

2024 Greenhouse Gas Inventory – Methodology and Statement of Results

Overview and Boundaries

Greenhouse gas reporting is the process of documenting the amount of greenhouse gases (GHGs) emitted by Aecon Group Inc. (for the purposes of this disclosure, 'Aecon Group Inc' may be referred to as 'Aecon', 'we', 'our', 'the organization', or 'the Company' throughout this document). Total emissions are calculated annually from a variety of sources, including equipment fuel consumption and building energy consumption to inform business practices and disclose to stakeholders.

Measuring our GHG emissions through an annual inventory process provides us with insights into the impact of our operations that we can report transparently to stakeholders. It also allows us to track our emissions over time and identify forward-looking pathways for reducing our emissions in line with our reduction targets and the Paris Agreement goal of keeping global warming below 1.5C.

Principles

Aecon's GHG inventory is prepared in accordance with the Greenhouse Gas Protocol (the GHG Protocol). The principles of GHG accounting in the GHG Protocol were used to guide the quantification and ensure that Aecon's inventory represents a faithful, true and fair account of our company's GHG emissions:

- **Relevance:** Aecon's GHG emissions inventory report presents the key GHG emissions and relevant information to assist stakeholders—both internal and external—in their decision-making
- **Completeness:** Aecon accounted for all relevant GHG sources within the inventory boundary and time period where data was readily available. Omitted emission sources have been clearly stated in public disclosures
- **Consistency:** The methodologies and assumptions used to estimate and calculate GHG emissions are consistent with industry best practices
- **Accuracy:** The quantification process was conducted with the objective of identifying and minimising areas of uncertainty to the extent possible
- **Transparency:** The GHG inventory was prepared in a coherent manner and discloses relevant methodologies, assumptions, estimations and omissions. We addressed all relevant issues in a factual and coherent manner, based on a clear audit trail

The GHG Protocol requirements for reporting contents were also used to structure our disclosure.



Organizational boundaries

Aecon's GHG emissions inventory covers the period from January 1, 2024 to December 31, 2024. We use an equity share approach, as defined by the GHG Protocol, to establish organizational boundaries for the inventory. Using this approach requires accounting for all GHG emissions from projects according to our share of equity in the operation. Aecon applies the equity share approach by accounting for emissions linked to our work on joint venture projects based on our revenue-share in the project. Revenue is recorded on an accruals basis. Aecon reports GHG data for all subsidiaries maintained under Aecon Group Inc. and Aecon Construction Group Inc.

Operational boundaries

The GHG Protocol assists companies to identify direct and indirect GHG emissions to better understand the full spectrum of its risks and opportunities and avoid any potential double counting. For this purpose, GHG emissions are divided into three scopes:

- **Direct GHG emissions or scope 1**, include the emissions generated directly from Aecon's operations, including fuel combustion in vehicles and stationary equipment
- **Indirect energy-related GHG emissions or scope 2**, include location-based emissions indirectly associated with electricity used in Aecon's activities
- **Other indirect GHG emissions or scope 3**, include emissions indirectly associated with Aecon's business activities
- **Biogenic**: Emissions generated directly by Aecon through the consumption of biofuels by vehicles and equipment on our project sites; biogenic CO₂ emissions do not contribute to Aecon's total scope 1, 2 and 3 emissions

Greenhouse gases and emission factors

Emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) are calculated using the most recent official and/or verified emission factors and conversions provided by the Government of Canada, the United States Environmental Protection Agency and international bodies like the Intergovernmental Panel on Climate Change (IPCC). There were no emissions from HFCs, PFCs, NF₃ and SF₆ separately reported in this inventory, although they may be captured when using emission factors in units of CO₂ equivalents.

We used the total global warming potential (GWP) from the IPCC's 5th Assessment Report (AR5), which is consistent with the GWPs used in Canada's latest National Inventory Report as of February 2025.

