Airport Carbon Accreditation

Levels 4 & 4+ Requirements

Edition 1.0

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ENVIRONMENTAL MINDS

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Disclaimer

The content herein is intended solely for the purposes of becoming certified to *Airport Carbon Accreditation*. While every effort has been made to ensure the accuracy and relevance of the information provided, omissions or errors may be present.

This document can be updated or amended to reflect evolving best practices in carbon management, regulatory changes, or scientific developments. Updates will be available through relevant Communications at the *Airport Carbon Accreditation* website. Feedback from users is welcome to ensure this document continues to reflect the diverse needs and ambitions of the global airport community.

All environmental data submitted by the airport to the Administrator for the purpose of certification will be treated as confidential. Reports are generated using aggregated data that cannot be traced back to individual airports. Specific data may be shared with the Advisory Board upon request, but the airport will be notified. Reporting on individual airports occurs only with their consent.

Thank you to the various stakeholders who provided valuable comments during the review of this document.

Box 1. Terminology

Note that the following terms apply throughout this document.

"Shall" indicates a mandatory requirement or obligation. The action described is compulsory and must be followed without exception.

"Should" suggests a recommended action or best practice, but not a strict requirement. It implies that the action is encouraged and is advisable, however, there may be circumstances where an airport is unable to complete the action.

1 Introduction

1.1.1 Welcome to the *Airport Carbon Accreditation Level 4 and 4+ Requirements*, which includes information on the data and documentation required to become certified at Levels 4 and 4+ of *Airport Carbon Accreditation*.

1.1.2 This document should be read in conjunction with the *Requirements for All Levels of Airport Carbon Accreditation*.

1.1.3 This document focuses on the requirements for Levels 4 and 4+ including the Policy Commitment, the GHG Inventory, the Emission Reduction Target, the Carbon Management Plan, the Stakeholder Partnership Plan and the Carbon Offsets for Level 4+ (**Table 1**).

1.1.4 Airports shall submit their application in the ACA Portal, completing all required fields. At Level 4/4+ a Carbon Management Plan and a Stakeholder Partnership Plan are required which should either be submitted by completing the fields in the ACA Portal or by uploading the plans as a document that contains all required information and tables.

Box 2. Key Changes Compared to Levels 3/3+

When upgrading from Level 3/3+ to Level 4/4+, special attention should be placed on additional key requirements and provisions. An airport now shall include all Scope 3 emission sources in their GHG Inventory. They shall also develop and submit a Stakeholder Partnership Plan. The airport shall also develop an absolute emission reduction target in line with the IPCC 1.5-degree pathway. For Level 4+, the airport shall purchase carbon credits to offset their residual Scope 1, 2 and business travel emissions.

Table 1: *Airport Carbon Accreditation Key Level Requirements*

		1	2	3	3+	4	4+	5
Carbon Management	Publicly Available Policy Commitment	✓	✓	✓	✓	✓	✓	✓
	Carbon Management Plan		✓	✓	✓	✓	✓	✓
GHG Inventory	Scope 1 and 2	✓	✓	✓	✓	✓	✓	✓
	Select Scope 3			✓	✓			
	All Scope 3					✓	✓	✓
Emissions Reduction Target	Scope 1 and 2 (Absolute or Intensity)		✓	✓	✓			
	Scope 1 and 2 (Absolute) in Line with 1.5°C Pathway[1]					✓	✓	
	Achieve & Maintain Scope 1 & 2 ≥ 90% Absolute Reduction & ≤10% Removals for Residual Emissions							✓
	Commit to Achieve Net Zero[2] Emissions by 2050							✓
Stakeholder Management	Stakeholder Engagement Plan			✓	✓			
	Stakeholder Partnership Plan					✓	✓	✓
Carbon Offsetting	Carbon Offset Reductions or Removals for Residual Scope 1 & 2 Emissions and Staff Business Travel				✓		✓	
	Carbon Offset Removals for Residual Scope 1 & 2							✓
Target Compliance	Compliance with Target Year and Value		✓	✓	✓	✓	✓	✓
	3-Year Rolling Average Annual Improvement		✓	✓	✓			
	Every 6 Years, Max 15% Deviation Accepted					✓	✓	
	Every 3 Years, One Justifiable Missed Target							✓

[1] 2°C pathway only allowed if in line with Nationally Determined Contributions.

[2] Net zero is where anthropogenic residual greenhouse gas emissions (GHG) from an organisations' inventory (Scope 1, Scope 2 and Scope 3) are balanced by removals over a specified period and within specified boundaries; adapted from ISO IWA 42:2022 Net Zero Guidelines.

Level 4/4+ Requirements

2 Commitment to Reduce Emissions

2.1.1 Airports shall include written evidence of their commitment to reduce their Greenhouse Gas (GHG) emissions, which should include the airport's absolute emission reduction target.

2.1.2 In order to be accepted the commitment shall:

1. **Be publicly available through the airport's website or a publication**: The website link or publication proof shall be submitted on the ACA Portal. The commitment shall be publicly available throughout the certification period.
2. **Be signed by the highest management level at the airport**: The commitment shall be signed off by the airports highest level, for example, the Chief Executive Officer, Chief Operations Officer, the Board of Directors, or equivalent[3].

