quality carbon credits – than avoided emissions. From a GHG accounting perspective, however, the distinction between reductions and avoided emissions is purely semantic. What qualifies

[9]

[10] Ecosystem Marketplace, 2021. Markets in Motion: State of the Voluntary Carbon Markets 2021 Installment 1. Available: https://www.forest-trends.org/publications/state-of-the-voluntary-carbon-markets-2021/

an outcome as a reduction (or avoided emission) is whether GHG emissions are lower from an activity compared to the activity's baseline. The misperception about the credibility of "avoided emissions" appears to arise from a concern about projects that involve continuation of a prior activity or behavior, and avoid a change that would have caused emissions in the baseline (such as avoided forest lost). The concern here, however, is not whether emissions are "reduced" or "avoided," but whether an activity is additional and has a credible baseline.

Considerations related to nature-based solutions

One dilemma for carbon credit purchasers is that the kinds of projects that most easily meet criteria for high quality tend to be those that offer the least in terms of environmental and social co-benefits – and *vice versa*. For example, projects that reduce N_2O emissions at nitric acid plants are generally highly additional, easy to quantify, pose no ownership or permanence concerns, and cause no social or environmental harms. However, they do little to enhance people's livelihoods or enhance other environmental outcomes. By contrast, an agroforestry project that sequesters carbon in trees across many small farms may yield a multitude of local benefits, but its GHG impact will be harder to quantify, and the carbon stored in trees may not be permanent.

When considering projects involving nature-based solutions (NBS) – such as forest protection, mangrove restoration, peatland conservation, or soil carbon enhancements – it is important to ensure their emission reductions and removals are not overestimated and that they will (effectively) be permanent. Many of these types of projects face quantification challenges, especially related to uncertainties about their baselines. One recent study of baselines used for avoided deforestation projects in the Brazilian Amazon, for example, found that they consistently overestimated emissions when compared to control sites, leading to overestimation of their emission reductions.[11]

In addition, due to the potential reversibility of carbon stored in natural reservoirs (e.g., trees and soils), these kinds of projects may not permanently reduce atmospheric GHG levels. This means that although nature-based solutions are a critically important element of global efforts to address climate change, they have limitations when used as *offsets* to fossil fuel-based carbon emissions (which can raise atmospheric CO_2 concentrations for thousands of years).

Offset programs have adopted a variety of approaches to address the risk of "non-permanence" in NBS projects, and compensate for reversals if and when they occur. For example, in California's regulatory offset program, forest projects are required to monitor stored carbon for 100 years after the last year of carbon credit issuance; any reversals that occur within this timeframe must be compensated for. Other programs, like Verra and the Gold Standard, have similar provisions, but provide guarantees against reversals for (significantly) shorter durations

All of these crediting programs require projects to contribute to a "buffer reserve" of credits, which acts as a kind of insurance mechanism against reversals caused by natural disturbances, like wildfires. When properly calibrated, buffer pools can be effective at reducing risk, but so far there is a limited track record

[11] West, T. A. P., Börner, J., Sills, E. O. and Kontoleon, A. (2020). Overstated carbon emission reductions from voluntary REDD+ projects in the Brazilian Amazon. Proceedings of the National Academy of Sciences. DOI:10.1073/pnas.2004334117.

by which to assess their efficacy. One recent analysis of California's buffer reserve, for example, raises questions about whether it is sufficiently capitalized in light of growing wildfire risks.[12]

Globally, there is an urgent need for greater investment in nature-based solutions to help prevent climate change and preserve existing ecosystems. Purchasing NBS carbon credits – including from projects as well as jurisdictional programs that avoid deforestation and degradation – could be an important way to help provide this needed investment. Buyers of such credits should be aware of the potential challenges in using them as high-quality offsets to their emissions, however, and communicate clearly about how they contribute to broader climate change and net zero strategies.

Responsible Use

Aside from the risks of acquiring low-quality carbon credits, another potential source of reputational risk is appearing to *over-rely* on carbon credits in the achievement of climate change mitigation goals. Common criticisms related to how companies sometimes use carbon credits include versions of the following:

- "*Use of carbon credits allows polluters to continue polluting"*
- "*Carbon credits are not a long-term solution and – if used in lieu of reducing one's own emissions – can 'lock in' high-carbon infrastructure*"

Deciding whether companies are over-relying on carbon credits may be subjective, particularly when they are taking *voluntary* action to reduce GHG emissions outside of any regulatory requirement. Still, many environmental NGOs and other stakeholders have suggested that companies should only use carbon credits if they are also taking aggressive action to reduce their emissions. The use of carbon credits in the absence of such aggressive internal action may be seen as greenwashing.