Included sources

The GHG inventory assessment covers regional corporate headquarters, business divisions, major and joint venture projects, fleet vehicles, as well as relevant scope 3 categories.

Aecon conducted a GHG emission scan in 2021 to provide an order-of-magnitude view of total scope 1, 2 and 3 GHG emissions and to identify material emissions sources for reporting and target-setting. The scan considered scope 1, 2 and all 15 scope 3 emission categories defined by the GHG Protocol. The results of this scan were also validated by the Science Based Targets initiative (SBTi) during the target-setting process in 2023/2024. Aecon's material GHG emission sources are outlined in [Table 1](#) below.

TABLE 1. GHG EMISSIONS SCOPE FOR EACH EMISSIONS SOURCE

Emission source	Scope of CO ₂	Scope of other GHGs
Electricity consumption	Scope 2	Scope 2
Natural Gas combustion	Scope 1	Scope 1
Diesel combustion	Scope 1	Scope 1
Gasoline combustion	Scope 1	Scope 1
Propane combustion	Scope 1	Scope 1
Ethanol combustion	Biogenic	Scope 1
Renewable diesel combustion	Biogenic	Scope 1
Biodiesel combustion	Biogenic	Scope 1
Acetylene combustion	Scope 1	Scope 1
Fugitive emissions from the use of explosives	Scope 1	Scope 1
Fugitive emissions from asphalt production	Scope 1	Scope 1
Purchased construction materials	Scope 3 – 1	Scope 3 – 1
Other purchased goods and services	Scope 3 – 1	Scope 3 – 1
Upstream fuel and energy-related activities	Scope 3 – 3	Scope 3 – 3
Upstream transportation and distribution services	Scope 3 – 4	Scope 3 – 4
Business travel	Scope 3 – 6	Scope 3 – 6

Omitted Sources

Fugitive emissions of refrigerants and from compressed gas canisters were omitted from this year’s scope 1 and 2 emissions (estimated to account for <0.1% of total scope 1 and 2 emissions). The scope 3 emission sources listed in Table 1 were estimated to account for greater than 90% of Aecon’s scope 3 emissions according to the latest emission scan conducted in 2023/2024.

Aecon intends to conduct an updated GHG emission scan every five years to confirm our GHG boundaries still capture all material emissions sources, in alignment with SBTi requirements.

Base Year

Aecon has set 2020 as the base year for our GHG management program and existing GHG reduction targets. Note Aecon has also set a separate base year of 2022 for our SBTi target.

Market Instruments

Renewable electricity certificates (RECs), power purchase agreements (PPAs), avoidance based carbon offset credits (offsets) and carbon removal credits (CDRs) are market instruments that enable Aecon to claim the environmental attributes of purchased renewable power and Offset / CDR projects.



While Aecon does not currently procure any of these market instruments, a summary of the hypothetical treatment of these instruments is provided below:

TABLE 2. AECON'S APPROACH TO MARKET INSTRUMENTS

Market instrument	Aecon's reporting methodology
REC	Using the GHG Protocol's market-based approach, RECs – representing zero-emissions electricity can be used to replace grid electricity consumed by Aecon, thereby reducing scope 2 emissions
Offset	If purchased by Aecon, offsets are reported separately from the corporate inventory and do not reduce Aecon's GHG emissions. Offsets cannot be used to reach Aecon's SBTi reduction target.
CDR	If purchased by Aecon, CDRs are reported separately from the corporate inventory and do not reduce Aecon's GHG emissions. CDRs can however be used to 'neutralize residual emissions' once Aecon's long-term SBTi reduction target is achieved
PPA	Using the GHG Protocol's market-based approach, RECs procured via PPAs or virtual PPAs – representing zero-emissions electricity – can be used to replace grid electricity consumed by Aecon, thereby reducing scope 2 emissions

Methodology

Aecon's inventory is prepared in accordance with the GHG Protocol in collaboration with a third-party consultant. In addition, an independent, third-party was engaged to provide limited assurance on Aecon's scope 1 and 2 emissions. Refer to [page 9](#) of this document for the Limited Assurance Report.