2.1.3 The commitment can be in the form of:

- A policy, for example a carbon policy or an environmental policy.
- Part of an existing policy or included in an existing report, for example for certification against a standard, such as *ISO 14001: Environmental Management System*.

[3] Unsigned policies can only be accepted if the publicly available versions clearly state the name and position of the approver and the airport can provide evidence of this approval (e.g., Board decision).

3 GHG Inventory

3.1 Overview

3.1.1 At Levels 4/4+ airports shall account for all Scope 1, Scope 2 and Scope 3 emissions, in line with the definitions and principles from the GHG Protocol, which shall be clearly stated within the GHG Inventory.

3.1.2 Note that the GHG Inventory categories outlined in *ISO 14064-1 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals* are also accepted by the programme.

3.1.3 Airports shall manage their GHG Inventory quality in line with Chapter 7 of the GHG Protocol "*A Corporate Accounting and Reporting Standard*".

3.2 Scope 1: Direct Emissions

3.2.1 Scope 1 emissions are direct GHG emissions from sources under operational control by the airport that involve the combustion or release of physical fuels or substances, and can be categorised into four categories:

1. Stationary Combustion Emissions
2. Mobile Combustion Emissions
3. Fugitive Emissions
4. Process Emissions

Stationary Combustion Emissions

3.2.2 This category includes direct emissions from the combustion of fuels in stationary equipment under operational control by the airport.

3.2.3 Typical airport stationary combustion sources include heating plants, terminal boilers, standby or emergency generators, combined heat and power (CHP) units, and fixed ground-power systems that provide electricity, heat, steam, or cooling to airport buildings and operations. These assets commonly use fuels such as petrol/gasoline, diesel, biodiesel, natural gas, liquefied petroleum gas (LPG), kerosene, propane, biogas or biomethane.

3.2.4 Emissions from the on-site generation of electricity, heat, steam, or cooling shall be reported under Scope 1. If any of the energy generated on-site is sold or provided to tenants or other parties, the associated emissions shall not be netted off; the airport shall report 100% of these emissions.

3.2.5 Note that when an airport generates electricity on-site from renewable sources, energy attributes are not required for the volume that is consumed directly by the airport unless this contradicts local or national regulation.

Mobile Combustion

3.2.6 This category covers direct emissions from the combustion of fuels in mobile equipment and vehicles under operational control by the airport.

3.2.7 Typical airport examples include airside vehicles (e.g., maintenance trucks, operational vehicles), ground support equipment (GSE) such as tugs and baggage tractors, snowploughs, fire and rescue vehicles, and landside fleet vehicles, all of which use fuels including petrol/gasoline, diesel, biodiesel.

3.2.8 Leased or rented vehicles under the airport's operational control must be included in Scope 1 regardless of legal ownership, consistent with GHG Protocol organisational boundary requirements.

3.2.9 Emissions from fuel sold by the airport to third parties for use in their operations (e.g., vehicles, equipment) shall not be part of Scope 1 emissions. They shall be included in Scope 3 emissions.

Calculation Guidance for Stationary and Mobile Combustion

3.2.10 Emissions shall be calculated using GHG Protocol–aligned methods:

1. **Fuel-use method**: Fuel consumed (e.g., litres, kg, m^3) multiplied by the fuel-specific emission factors.
2. **Energy-content method**: Convert fuel quantities into energy units (e.g., GJ) using standard calorific values and apply emission factors.
3. **Default emission factors**: Use national inventory, IPCC, or supplier-provided factors where site-specific fuel data is unavailable.
4. **Distance-based method** (*mobile combustion only*): Estimate emissions using distance travelled multiplied by the fuel economy and the emission factor.

Guidance for Stationary and Mobile Combustion Relating To Biofuels and Biomethane

3.2.11 Biofuels (e.g., biodiesel, HVO, bio-LPG) and biomethane may be used in both stationary and mobile combustion. Emissions shall be calculated using the guidance outlined below.

Emissions from Biofuels

3.2.12 Biofuels used directly at the airport (e.g., biodiesel in airport-owned vehicles, biogas used in on-site generators, or bio-LPG in heating systems) shall be included in the GHG Inventory using the best available emission factors. Where supplier-specific emission factors are available and transparent, these may be used; otherwise, national inventory emission factors, IPCC default factors, or other authoritative sources shall be applied.

3.2.13 In accordance with the *GHG Protocol*, direct CO_2 emissions from the combustion of biofuels are classified as biogenic and shall be excluded from Scope 1 totals. These biogenic CO_2 emissions must instead be reported separately to ensure transparency. Biogenic CO_2 emission factors should be obtained from fuel suppliers or national or IPCC sources and reported in tonnes of CO_2.

3.2.14 All non-CO_2 emissions produced during the combustion of biofuels (such as CH_4 and N_2O) shall be included in Scope 1.

3.2.15 Airports can voluntarily report Scope 3 emissions to include the life cycle (well-to-tank) emissions of the biofuel (such as those from feedstock cultivation, processing, and transportation), as well as the upstream emissions from production and transport using appropriate emission factors.

3.2.16 Where biofuels are procured through voluntary sustainability or certification schemes, airports should ensure that such schemes are credible and aligned with national regulations or airport procurement policies.

