



Horizon Zero Aluminum Guidance Update Conclusion

RMI Climate Intelligence Program

December 2023

FIXED BOUNDARIES

- Feedback incorporated
- Partly incorporated
- Not incorporated

Topics

Key feedback

Outcome



Boundary setting

Clarification

- Clarify how processes, such as finishing and heat treatment, would affect comparability of product emissions
- Improve comparability and consistency with the boundary setting in RMI Steel GHG Emissions Reporting Guidance

- Added explicit statements to clarify those processes not within the benchmarking boundary, ensuring they do not impact comparability
- The boundary settings were made consistent between RMI's steel and aluminum guidance

Feasibility

- Full boundary should be expanded to encompass activities conducted at the semi-fabrication and fabrication facilities

- The “full boundary” section was revised to be “flexible” to reflect the relevant processes carried out at the semi-fabrication facility, including fabrication activities (if relevant)

Excluded processes

Alloy

- Alloy emissions were emphasized and suggested to be included in the fixed boundaries
- Prime substitution approach shall be used as a common practice and to maintain comparability

- Revised the guidance to include alloy emissions in both boundaries
- Specified “prime substitution” as the calculation method for alloy emissions

Transport

- Transport emissions may be material
- Concerns regarding scenarios where smelter relocation could result in increased transport emissions

- Remain excluded from the reporting boundaries and recommend separate reporting to maintain consistency with RMI Steel GHG Emissions Reporting Guidance

Scrap collection and sorting

- Some argue that scrap collection and sorting emissions are upstream of scrap-based production, which should be included

- Remain excluded from the reporting boundaries to drive more postconsumer scrap recycling

EMISSIONS TRANSPARENCY

- Feedback incorporated
- Partly incorporated
- Not incorporated

Topics

Key feedback

Outcome



Mine-to-smelter emissions intensity

Clarification

- Clarify whether emissions from primary cast house are included
- Recommend not to include primary cast house as some smelters directly sell molten aluminum

- More clarity to the mine-to-smelter emissions intensity metric was provided
- Primary cast-house emissions were included in the mine-to-smelter emissions intensity only if relevant

Usefulness

- There was general agreement on transparency

- No specific changes were made

SCRAP DEFINITION

- Feedback incorporated
- Partly incorporated
- Not incorporated

Topics

Key feedback

Outcome

Scrap definition and calculation

Clarification

- Treatment of scrap loss in calculation
- Whether dross and salt slag recycling are within the scope
- General edit suggestions such as replacing "elimination" with "minimize," change "inside scrap" to "internal scrap," etc.

Usefulness

- Mixed suggestions on whether onsite semi-fabrication scrap should be categorized as pre-consumer scrap
- Some respondents agree the definition of pre-consumer scrap should be separated from facility integration level
- Some suggest that recycled content should be calculated at the semi-fabrication level rather than the ingot level to be more useful

Allocation of scrap content

- Asset-level average lacks sufficient transparency when it comes to recycled content for different product types, such as auto sheet versus can sheet
- Clarify whether mass balance allocation of scrap can be applied




Postconsumer scrap share (%)

- General agreement on the need for reporting postconsumer scrap share
- Data challenge was highlighted, especially when third-party scrap suppliers are involved



- More clarity was provided:
 - Any permanent melt loss shall be deducted from the overall scrap-based content calculation
 - Net aluminum input from dross and other aluminum containing waste is counted as scrap input
- General edits were made based on suggestions
- Maintained the use of fixed boundary approach for the definition of scrap, which ensures the consistency of scrap-based content between facilities with different integration levels
- Clarified that the scrap-based content shall remain the same for the semi-fabricated product and value-added product (VAP) input
- A section on "Allocation of recycled content based on mass balance" was added to explicitly state that mass allocation is not allowed, considering the potential risks of double counting
- Disclosure of postconsumer scrap share is still required
- Recognized the data challenge and recommended the use of IAI regional default values when data gap is present

SCRAP EMISSIONS DIFFERENTIATION

-  Feedback incorporated
-  Partly incorporated
-  Not incorporated

Topics

Key feedback

Outcome



Clarification

- Equal treatment for the discussions around the cutoff method and coproduct allocation method