The mitigation hierarchy

The idea of prioritizing direct emission reductions over the use of carbon credits is often referred to as following a "mitigation hierarchy." Where corporate voluntary climate action is concerned, there is an emerging consensus that this approach should be applied across a company's entire value chain (i.e., emissions scopes 1-3, in the classification of the Greenhouse Gas Protocol). This approach is endorsed, for example, by the Science-Based Targets initiative (SBTi)[13] and the UN Race to Zero campaign.[14] A version of this approach is illustrated in Figure 2.

[12] Badgley, G., Chay, F., Chegwidden, O. S., Hamman, J. J., Freeman, J. and Cullenward, D. (2022). California's forest carbon offsets buffer pool is severely undercapitalized. *Frontiers in Forests and Global Change*, 5. https://www.frontiersin.org/articles/10.3389/ffgc.2022.930426.

[13] https://sciencebasedtargets.org/net-zero

[14] https://unfccc.int/climate-action/race-to-zero-campaign

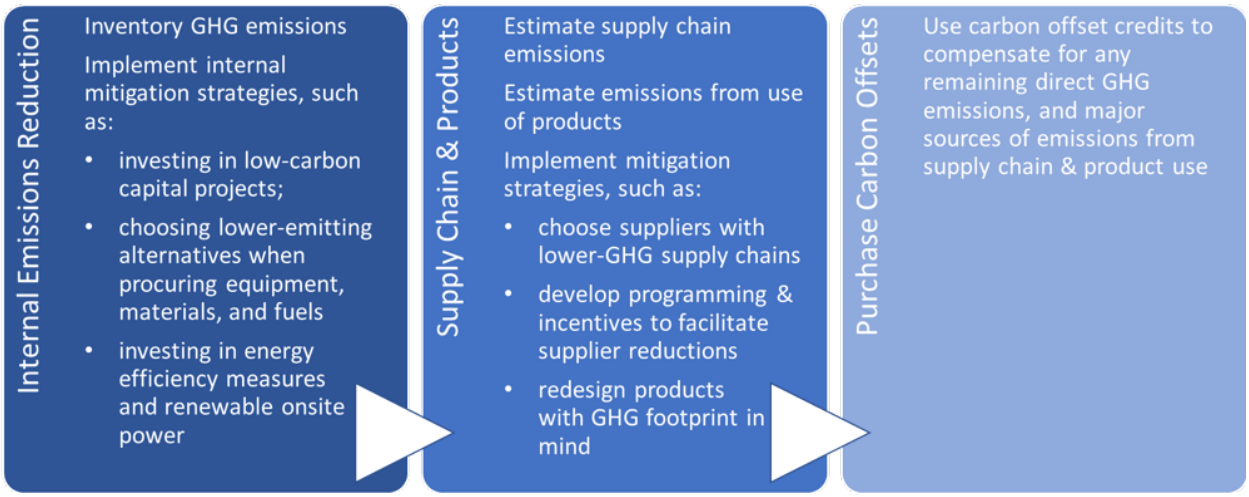

Figure 2. Basic approach to following a mitigation hierarchy[15]

An essential question, however, is how deeply a company should reduce its value-chain emissions in order to claim it is acting responsibly, and not over-relying on carbon credits. Here, the emerging consensus appears to be that companies should reduce emissions in line with global efforts to achieve the Paris Agreement's goal of limiting warming to "well below 2°C." For example, the Voluntary Carbon Markets Integrity Initiative (VCMI) has developed provisional guidance that would require that "*companies only use carbon credits in addition to – not as a substitute for – science-aligned decarbonization across their value chains*."[16] Through the VCMI Code, "science-aligned" targets must be set covering Scopes 1, 2, and 3, and ultimately achieve carbon neutrality by 2050 while achieving interim emission reduction targets up to 2050. The VCMI Code allows companies to claim "gold," "silver," or "bronze" status based on their progress towards achieving these targets in combination with how the company uses carbon credits (see Table 2).

Table 2. Requirements for the VCMI Code's Gold, Silver, and Bronze Status.

Claim	Scope 1 and 2 emission reductions required to meet interim targets	Scope 3 emission reductions required to meet interim targets	Remaining emissions once interim targets have been met
VCMI Gold: Net Zero	On track	On track	100% covered (through purchase of high-quality carbon credits)
VCMI Silver	On track	On track	At least 20% covered in first year, increasing over time

[15] Sourced from OffsetGuide.org, available at: https://www.offsetguide.org/understanding-carbon-offsets/the-role-of-offsets-in-carbon-management-strategies/achieving-carbon-neutrality/

[16] Voluntary Carbon Markets Integrity Initiative, 2022. Provisional Claims Code of Practice. Released for Public Consultant and Corporate Road Testing June 7, 2022. https://vcmintegrity.org/

VCMI Bronze (only available until 2030)	On track	Partially on track through value-chain emission reductions[17]	At least 20% covered in first year, increasing over time

Source: EPRI, 2022. Briefing paper #6: The role of Carbon Credits in Achieving Corporate Decarbonization Objectives. Exploring the role of greenhouse gas emissions offsets to achieve corporate decarbonization goals. EPRI, Palo Alto, CA: 2022.