Data sources

Aecon uses invoice data, utility meters, supplier data and fuel tracking systems to quantify its GHG emissions. Data sources for each major activity in Aecon's GHG inventory are defined in [Appendix A](#).

Estimates

Considering the data sources noted above, 85% of Aecon's 2024 scope 1 and 2 GHG emissions are based on 85% actual consumption data. The remaining 15% was estimated in the sequence defined in the [Table 3](#) below. These estimates are applied to enable Aecon to report a complete inventory and are applied in a manner that seeks to minimize the uncertainty in the result.

Of Aecon's 2024 scope 3 GHG emissions, 9% are based on actual data. The remaining 91% is estimated through cost-based estimates using supply chain emission factors published by the EPA.

TABLE 3. AECON'S APPROACH TO ESTIMATING GHG EMISSIONS

Estimation process	Use case	Approach	% of total emissions
Cost-based estimates	Only purchase spend data is available	Estimate consumption by dividing total cost spent by the average price for the reporting year (e.g., \$/kWh of electricity) from a relevant regional source	1%
Time-gap estimates	Source data is available a portion of the reporting year, but not all	Estimate missing consumption data using average consumption/day for adjacent months or rest of year, depending on availability of the data.	0.4%
Area-gap estimates	Consumption data for Aecon buildings is unavailable	Estimate building energy consumption by multiplying building floor area by benchmark energy intensities	2%
Revenue-gap estimates	No GHG data available for select Aecon project	Estimate missing consumption by multiplying the uncovered revenue (i.e. revenue items with missing consumption data) by emissions intensity per revenue factors from similar project types (calculated based on actual or otherwise-estimated data and covered revenue from the reporting year) Note that a revenue-based approach is the most reasonable method for estimating GHG emissions when other activity data is unavailable. This method has a higher uncertainty than estimates based on physical quantities (e.g. energy or volume data).	12%

Calculating GHG emissions

The GHG quantification process, involves multiplying consumption data by the appropriate GHG emissions factor. GHG emission factors vary based on emission source (e.g., electricity vs. diesel) and location (e.g., Ontario vs. Alberta) and are updated annually to align with the latest available sources.

GHG emissions are then categorized as either scope 1, 2, 3 or biogenic based on the definitions outlined in the [Operational Boundaries](#) subsection.

Inventory Results

2024 Results

Aecon's total emissions for the reporting year 2024 were 595,366 tCO₂e (tonnes of carbon dioxide equivalent). Breakdowns by constituent gas are provided in [Table 4](#) and [Table 5](#)

TABLE 4: BREAKDOWN OF 2024 GHG EMISSION BY GAS

Gas	Scope 1	Scope 2	Scope 3	Total	Biogenic
Carbon dioxide (tCO ₂)*	107,335	3,485	427,212	538,032	8,590
Methane (tCH ₄)	3.68	0.59	1,204.9	1,209.2	-
Nitrous oxide (tN ₂ O)	0.96	0.08	35.83	36.87	-
Other GHGs (tCO ₂ e)**	-	-	13,707	13,707	-
Total (tCO₂e)	107,693***	3,522***	484,151	595,366	8,590

TABLE 5: BREAKDOWN OF 2024 GHG EMISSION BY CO₂e

Gas	Scope 1	Scope 2	Scope 3	Total	Biogenic
Carbon dioxide (tCO ₂ e)*	107,335	3,485	427,212	538,032	8,590
Methane (tCO ₂ e)	103	16	33,737	33,856	-
Nitrous oxide (tCO ₂ e)	255	21	9,494	9,770	-
Other GHGs (tCO ₂ e)**	-	-	13,707	13,707	-
Total (tCO₂e)	107,693***	3,522***	484,151	595,366	8,590

*May include other gases. In cases where emission factors were not split out by gas (i.e. only a CO₂e factor was provided) they have been reported under Carbon dioxide

**Other GHGs includes emissions from several HFCs and PFCs based on EPA supply chain emission factors used for purchased goods and services emission calculations

***Independent, third-party limited assurance was obtained for this data point. Refer to page 9 of this document for the Limited Assurance Report.