3.2.17 When considering the use of biofuels, products that are sourced from any of the voluntary biofuel certification schemes[4], and which have EU Commission approval, are considered as best practice for ACA airports; the minimum standard will, however, in all cases, remain compliance with national regulation.

3.2.18 The following additional information is provided, for consideration by airports in their use of biofuels:

- Recommended biofuel certification schemes approved by the European Commission are listed on the Commission's website.
- Where these schemes are used biofuel attribute certificates must show that only 2nd or 3rd generation biofuels are purchased for airport operations.

3.2.19 When biofuels are used on-site, the emission factors shall convey the direct GHG emission rate associated with the unit of biofuel.

3.2.20 In the case of biofuel attribute certificates or heat purchased from biofuel used by a third party they shall convey the direct GHG emission rate associated with the unit of biofuel/heat and be the only instrument that carries the GHG emission rate claim associated with that quantity of biofuel/heat.

[4] ICAO also approves Sustainability Certification Schemes that certify Sustainable Aviation Fuels in the context of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). More details can be found at https://www.icao.int/CORSIA/corsia-eligible-fuels

Emissions from Biomethane

3.2.21 Biomethane used directly at the airport shall be included in the GHG Inventory.

3.2.22 Airports that directly use non-renewable gases such as natural gas for activities such as heating, cooking or on-site electricity generation, may choose to procure Biomethane Attribute Certificates (BACs) to support market-based reporting and reduction target claims, where this is permitted by the national regulations of the airport's country. BACs may be used to demonstrate the procurement of biomethane even when physical biomethane is not delivered to the airport through the gas network.

3.2.23 The airport shall retain full ownership of the environmental attributes associated with the BACs and shall not transfer, sell, or otherwise double-count the certificates. BACs procured shall be attached to the airport's application.

3.2.24 When an airport uses BACs they shall report the emissions associated with both:

- ***The location-based method***: Calculated using the standard emission factor for fuel combustion.
- ***The market-based method:*** Calculated using the biomethane emission factor associated with valid BACs.

3.2.25 Airports are strongly encouraged to report this dual-reporting information on their website or within public sustainability reports to maintain transparency.

3.2.26 Given the absence of a universally recognised framework for BACs, airports shall carefully evaluate the benefits and drawbacks of using BACs. Considerations should include assessing potential changes in national or international policy, eligibility for future reporting schemes, reputational risks, stakeholder expectations, and any risks associated with purchasing certificates issued in other countries or regions.

3.2.27 Airports are encouraged to apply high levels of transparency and due diligence when using BACs. Airports should monitor emerging standards, regulatory developments, and best practices in biomethane attribute certification to ensure ongoing compliance and credibility of reported emission reductions.

Fugitive Emissions

3.2.28 Fugitive emissions include unintentional releases of GHGs from equipment and systems under operational control by the airport.

3.2.29 Typical fugitive emission sources include refrigerant leaks from terminal HVAC systems (e.g., chillers, air handling units, packaged air conditioners), cold-storage facilities, and fire-suppression systems that use hydrofluorocarbons (HFCs). Losses may occur through routine operation, maintenance or accidental releases.

3.2.30 Fugitive emissions shall be calculated in line with the GHG Protocol's guidance:

1. **Material balance method**: Estimate emissions as refrigerant purchased compared with the refrigerant recovered/disposed.
2. **Default emission factors**: Default loss rates and Global Warming Potentials.

3.2.31 If refrigerant refills occur less than once per year, the amount added should be divided across the time since the previous refill so that the reported emissions reflect an annualised, pro-rata leak rate.

Process Emissions

3.2.32 Process emissions arise from airport activities involving chemical or physical transformations.

3.2.33 Typical airport sources include the use of de-icing fluids and on-site waste or wastewater treatment systems operated by the airport.

Emissions from De-icing

3.2.34 Airports shall report emissions from the use of de-icing substances such as ethylene glycol, propylene glycol and potassium formate.

3.2.35 The emissions shall be calculated with the following inputs:

- The volume and percentage concentration of the de-icing chemical.
- The emissions factor for the degradation of the de-icing chemical.
- Adjustments for dilution factor.

3.2.36 A possible emissions factor for the degradation of propylene glycol can be found in the *ACERT* tool. Airports can also calculate their own emissions factors using chemical equations. Where other calculation methodologies are used, airports shall provide details of the calculation method with justification and assumptions made.

Emission from On-Site Waste Or Wastewater Treatment

3.2.37 Where the airport operates an on-site waste or wastewater treatment system, the direct GHG emissions shall be reported under Scope 1. For example, emissions may arise from the degradation of organic material in wastewater and sludge during treatment and handling processes.

3.3 Scope 2: Electricity Indirect Emissions

3.3.1 Airports shall account for all indirect emissions from the consumption of purchased electricity, heat, steam and cooling (collectively referred to as "electricity"), in accordance with the *GHG Protocol Scope 2 Guidance*.

Calculation Methods

3.3.2 Airports shall quantify Scope 2 emissions using the following methods:

- ***The location-based method*:** Reflects the average emissions intensity of the local or regional electricity grid where consumption occurs, irrespective of contractual energy procurement choices.
- ***The market-based method:*** Reflects emissions from electricity that the airport has procured using contractual instruments such as Renewable Energy Certificates (RECs), Guarantees of Origin (GOs), International-RECs (I-RECs), Power Purchase Agreements (PPAs) or Green Tariffs.

