RioTinto

Independent Limited Assurance Report

On Rio Tinto Alcan Inc.'s Carbon Intensity assertion related to aluminum production for the year 2024

Prepared in accordance with ISAE 3000 (Revised)

TETRA TECH

Recipient: Rio Tinto Alcan Inc.
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ATTACHED DOCUMENTS

Appendix A: Rio Tinto Aluminum Carbon Intensity Assertion

To the Board of Directors and Management of Rio Tinto Alcan Inc.

INTRODUCTION

Rio Tinto Alcan Inc. (Rio Tinto) asked Tetra Tech QI Inc. (Tetra Tech) to provide an independent limited assurance engagement, hereafter referred to as the engagement, for the carbon intensity (CI) associated with aluminum production plants, as required by Rio Tinto's inhouse voluntary certification. This assurance report was performed in accordance with the requirements of the International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB).

SCOPE OF WORK AND CRITERIA

Rio Tinto is a mining group dedicated to discovering, extracting, and processing Earth's mineral resources. To enable continuous monitoring of its carbon footprint, Rio Tinto has developed a proprietary standard to assess the carbon intensity of its aluminum production for specific sites and general operations, as detailed below:

Facility	Municipality/Country	Type of operation
AP60 smelter (AP60)	Saguenay, Qc, Canada	Aluminum smelting
Arvida smelter (ARV)		Aluminum smelting Anode baking Coke Calcinating
Grande-Baie smelter (UGB)		Aluminum smelting Anode baking
Laterrière smelter (LAT)		Aluminum smelting
Alma smelter (ALMA)	Alma, Qc, Canada	Aluminum smelting Anode baking
Kitimat smelter (KIT)	Kitimat-Stikine, BC, Canada	Aluminum smelting Anode baking Coke Calcinating
Icelandic smelter (ISAL)	Hafnarfjörður, Iceland	Aluminum smelting
New Zealand smelter (NZAS)	Tiwai Point, New Zealand	Aluminum smelting Anode baking

The assurance engagement for the aluminum CI assertion is carried out to confirm its alignment with the requirements of the GHG Protocol Corporate Accounting and Reporting Standard[1] and Rio Tinto's voluntary, RenewAl™ certification. The Greenhouse Gas (GHG) emissions are from Scope 1 and 2, as defined by the GHG Protocol and include all the relevant gases.

The assessment takes into account, but is not limited to, the following elements:

- The quantification approach and the methodologies applied;
- If data used for the assertion are subject to adequate quality controls and procedures;
- If the CI calculations are sufficiently accurate and detailed;
- If the degree of uncertainty of the statements and calculations of the assertion report are low, and the material discrepancy threshold has not been reached or exceeded;
- Rio Tinto's GHG emissions certification sets a materiality threshold of ±5% of the facility's total GHG emissions inventory, with any excluded individual sources not exceeding 1,000 tCO_2-e. The threshold for total aluminium production is ±0.1%.

The reporting period for this report and for all plants was from January 1 to December 31, 2024.

[1] https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

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INDEPENDENCE AND QUALITY CONTROL

The engagement was conducted by professionals with suitable skills and experience in line with the requirements of the ISAE 3000 standard. Tetra Tech has established procedures to demonstrate independence from the reporting company subject to the verification. These procedures may be provided upon request.

Tetra Tech has completed its internal impartiality review mechanism. The risks to impartiality have been assessed as low and therefore, Tetra Tech was permitted to carry out the verification of Rio Tinto's carbon intensity assertion. Internal procedures related to any potential sources of conflicts of interest between Tetra Tech, practitioners and the engagement partner have been established. The independent review performed by Tetra Tech concluded that there are no conflicts of interest between the parties involved in the engagement.

Tetra Tech is accredited by Standards Council of Canada (SCC) to provide verification and validation of greenhouse gas statements or assertions. The Verification and Validation Accreditation Program is based on ISO/IEC 17029, ISO 14065 and ISO 14066[2]. Tetra Tech applies its own management standards and compliance policies for quality control, in accordance with the principles of these standards. The engagement partner in charge is also subjected to the Code of ethics of engineers (I-9, r. 6) of Quebec's Professional Code.

Tetra Tech complied with the requirements for independence, professional ethics and quality control as stipulated by ISAE 3000 (2020), requirement 3a and 3b.

ROLES AND RESPONSIBILITIES

Rio Tinto was responsible for the relevance, consistency, transparency, conservatism, completeness, accuracy, and presentation of the CI Assertion Report. Rio Tinto has sole responsibility for the content of the CI Assertion and its preparation in accordance with local governments regulations and requirements. Rio Tinto was responsible for providing sufficient access and supplying all necessary records, correspondence, information, and explanations to allow the successful completion of this engagement.

Tetra Tech's responsibility was to plan and perform the engagement to obtain limited assurance on the CI Assertion and express an opinion in line with the requirements of the ISAE 3000 standard. Tetra Tech was to produce an independent conclusion, based on the procedures performed and the evidence obtained, as detailed in the assessment sections below.