- Expanded the discussions in Section 3.3.3 regarding of the pros and cons of zero emissions and non-zero emissions for pre-consumer scrap. The specific calculation processes for each method are introduced later in the section. The coproduct method has more content due to its more involved calculation processes

Data challenge

- Most respondents acknowledged the significant challenge in collecting reliable data and the lack of data collection systems, especially when multiple scrap sources are involved
- Many expressed concerns about utilizing regional default not being a suitable solution
- Desire and potential for better data availability are also highlighted, especially in European Union where segregation of postconsumer scrap will be improved

- Recognized the challenge of acquiring reliable scrap information in the guidance and expanded the relevant discussions
- Regional default value remains recommended to fill data gap, but the clear communication requirement is added to improve transparency

Usefulness

- Dual reporting tends to create confusion among data recipients. It requires carbon accounting expertise to comprehend this approach effectively
- Could potentially reveal cost structure if both values are reported
- A small number of respondents emphasized the environmental benefits of further differentiating pre- and postconsumer scrap in emissions

- Understand the concerns raised in terms of the use and interpretation of the dual reported emissions
- Maintained the dual reporting as the industry cannot reach consensus
- Expect to encourage scrap generators and users to start thinking about data collection and traceability related to scrap

ENERGY IMPACTS

- Feedback incorporated
- Partly incorporated
- Not incorporated

Topics

Key feedback



Outcome

Decision hierarchy

Usefulness

- Most respondents (77%) consider the decision hierarchy to be useful or consider that it might be useful
- Some concerns about its effectiveness on decarbonization considering the global efforts needed toward increasing renewable energy production capacity

- Understand the challenge of decarbonizing electricity impacts at a global level
- Decision hierarchy was maintained in the guidance to drive the physical transition for on-site power generation and high-quality market mechanisms for purchased electricity

Location-based versus market-based method

- Location-based method is better suited to reflect the actual physical realities of carbon emissions
- No established ways to demonstrate the impacts of one method over another
- Require the use of a residual mix for market-based method

- Both methods were recommended to be used for electricity reporting. Transparency requirement is applied if only one method was used
- Requirement of using residual mix emissions factors was added

Alignment

- The alignment of the decision hierarchy with ISO 14067 Clause 6.4.9.4.4

- Cross-checked that the decision hierarchy is aligned with ISO 14067 Clause 6.4.9.4.4. The reference to ISO 14067 was also added to the guidance.

Renewable energy credits allocation

- Most respondents (70%) agree that renewable energy credits shall not be allocated to a portion of a product
- Some respondents disagree as they believed that decarbonization must proceed gradually from specific industrial areas and/or products

- Allocation of renewable energy benefits to a product portfolio is not recommended. This will incentivize full-site energy transition and avoid potential risks of double counting

DATA SOURCES

- Feedback incorporated
- Partly incorporated
- Not incorporated

Topics

Key feedback

Clarification

- Whether primary data share refers to the share of data sources or share of emissions
- Further clarification on the Søderberg or prebake technology mentioned in the guidance is needed to understand the emission factors provided for perfluorocarbons (PFCs)

Usefulness

- Many respondents understand and agree with the importance of primary data
- Some expressed that secondary data is sufficient as long as the calculations are transparent
- Concerns were expressed regarding data challenges (including data collection, integrity, confidentiality)

Calculation

- How to define primary data for specific cases (e.g., supplier-provided environmental product declaration having both primary and secondary data sources)



Outcome

- Primary data share was clarified as the share of emissions calculated by using primary data
- More clarifications were added to PFCs
- Primary data share calculation and reporting were maintained to align with the Pathfinder framework to push toward more accurate emissions reporting
- Contacted WBCSD's Partnership for Carbon Transparency (PACT) team whose methodology RMI's guidance is consistent with. This issue will be discussed in PACT's methodology workshop

TECHNOLOGY LABEL

- Feedback incorporated
- Partly incorporated
- Not incorporated

Topics

Key feedback

Outcome

Usefulness

- The term "technology label" could be too broad and would require third-party certification to be useful
- Accurate product carbon footprints are sufficient

Validity

- Federal Trade Commission Green Guides should be considered. They provide additional information regarding the marketing of environmental claims

- The language surrounding the technology label was removed from the guidance