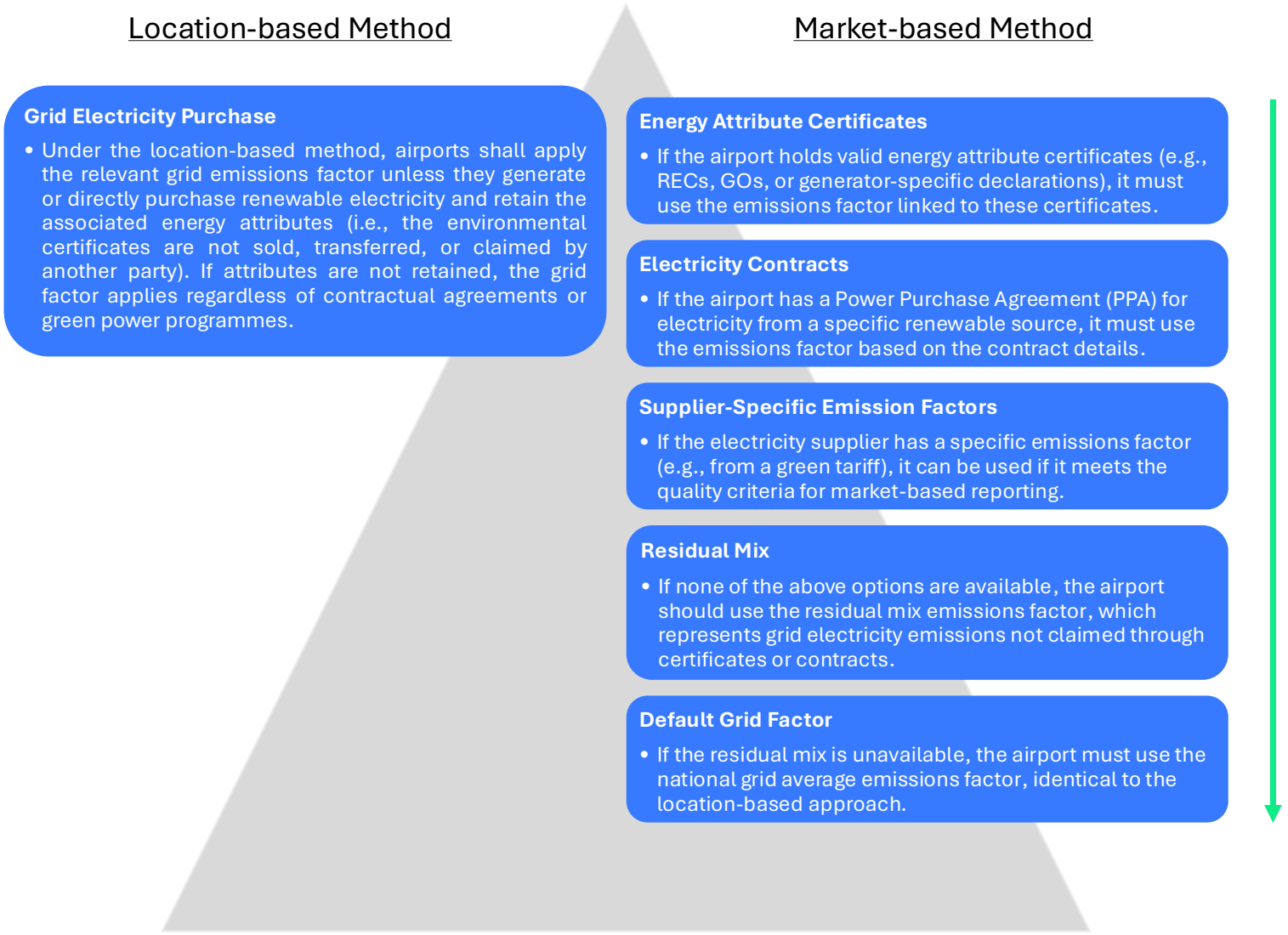
3.3.3 For airports with operations only in markets that do not provide product- or supplier-specific data or other contractual instruments, only one Scope 2 result shall be reported, based on the location-based method.

3.3.4 For airports with any operations in markets providing product or supplier specific data in the form of contractual instruments, airports shall account and report Scope 2 emissions in two ways and label each result according to the method: one based on the location-based method, and one based on the market-based method. This is applicable even when the airport is not using any contractual instruments.

3.3.5 Airports shall apply the same accounting method consistently throughout the inventory year and shall not report part of the year with the location-based methodology and the other part of the year with the market-based methodology.

3.3.6 Airports should use the principles in **Figure 1** when determining which emission factors to apply under the location-based method and market-based method.

***Figure 1**: Location-Based and Market-Based Emissions Hierarchy*



Use of Contractual Instruments

3.3.7 Contractual instruments are agreements or certificates that convey the GHG emission and environmental attributes of electricity purchased by the airport. Contractual instruments contain all of the associated energy and non-energy attributes – including but not limited to – the zero or low emissions claim associated with the electricity. These mechanisms include:

3.3.8 Energy Attribute Certificates such as *Guarantees of Origin* (GOs) in the European Economic Area, *Renewable Energy Certificates* (RECs) in USA and Canada, and *International-Renewable Energy Certificates* (I-RECs) in other countries.