ASSESSMENT METHODOLOGY

An opinion with a limited level of assurance is required under RenewAI™ certification. Tetra Tech planned and conducted the verification accordingly. This level of assurance was achieved by obtaining documents and information to support the emissions quantification, aluminum production and other statements contained in the assertion. The verification processes were selected based on professional judgment and an assessment of the risk of material misstatements seen in GHG and aluminum production assertions.

GHG emission sources include:

- Scope 1 (direct) where emissions resulted from the consumption of fossil fuels by mobile equipment, anode production (where applicable), electrolysis (smelting process including anode consumption & effect), coke calcination (where applicable), and at on-site casthouses; and
- Scope 2 (indirect) where emissions resulted from electricity consumption within the aluminum production site boundaries.

GHG presented in the quantification include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorinated carbon compounds (PFCs) and sulfur hexafluoride (SF_6). This approach is aligned with the International Aluminum Institute, Greenhouse Gas Protocol and local government regulatory requirements. Global Warming Potentials (GWP) from the IPCC Fifth Assessment Report (AR5 – 100 year)[3] were used for all sites. The use of a consistent GWP made it possible to evaluate all sites on an equal basis.

[2] JA_VVBAP-Scope-Template_EN (ccn-scc.ca)
[3] https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf

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Upon commencement of the assurance engagement, Tetra Tech obtained calculation files from Rio Tinto. With these, Tetra Tech was able to conduct an initial risk analysis regarding the sites' production data and the GHG emissions sources included. An assessment plan was provided to the client. This plan sets out, among other things, the level of assurance, materiality and various steps in the process. This plan was not modified during this engagement.

The activities performed by Tetra Tech included a review of following documents and processes:

- Review the Carbon Footprint Assessments and all other documents provided by Rio Tinto;
- Determination of the level of risk of the verification;
- Development of the evidence-gathering plan;
- Development the assessment plan;
- Identification of the required actions: request for additional information, corrections and/or clarifications;
- Evaluation of internal controls, e.g. data management and QA/QC procedures;
- Evaluation of the data and their sources;
- Evaluation the Carbon Footprint Assessment according to the requirements of GHG Protocol Corporate Accounting and Reporting Standard and the RenewAI™ certification;
- Development and determination of a limited opinion regarding the Carbon Intensity Assertion.

Review of the documents related to the 2024 CI assertions by Rio Tinto were completed following any requests for additional information, clarifications and corrections issued to Rio Tinto. E-mail exchange, as well as in-person and virtual meetings made it possible to complete and clarify certain information necessary for the completion of the engagement. Tetra Tech was able to obtain satisfactory responses to all of its requests for additional information.

Assessment of the Quantification and Data Quality Control

Scope 1 sources considered in the quantification reports include all processes and activities capable of emitting GHGs, and no exclusions were noted. Scope 2 sources included total electricity consumption based on service provider invoices. Total production for each site covered the period specified in the certification and represents only the liquid aluminum produced, which is the reference unit described in the regulations.

The calculation methods used by Rio Tinto to quantify the GHG emissions, aluminum production and carbon intensity have been reviewed and are summarized as follows:

- Scope 1 and total production: calculation methods were based on the regulatory requirements specific to each smelter's location. In Quebec and British Columbia, methods followed the Greenhouse Gas Reporting Program (GHGRP) methodology as specified in Canada's Greenhouse Gas Quantification Requirements. New Zealand applied the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009, while smelters in Iceland adhered to the methodologies described in the EU Emissions Trading System Directive (EU ETS);
- Scope 2: a location-based method was applied and is considered best practice;
- Carbon intensity: the method applied was appropriate and included all sources from Scope 1 and Scope 2, as well as the total production values specific to each site, as specified in the RenewAI™ certification.

Tetra Tech concludes that the calculation methods applied are in accordance with the requirements.

Tetra Tech also ensured that Rio Tinto used appropriate controls to ensure the quality of the data used to calculate carbon intensity. There were also appropriate procedures to assure the retention of the required information, carbon intensity-related calculations, evaluations, and measurements, and in accordance with local regulation and industry best practices.

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CONCLUSION

The Rio Tinto assertion report was reviewed. Tetra Tech received satisfactory responses to its requests for additional information. The carbon intensity values for aluminum production activities at eight aluminum smelters during the year 2024 are lower than the threshold of **4 tCO_2-e/t Al** specified by the certification.

As nothing appears to indicate the contrary, Tetra Tech concludes, with a limited level of assurance, that Rio Tinto's Carbon Intensity Assertion included in **Appendix A** was prepared in accordance with the requirements of the *GHG Protocol Corporate Accounting and Reporting Standard* and Rio Tinto's voluntary RenewAl™ certification.

LIMITATION AND USE OF THE REPORT

This document (report) is for the exclusive use of the person or entity (customer) that commissioned Tetra Tech to produce it. Its content reflects the assessment of the carbon intensity as described in the attached assertion report. Therefore, the content of this document cannot be applied to the previous or future situation as described in the attached assessment report. Any statement in this report is based on the date of issuance of this report, the period covered and the regulations for which the verification was conducted. If one or more facts are discovered after the issuance of this report, all relevant stakeholders must be informed. The opinion and the limited assurance report will have to be revised in the light of these facts discovered.