The VCMI's "Provisional Claims Code of Practice" is, as the title suggests, provisional. Specific requirements and the tiers for different kinds of claims may still evolve based on public feedback. However, this framework provides a general indication of how civil society groups and others are currently defining "responsible use" of carbon credits.

Finally, it is notable that initiatives like SBTi have begun using terms like "beyond value chain mitigation"[18] rather than "offsetting" to refer to the use of carbon credits. This terminology difference arises from evolving debates around whether offsetting, as such, is the proper paradigm when following a mitigation hierarchy, as opposed to funding external mitigation efforts without any offsetting or "carbon neutrality" claim. Achieving a net zero target, for example, could entail a combination of science-aligned mitigation measures within a company's value chain, combined with use of carbon credits as a way to contribute to broader mitigation efforts. Whether this paradigm shift takes hold across the voluntary carbon market is still an open question.

Implications for IAI members' use of carbon credits

As noted above, the IAI has already charted industry-wide decarbonization pathways to achieve net zero emissions by 2050. This industry-wide roadmap provides a clear indication of what a mitigation hierarchy might look like for aluminium producers: pursue mitigation in line with the identified pathways, and use carbon credits in proportion to any unabated emissions.

The Aluminium Stewardship Initiative suggests a similar approach in its draft 2022 performance standard, following SBTi's net zero standard:[19]

> *In addition to abatement plans, regulatory or voluntary compensation of emissions through, for instance, offsetting may form part of an Entity's broader emissions reduction plan, [including] beyond value chain mitigation.*

In short, IAI members appear to already be at a good starting point in terms of a "responsible" approach to carbon credit use. Given that standards and expectations continue to evolve, however, it is important for companies to clearly define and communicate how credits support their broader decarbonization strategy.

[17] A company may use carbon credits to cover up to 50% of its remaining unabated Scope 3 emissions to reach the level required for its interim target, with the proportion covered by credits reducing each year. No credits permitted after 2030 to bring Scope 3 emissions in line with targets.

[18] https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf

[19] Aluminium Stewardship Initiative, 2022. ASI Performance Standard V3 – Guidance: Draft 2.0 for Consultation January 2022. https://aluminium-stewardship.org/wp-content/uploads/2022/01/ASI-Performance-Standard-Guidance-V3.0-Draft-2.0-TC.pdf

Developing a Strategy for Carbon Credit Use

A clearly developed strategy can detail any claims a company intends to make (e.g., with respect to achieving net zero emissions), and the communications related to how carbon credits support those claims. For example, a strategy can delineate whether carbon credits will be used to support carbon neutrality claims, "neutralize" unabated emissions with removals, or support contributions to "beyond value chain mitigation."

In addition, a strategy can identify a company's approach to procuring carbon credits (including priority sectors or criteria), which can both guide internal decision-making and provide transparency for external stakeholders. Key strategy elements can include:

- Guidelines for evaluating carbon credits (or rating systems to consult)
- Project types and sectors to prioritize or avoid
- Whether to emphasize emission reduction or removal credits
- Policies for use of, and communication around, carbon credits from nature-based solutions
- Rules or considerations for identifying high-quality projects, including within specific sectors
- Key risk areas or concerns related to specific credit types and how to manage them (e.g., potential non-permanence of credits from forestry projects or other nature-based solutions)
- Options and guidance for conducting due diligence on specific projects
- Targeted or preferred procurement options (e.g., through brokers, exchanges, or directly from projects)
- Identification of issues or concerns related to future carbon market developments, including national and international climate policy

This document touches on many of the bullets listed above and can be used as a starting point for IAI member companies considering the use of carbon credits to accomplish decarbonization objectives.

Conclusion

A responsible approach to using carbon credits requires careful attention to ensuring the quality of credits, using credits in a manner that is consistent with overall decarbonization goals (e.g., following a mitigation hierarchy), and making appropriate claims about their use (e.g., as offsets or external mitigation effort). High-quality carbon credits are those that meet criteria for additionality, quantification, permanence, exclusive claims, and avoidance of harms. Procuring high-quality credits can be done by sticking to those associated with lower-risk project types, conducting due diligence on individual projects, and/or relying on the external rating systems.

With respect to responsible use of carbon credits, IAI members are already well along in identifying decarbonization pathways consistent with an industry-wide "mitigation hierarchy." Individual companies may need to further elaborate these pathways within their own operations, and develop strategies for using carbon credits in support of emission reduction goals. Such strategies should include a clear indication what kinds of carbon credits to procure (e.g., emission reductions or removals, from nature-based solutions or other sectors, etc.), what kinds of claims will be made in conjunction with the use of carbon credits, and how their use supplements companies' decarbonization and net zero goals.