3.3.9 Contractual instruments are procured in various methods but can also be embedded as part of contractual agreements such as Power Purchase Agreements (PPA), Green Tariffs or other contracts.

3.3.10 Contractual instruments provide verified claims that a specific quantity of electricity was generated from renewable or low-carbon sources.

3.3.11 Contractual instruments are not classed as offsets, which allow for a reduction of emissions achieved in each project over a period of time. Instead, they indicate the appropriate emissions factor for the electricity procured by the airport. Therefore, they can only be used to report in a more precise manner an airport's Scope 2 emissions as per the market-based method.

3.3.12 The airport must legally retain the environmental attributes. If attributes are sold, transferred or not included in the contract, the airport cannot report the electricity as zero-emission.

3.3.13 All contractual instruments used in market-based reporting must fulfil the following GHG Protocol criteria:

1. Convey the direct GHG emission rate associated with the electricity produced.
2. Be the only instruments that carry the GHG emission rate attribute claim associated with that quantity of electricity generation.
3. Be tracked and redeemed, retired, or cancelled by or on behalf of the reporting entity.
4. Be issued and redeemed in the same reporting period of energy consumption to which the instrument is applied.
5. Be sourced from the same market in which the reporting entity's electricity-consuming operations are located and to which the instrument is applied.

3.3.14 Supplier-specific emission factors may only be used if they relate directly to the electricity product the airport receives, and they are backed by an underlying contractual instrument.

Scope 2 Emission Exclusions

3.3.15 Certain emissions may be excluded from Scope 2 emissions (**Figure 2**):

- **Airport-owned electricity generation assets**: If the airport owns an electricity generation plant (on-site or off-site), emissions shall be included in Scope 1 rather than Scope 2.
- **Reselling purchased electricity**: If the airport resells purchased electricity to tenants and consumption is separately metered, the associated emissions may be excluded from Scope 2 and shall be included in Scope 3. This rule applies regardless of how the energy is resold (for example, based on floor area, metering, or other allocation).

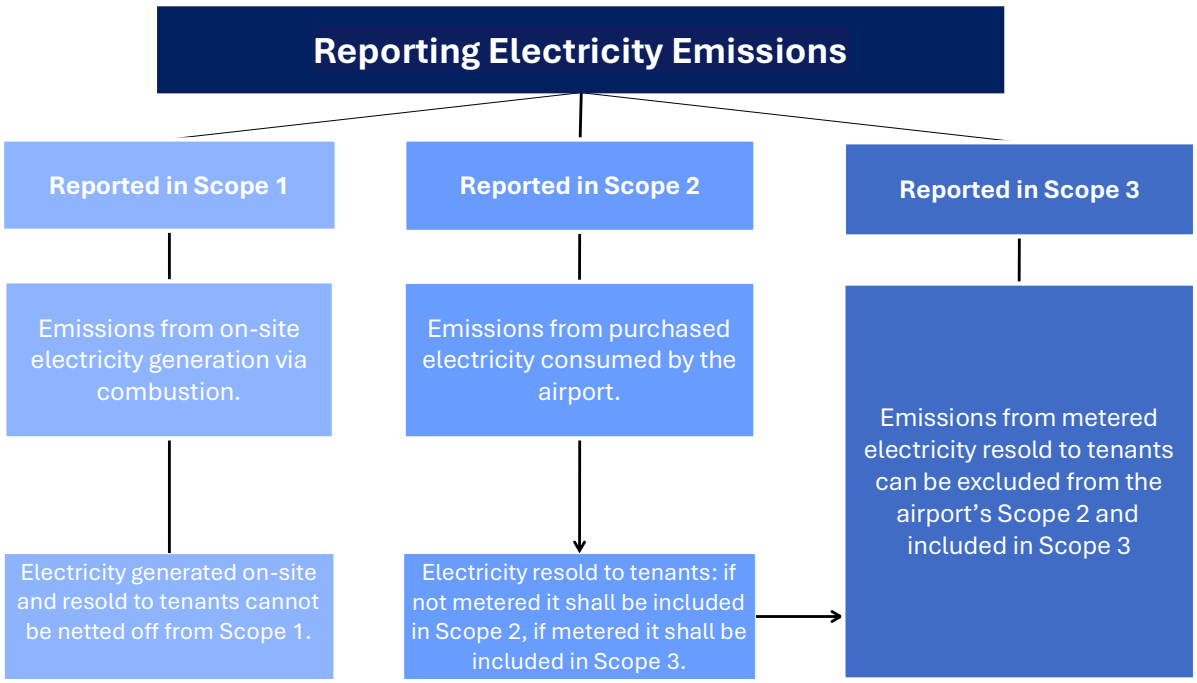
Heat Purchased from Biofuel Used by a Third Party

3.3.16 Where the airport purchases heat (e.g. steam or hot water) generated from biofuel by a third-party supplier, emissions shall be included in Scope 2. Airports shall:

- Use location-based emission factors provided by national inventories where available.
- Use market-based supplier-specific factors only where they meet market-based quality criteria.