Restatement of Historical Emissions

To maintain a like-for-like comparison of emissions over time (e.g., for tracking target progress) historic emission data are recalculated to account for:

- Adjustments due to “significant” structural changes e.g. acquisitions and dispositions
- Restatements due to “significant” changes to quantification methodology or corrections in historical data due to improved data quality

The threshold for what is deemed “significant” is whether cumulative adjustments / restatements result in a change of greater than 5% compared to previously reported base year GHG emissions.

In 2024 this 5% threshold was surpassed for Aecon’s 2020 baseline emissions. Therefore, Aecon has restated all historical emissions (Table 6). The restatement was due to the following changes to historical inventories:

- Acquisitions, including [Xtreme Powerline Construction](#), [Ainsworth Power Construction](#) and [United Engineers & Constructors](#).
- Methodology changes, including improved data quality and coverage and historical changes in revenue allocation.

TABLE 6. RESTATEMENT OF HISTORICAL SCOPE 1, 2 AND 3 EMISSIONS

Scope	2020	2021	2022	2023
Previously reported emissions				
Scope 1 emissions (tCO ₂ e)	137,232	125,207	165,098	154,680
Scope 2 emissions (tCO ₂ e)	2,425	3,672	3,209	2,794
Scope 3 emissions (tCO ₂ e)*	698	855	3,247	534,246
Total emissions	140,355	129,734	171,554	691,720
Restated emissions				
Scope 1 emissions (tCO ₂ e)	146,898 (+7%)	129,796 (+4%)	165,313 (+0.1%)	170,381 (+10%)
Scope 2 emissions (tCO ₂ e)	2,661 (+10%)	3,776 (+3%)	3,274 (+2%)	2,782 (+7%)
Scope 3 emissions (tCO ₂ e)*	698 (0%)	855 (0%)	3,247 (0%)	515,255 (-4%)
Total emissions	150,257 (+7%)	134,427 (+4%)	171,834 (+0.01%)	688,418 (-0.6%)

*Note that 2020-2022 scope 3 emissions only include category 6 emissions, 2023 scope 3 emissions only include category 1, 4 and 6 emissions and 2024 emissions in Table 5 include category 1, 3, 4 and 6 emissions

Note that in 2024 Aecon also updated our consolidation approach from operational control to equity share. The equity share approach better reflects how we allocate emissions from joint venture projects to Aecon, which do proportional to our revenue share of the project. As our method of allocating emissions has not changed, this update had no impact on historical emissions.

Progress towards targets

In addition to quantifying GHG emissions annually, Aecon has set an external GHG emission reduction target:

Aecon has committed to a 30% reduction in direct CO₂ emissions (scopes 1 and 2) by 2030, as compared to a 2020 baseline. This is an intensity-based target, based on economic output and represents tonnes of CO₂ per million dollars of revenue.

Aecon has also had the following targets approved by the [Science Based Target initiative](#) (SBTi):

Overall Net-Zero Target

Aecon Group Inc. commits to reach net-zero GHG emissions across the value chain by 2050 from a 2022 base year.