The conclusion relating to this file has been developed by qualified professionals on the basis of the best available information following recognized procedures. Tetra Tech reserves the right to change its findings if additional information is disclosed. Reproduction, distribution, or use of this document, in whole or in part, in any form, by any person or entity other than the person to whom it was submitted, is not permitted without written permission from Tetra Tech. The same applies to the use of the Tetra Tech trademark. The contents of this document do not constitute legal opinions.

Tetra Tech QI inc.

Montreal (QC), Canada
July 24, 2025

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APPENDIX A – RIO TINTO ALUMINUM CARBON INTENSITY ASSERTION

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Rio Tinto Aluminum Carbon Intensity Assertion

Scope and Assertion

Rio Tinto Aluminium has taken an operational control approach to consolidate its greenhouse gas (GHG) emissions for the calendar year ended December 31, 2024.

Total scope 1 (direct emissions at the site level) and scope 2 (indirect emissions related to the electricity and steam consumption) CO_2-e emissions from smelting at the following facilities are lower than 4 tCO_2-e/tAl.

Alma
AP60
Arvida
Grande-Baie
ISAL
Kitimat
Laterriere
New Zealand Aluminium Smelter (NZAS)

Scope 1 (direct) tCO_2-e emissions occur during consumption of fuels, anode production (where applicable), electrolysis (smelting process), coke calcination (where applicable), and at on-site casthouses. Scope 2 (indirect) tCO_2-e emissions result from the consumption of electricity and steam used within the aluminium production site boundaries.

Methodology and Assumptions

Our GHG emissions were calculated using the GHG Protocol Corporate Accounting and Reporting Standard, which includes the following greenhouse gases: carbon dioxide, methane, nitrous oxide, perfluorinated carbon compounds and sulphur hexafluoride. This approach is also aligned with the International Aluminium Institute Greenhouse Gas Protocol.

Operations can omit or estimate individual emission sources from their inventories subject to these rules:

- For non-Australian operations: individual sources that can be excluded should be less than 1,000 tCO_2-e. The total of these excluded sources should be less than 5% of the facility's complete inventory. The threshold for total aluminium production is set at ± 0.1%.

Global Warming Potentials from the IPCC Fifth Assessment Report (AR5 – 100 year) are applied.

Scope 1 GHG emissions

Scope 1 GHG emissions are direct GHG emissions owned or controlled by Rio Tinto. They include fuel use, anode and reductant use, process emissions (on-site emissions).

Scope 1 emission factors are consistent with the IPCC Guidelines for National Greenhouse Gas Inventories (2006), where site specific data is not available.

Inventories have been prepared in accordance with local regulatory requirements; In Quebec and British Columbia, methods followed the Greenhouse Gas Reporting Program (GHGRP) methodology as specified in Canada's Greenhouse Gas Quantification Requirements. ; and in Iceland: EU ETS Directive. In New Zealand, Climate Change (Stationary Energy and Industrial Processes) Regulations 2009", New Zealand Ministry for the Environment (NZMfE).

As per the guidelines referenced above, here are the details specific to quantification of our aluminium-specific material emissions sources:

1. Carbon consumption: The emissions calculation for the net anode consumption is a mass balance approach with the subtraction of impurities (sulphur and ash) in British Colombia, Quebec and New Zealand, whereas in Iceland we measure the carbon content of the anodes and butts to establish emissions.
2. Baked anode production - carbon volatiles: The emissions from baked carbon anode production include carbon volatiles from baking and emissions from packing coke consumption. Hydrogen content of baked anodes is the default 0.5% of green anode weight. Green anode weight and baked anode weight: average weight per anode based on scale weights. Number of anodes: count of number of baking cycles multiplied by the capacity of the furnaces.
3. Packing coke consumption: Packing coke consumption per tonne of baked anode is based on actual weight based off of inventory reconciliations and scale measurements where available.
4. Perfluorocarbons: For Quebec and British Colombia, calculation uses the Tier 1 IPCC method using slope factors measured on-site within the last 36 months. For Iceland and New Zealand, calculation uses Method 2, the Tier 2 IPCC method using slope factors for prebake cell technology. Anode effects per cell day are based on real potroom data, including number of pots in operation, and number of anode effects occurring in the pots. The anode effect duration is measured for each anode effect and the monthly average is used in the calculation.
5. Natural gas: Consumption is based off of supplier invoices. Emissions factors are taken from each assets local regulatory guidance requirements.
6. Fuel oil: Consumption in New Zealand is based off supplier invoices and emission factors. Emission factors are taken from NZMfE guidance.

Scope 2 GHG emissions

Scope 2 GHG emissions are GHG emissions from the electricity, heat or steam delivered by third-parties (indirect emissions). Invoice data is used for consumption. For all smelters reported, location-based method is used for quantifying its Scope 2 emissions.