3.3.17 Biogenic CO_2 emissions associated with the biofuel combustion shall be reported separately.

***Figure 2**: Scope 2 Electricity Indirect Emissions Reporting*



3.4 Scope 3: Indirect Emissions

3.4.1 At Level 4/4+, airports shall account for all Scope 3 emissions that are relevant to the airport from the following GHG Protocol categories:

Upstream emissions

- **Category 1**: *Purchased Goods and Services*
- **Category 2**: *Capital Goods*
- **Category 3**: *Fuel and Energy Related Activities*
- **Category 4**: *Upstream Transportation & Distribution*
- **Category 5**: *Waste Generated in Operations*
- **Category 6**: *Business Travel*
- **Category 7**: *Employee Commuting and Home Office*
- **Category 8**: *Leased Assets*

Downstream emissions

- **Category 9**: *Downstream Transportation & Distribution*
- **Category 10**: *Processing of Sold Products*
- **Category 11**: *Use of Sold Products*
- **Category 12**: *End-of-Life Treatment of Sold Products*
- **Category 13**: *Downstream Leased Assets*
- **Category 14**: *Franchises*
- **Category 15**: *Investments*

3.4.2 This section outlines examples and the calculation guidance for the most common categories for the airport's Scope 3.

Category 1: Purchased Goods and Services

3.4.3 This category includes the upstream emissions (cradle-to-gate) from the extraction, production and transport of goods and services purchased or acquired by the airport in the reporting year.

3.4.4 Purchased goods include, for example: office supplies, staff uniforms, cleaning chemicals, paper products, potable water supply and minor construction materials.

3.4.5 Purchased services include, for example: contracted construction and maintenance services, terminal and airfield landscaping, fire services, snow removal services, janitorial services, building repair services, and shuttle bus services operated under contract.

3.4.6 Emissions should be attributed to the reporting year in which the goods and services are purchased.

3.4.7 The following emission sources are not included in Category 1:

- Fuel purchased for airport-owned vehicles or equipment (Scope 1).
- Purchased electricity, heating, or cooling (Scope 2).
- Capital goods including major terminal expansions, runway construction, heavy equipment purchases (Scope 3, Category 2).
- Goods or services purchased directly by airlines or tenants.

Emission Source	Description	Calculation Guidance
General purchased goods	Emissions from the production of goods purchased (office supplies, cleaning supplies, uniforms, IT equipment).	1. **Supplier-specific method**: Obtain cradle-to-gate Scope 1 and Scope 2 emissions data from suppliers of the goods. 2. **Hybrid method**: Combine supplier specific activity data (if available) with secondary emission factors. 3. **Average-data method**: Multiply quantity of good purchased (kg/units) or unit of service (labour hours) by industry-average factors or volume or surface. 4. **Spend-based method**: Multiply monetary spend by environmentally extended input output emission factors.
Construction and maintenance services	Emissions from contracted services such as facility maintenance, landscaping, janitorial services, minor construction, snow removal, repairs.	
Contracted third party service vehicles	Emissions from service vehicles operated under contract to the airport (e.g., shuttle buses, maintenance vans, catering trucks).	1. **Supplier-specific method**: Request fuel use, mileage, or GHG emissions from the contractor. 2. **Hybrid / Average-data method:** Use activity data (vehicle-km, litres of fuel)

		multiplied by standard fuel/emission factors. 3. **Spend-based method**: Multiply contract spend by average emission factors for transportation services.
Other services	Legal services, tax/fiduciary/auditing services, planning services, general consulting services, marketing.	1. **Supplier-specific method**: Obtain cradle-to-gate Scope 1 and Scope 2 emissions data from suppliers of the service. 2. **Hybrid method**: Combine supplier specific activity data (if available) with secondary emission factors. 3. **Average-data method**: Multiply quantity of services purchased by the relevant secondary emission factor. 4. **Spend-based method**: Multiply contract spend by average emission factors for transportation services.

Category 2: Capital Goods

3.4.8 This category covers the upstream emissions (cradle-to-gate) from the extraction, production and manufacturing of capital assets purchased or acquired by the airport in the reporting year. Capital goods are items with an extended life used in operations and infrastructure development.

3.4.9 Examples of Capital Goods include:

- *Vehicles*: Cars, buses, trucks, machinery.
- *Buildings*: Air traffic control towers, hotels, terminal construction, multi-storey car parks or parking structure upgrades, hangars.
- *Civil Infrastructure*: Runway and taxiway construction or resurfacing, apron, roads, parking.
- *Installations*: Baggage handling systems, passenger boarding bridges and fixed ground power units.

3.4.10 The following emission sources are not included in Category 2:

- Emissions from the use of capital goods by the reporting company, such as on-site fuel use (Scope 1) or purchased electricity (Scope 2).
- Transportation of capital goods to the site (Scope 3 Category 4).
- Major refurbishment services without acquisition of an asset, for example, repainting buildings, annual HVAC servicing (Scope 3 Category 1).