Near-Term Targets

Aecon Group Inc commits to reduce absolute scope 1 and 2 GHG emissions 50.4% by 2032 from a 2022 base year. Aecon Group Inc also commits to reduce absolute scope 3 GHG emissions from purchased goods and services and fuel- and energy-related activities 30% within the same timeframe.*

** The target boundary includes biogenic land-related emissions and removals from bioenergy feedstocks*

Long-Term Targets

Aecon Group Inc commits to reduce absolute scope 1 and 2 GHG emissions 90% by 2050 from a 2022 base year. Aecon Group Inc also commits to reduce absolute scope 3 GHG emissions from purchased goods and services, fuel- and energy-related activities, and upstream transportation and distribution by 90% within the same timeframe.*

** The target boundary includes biogenic land-related emissions and removals from bioenergy feedstocks*

Appendix A: GHG emissions methodology by emission source

Scope	Emission sources*	Calculation method
Scope 1	Natural gas combustion for building heating	Total natural gas paid for by Aecon (utility bills) multiplied by regional emission factor
	Fuel combustion for mobile / stationary equipment (including biogenic)	Total fuel paid for by Aecon (fuel tracking, fuel cards and utility bills) multiplied by regional emission factor (separated by fuel type)
Scope 2	Emissions indirectly associated with electricity consumption at Aecon's offices and project sites	Total electricity paid for by Aecon (utility bills) multiplied by regional emission factor using the location-based method
Scope 3 – 1 – Purchased goods and services	Upstream emissions associated with consumables and services purchased for corporate, and construction operations e.g. concrete, steel, subcontractors)	<p>The following methods were used depending on data availability</p> <ol style="list-style-type: none"> 1. Supplier-specific physical GHG intensity (e.g. tCO₂e/tonne of concrete) multiplied by the quantity of the product / service purchased by Aecon 2. Supplier specific financial GHG intensity (tCO₂e/revenue) multiplied by the amount Aecon spent with the supplier 3. Total spent by Aecon for each spend category multiplied by a supply chain emission factor
Scope 3 – 3 – Fuel- and energy-related activities not included in scope 1 and 2	Extraction, production, and transportation of purchased fuels and energy	Total fuel and electricity paid for by Aecon multiplied by regional upstream emission factor (separated by energy type)
Scope 3 – 4 – Upstream transportation and distribution	Transportation services paid for by Aecon	Total spent by Aecon on upstream transportation and distribution multiplied by supply chain emission factor
Scope 3 – 6 – Business travel	<p>Transportation and travel accommodation of employees for business related activities</p> <p>Non-air business travel and hotel accommodation emissions deemed immaterial based on GHG emission scan. Omitted from inventory and target.</p>	Flight distances calculated based on routing data and multiplied by distance-based emission factors. Different emission factors are used depending on flight distance (e.g., short- vs. long-haul)

*Aecon does not have material sources of the following categories of scope 3 emissions: 2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15



Independent practitioner’s limited assurance report on the select performance metrics as presented in Aecon Group Inc.’s 2024 Greenhouse Gas Inventory – Methodology and Statement of Results

To the Directors of Aecon Group Inc.

We have conducted a limited assurance engagement on the scope 1 and scope 2 greenhouse gas emissions performance metrics, as detailed in Exhibit 1, of Aecon Group Inc. (Aecon) included in the 2024 Greenhouse Gas Inventory – Methodology and Statement of Results (the select performance metrics), for the period from January 1, 2024 to December 31, 2024.

Responsibilities for the select performance metrics

Management of Aecon is responsible for:

- the preparation of the select performance metrics in accordance with the applicable criteria as detailed in Exhibit 1 (the applicable criteria);
- designing, implementing and maintaining such internal control as management determines is necessary to enable the preparation of the select performance metrics, in accordance with the applicable criteria, that is free from material misstatement, whether due to fraud or error; and
- the selection and application of appropriate sustainability reporting methods and making assumptions and estimates that are reasonable in the circumstances.

Inherent limitations in preparing the select performance metrics

Non-financial data is subject to more limitations than financial data, given both the nature and the methods used for determining, calculating, sampling or estimating such data. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

Greenhouse gas quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Our independence and quality management

We have complied with independence and other ethical requirements of the relevant rules of professional conduct / code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Management 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

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Practitioner's responsibilities

Our responsibility is to plan and perform the assurance engagement to obtain limited assurance about whether the select performance metrics are free from material misstatement, whether due to fraud or error, and to issue a limited assurance report that includes our conclusion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence decisions of users taken on the basis of the select performance metrics.