Emission Source	Description	Calculation Guidance
Infrastructure projects	Emissions from capital projects such as runway extensions, terminals, or parking facilities.	1. **Supplier-specific method**: Obtain cradle-to-gate Scope 1, Scope 2 emissions data from contractors and suppliers. 2. **Hybrid method:** Combine supplier-specific data (e.g., material quantities, fuel and electricity use) with secondary emission factors for construction materials and processes. 3. **Average-product method:** Multiply the quantity of construction materials purchased (e.g., tonnes of asphalt, concrete, steel) by cradle-to-gate emission factors from LCA databases, or volume or surface. 4. **Spend-based method**: Multiply the capital project cost by environmentally extended input output emission factors for the construction sector.
Equipment & vehicles	Emissions from purchased vehicles, baggage systems, HVAC systems, jet bridges.	1. **Supplier-specific method**: Request cradle-to-gate GHG emissions data for equipment from manufacturers. 2. **Hybrid method**: Use manufacturer activity data (materials, components, energy use in fabrication) and fill data gaps using secondary emission factors. 3. **Average-data method**: Multiply the weight/units of equipment purchased by industry-average cradle-to-gate emission factors. 4. **Spend-based method:** Multiply procurement spend by sector average emission factors for machinery, vehicles, or equipment manufacturing sectors.

Category 3: Fuel and Energy Related Services

3.4.11 This category includes upstream emissions (cradle-to-gate) associated with the production and delivery of fuels and energy consumed by the airport, excluding emissions already reported in Scope 1 and Scope 2.

3.4.12 This includes the extraction, processing and transport of fuels:

- Consumed on-site (diesel, petrol/gasoline in airport owned ground vehicles, or natural gas used for central heating).
- Used to generate purchased electricity, heating or cooling.
- Transmission and distribution losses from purchased electricity, heat or steam.

3.4.13 When reporting Scope 3 emissions derived from metered electricity used by tenants, airports shall use the location-based methodology but should provide a market-based Scope 3 figure if they have a choice of energy supplier(s).

3.4.14 The following emission sources are not included in Category 3:

- Combustion of fuels on-site (Scope 1).
- Electricity, heating or cooling consumed by the airport (Scope 2).
- Tenant energy consumption billed directly to tenants (tenant Scope 3).

Emission Source	Description	Calculation Guidance
Upstream emissions of purchased fuels	Emissions from the extraction, processing, and transport of fuels that the airport burns on-site such as natural gas, diesel, petrol/gasoline, propane.	1. **Supplier-specific method**: Obtain well-to-tank fuel lifecycle emissions from the fuel supplier. 2. **Average-data method**: Multiply fuel quantity by default upstream emission factors.
Upstream emissions of purchased electricity	Emissions from the extraction and processing of fuels used to generate electricity consumed by the airport.	**1. Supplier-specific method**: Apply utility-provided life cycle intensity factors. **2. Average-data method**: Multiply kWh purchased by published upstream grid emission factor.
Transmission and distribution losses	Emissions from energy lost during transmission and distribution of purchased electricity, steam, or cooling.	**1. Supplier-specific method**: Use utility-provided T&D loss percentage and grid emission factors. **2. Average method**: Apply average T&D loss percentage (national or regional) and average grid generation life-cycle emission factor.
Generation of purchased electricity sold to end users	Emissions from generation of electricity purchased by the airport and resold to tenants or other entities. Only applicable to airports acting as energy resellers.	**1. Supplier-specific method**: Request utility-specific emission intensity data for the electricity supplied and apply this to the kWh resold to tenants. **2. Average-data method**: Multiply the kWh resold by national or regional average electricity generation life-cycle factors.

Category 4: Upstream Transportation & Distribution

3.4.15 This category includes upstream emissions from the transportation and distribution of goods purchased by the airport, where the transport vehicles are not under operational control by the airport. This covers the movement of goods from the airport's tier 1 suppliers to airport facilities, as well as any third-party freight, courier or logistics services procured by the airport.[5]

3.4.16 It also includes third-party transportation and distribution services purchased by the airport in the reporting year.

3.4.17 Examples include: third party delivery of office supplies, transport of construction materials to the airport site, freight services moving airport-owned equipment between airport buildings, any contractor provided logistics services where the airport purchases the transport service and does not operate the vehicles.

3.4.18 The following emission sources are not included in Category 4:

- Airline fuel deliveries (if airlines purchase the fuel) (airline's Scope 3).
- Catering trucks delivering meals for airline flights (caterer/airline's Scope 3).
- Freight moving through the airport on behalf of cargo handlers (handlers' Scope 3).
- Passenger travel to/from the airport (Scope 3 Category 9).

Emission Source	Description	Calculation Guidance
Inbound freight by road	Emissions from third-party transport of goods used by the airport (construction materials for airport projects, machines or equipment, office supplies, IT equipment).	1. **Average-data method** (distance or fuel based). **Fuel-based**: Determining the amount of fuel consumed and applying the appropriate emission factor for that fuel. **Distance-based**: Determining the mass, distance, and mode of each shipment, then applying the appropriate mass-distance emission factor for the vehicle used. 2. **Spend-based method**: Multiply logistics service spend by emission factors for the freight transport sector, used only when no shipment mass or distance data is available.

[5] As per the GHG Protocol "Tier 1 suppliers are companies with which the reporting company has a purchase order for goods or services (e.g., materials, parts, components, etc.)."