We conducted our limited assurance engagement in accordance with Canadian Standard on Assurance Engagements (CSAE) 3000, *Attestation Engagements Other than Audits or Reviews of Historical Financial Information* (CSAE 3000), and, in respect of scope 1 and scope 2 greenhouse gas emissions performance metrics, Canadian Standard on Assurance Engagements (CSAE) 3410, *Assurance Engagements on Greenhouse Gas Statements* issued by the Auditing and Assurance Standards Board (CSAE 3410).

As part of a limited assurance engagement in accordance with CSAE 3000 and CSAE 3410, we exercise professional judgment and maintain professional skepticism throughout the engagement. We also:

- Determine the suitability in the circumstances of Aecon's use of the applicable criteria as the basis for the preparation of the select performance metrics.
- Perform risk assessment procedures, including obtaining an understanding of internal control relevant to the engagement, to identify where material misstatements are likely to arise, whether due to fraud or error, but not for the purpose of providing a conclusion on the effectiveness of Aecon's internal control.
- Design and perform procedures responsive to where material misstatements are likely to arise in the select performance metrics. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Summary of the work performed

A limited assurance engagement involves performing procedures to obtain evidence about the select performance metrics. The procedures in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

The nature, timing and extent of procedures selected depend on professional judgment, including the identification of where material misstatements are likely to arise in the select performance metrics, whether due to fraud or error.



In conducting our limited assurance engagement, we:

- obtained an understanding of Aecon's reporting processes relevant to the preparation of its select performance metrics by:
 - made inquiries of the personnel responsible for the select performance metrics;
 - inspected relevant documentation relating to Aecon's reporting processes.
- evaluated whether all information identified by the process to identify the information reported in the select performance metrics is included in the select performance metrics;
- performed inquiries of relevant personnel and analytical procedures on selected information in the select performance metrics;
- performed substantive assurance procedures on selected information in the select performance metrics;
- evaluated the appropriateness of quantification methods and reporting policies;
- evaluated the methods, assumptions and data for developing estimates; and
- reviewed the select performance metrics disclosures in the 2024 Greenhouse Gas Inventory – Methodology and Statement of Results to ensure consistency with our understanding and procedures performed.

Limited assurance conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the select performance metrics for the period from January 1, 2024 to December 31, 2024 are not prepared, in all material respects, in accordance with the applicable criteria, as detailed in Exhibit 1.

Other matter

The comparative sustainability information of Aecon for the years ended from 2020 to 2023 was not subject to an assurance engagement. Our conclusion is not modified in respect of this matter.

Restriction on use

Our report has been prepared solely for the Directors of Aecon for the purpose of assisting management in reporting to the Directors on its select performance metrics. The select performance metrics therefore may not be suitable, and are not to be used, for any other purpose. Our report is intended solely for Aecon.

We neither assume nor accept any responsibility or liability to any third party in respect of this report.

PricewaterhouseCoopers LLP

Chartered Professional Accountants

Toronto, Ontario
April 7, 2025



Exhibit 1

The limited assurance engagement was performed on the following selected performance metrics and applicable criteria for the period from January 1, 2024 to December 31, 2024:

Select performance metrics	Unit of measure	Criteria	2024 value	Report page number
Scope 1 Greenhouse gas (GHG) Emissions for the period from January 1, 2024, to December 31, 2024.	Tonnes carbon dioxide equivalent (tCO ₂ e)	Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition as referenced within Aecon's 2024 Greenhouse Gas Inventory – Methodology and Statement of Results	107,693	6
Scope 2 Greenhouse gas (GHG) Emissions (location-based) for the period from January 1, 2024, to December 31, 2024.	Tonnes carbon dioxide equivalent (tCO ₂ e)	Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition as referenced within Aecon's 2024 Greenhouse Gas Inventory – Methodology and Statement of Results	3,522	6