Category 5: Waste Generated in Operations

3.4.19 This category includes emissions from third-party disposal and treatment of waste generated in the airport's operations in the reporting year. This category includes emissions from disposal of both solid waste management (e.g., landfill disposal, recycling, composting, waste-to-energy) and wastewater management.

3.4.20 If third-party emissions from solid waste or wastewater treatment and disposal cannot be distinctly attributed, they should be included in the airport's emission inventory. In such cases, the airport should apply appropriate estimation methods, such as waste-type-specific or average-data emission factors, consistent with the GHG Protocol guidance.

3.4.21 The following emission sources are not included in Category 5:

- Waste treatment at facilities owned or controlled by the airport (Scope 1 & 2).
- On-site waste treatment/disposal emissions, such as emissions from an airport-owned incinerator or wastewater plant (Scope 1).
- Waste from construction of capital projects (Scope 3 Category 2).

Emission Source	Description	Calculation Guidance
Solid waste	Emissions from the treatment and disposal of solid waste generated by airport operations in facilities owned or operated by third parties. Where possible break down by solid waste fraction.	1. **Supplier-specific method**: Obtain emissions data directly from the waste treatment companies. 2. **Waste-type-specific method**: Use emission factors for specific waste types and waste treatment methods. 3. **Average-data method**: Estimate emissions based on total waste going to each disposal method and the average emission factors for the disposal method.
Wastewater	Emissions from the treatment and disposal of liquid waste and sewage generated by airport operations in facilities owned or operated by third parties.	

Category 6: Business Travel

3.4.22 This category includes emissions from the travel of employee business-related activities in vehicles owned or operated by third parties such as aircraft, trains, buses, taxis, boats. If airport employee business travel includes flights to or from the airport these shall be reported in Category 6.

3.4.23 Emissions from staff business travel shall be based on the most precise data available including ticket information, business mileage, expense claims, and data from vehicle leasing companies.

3.4.24 The following emission sources are not included in Category 6:

- Employee commuting, which is included in Category 7.
- Transportation in vehicles owned or controlled by the airport (Scope 1).

Emission Source	Description	Calculation Guidance
Business trips taken by airport staff using all modes of transport	Emissions from travel of employee business-related activities in vehicles owned or operated by third parties such as aircraft, trains, buses, taxis.	1. **Fuel-based method**: Determine the volume of fuel consumed during business travel and apply the emission factor. 2. **Distance-based method**: Determine the distance and mode of business trips and apply the appropriate emissions factor. 3. **Spend-based method**: Determine the amount of money spent on each mode of business travel and apply secondary emission factors.

Box 3. Sustainable Aviation Fuel (SAF)

Airports may choose to support the production and use of Sustainable Aviation Fuel, as a way to reduce the emissions associated with their Scope 3 business travel by air.

Airports can support the use of SAF (for example certificates) to reduce a portion of their Scope 3 business flights by contributing to the sourcing and consumption of SAF, even though the actual fuel consumption takes place at different locations worldwide. By adopting this approach, airports can take a more proactive role in driving global carbon reductions.

Airports using SAF to reduce their emissions, shall provide evidence that the following criteria are met:

1. The reduction is calculated using the latest scientific evidence.
2. It is verified by an independent third-party auditor.
3. It is documented in a report and/or certificate.
4. The reduction is exclusive to the airport (no other party can claim the reduction).
5. The reduction is real and measurable.

The airport shall report their Scope 3 business travel emissions before the SAF certificates have been applied, and then with the use of SAF certificates reducing their emissions. The volume of business travel emissions covered by SAF certificates does not need to be included in the volume of emissions required to be offset for Level 4+.

Category 7: Employee Commuting

3.4.25 This category includes emissions from the travel of airport employees between their homes and their work site at the airport.[6] Airports can also optionally include emissions from teleworking (employees working remotely).

3.4.26 The following emission sources <u>are not</u> included in Category 7:

- Commuting by staff of tenants, contractors, and other third-party personnel not directly employed by the airport.
- Emissions from airport-owned vehicles, such as shuttle buses for staff commuting (Scope 1 if diesel/petrol or Scope 2 if electric).

Emission Source	Description	Calculation Guidance
Employees commuting using all modes of transport	Emissions from airport employees commuting between their homes and worksites using all modes of transport (car, bus and train.	1. **Fuel-based method**: Determining the amount of fuel consumed during commuting and applying the appropriate emission factor for that fuel. 2. **Distance-based method**: Collecting data from employees via survey on commuting patterns (distance travelled, and mode used for commuting) and applying the appropriate emission factor. 3. **Average-data method**: Estimating emissions from employee commuting based on average (e.g. national) data on commuting patterns.
Employees teleworking (remote work)	Emissions from teleworking by airport employees, including energy consumption for electricity, heating, and cooling in remote location.	To calculate emissions from teleworking (remote work), airports should estimate the number of employees working from remotely and the average number of remote workdays. The average energy use from remote working should then be calculated and the relevant emission factors applied.

[6] Airports may include employees of other relevant entities, such as consultants, contractors, and other individuals who are not employees of the airport, but commute to facilities owned and operated by the airport.

Category 8: Upstream Leased Assets

3.4.27 This category includes emissions from the operation of assets that the airport leases and that are not already covered in Scope 1 or Scope 2.

3.4.28 The key factor to determine whether the emissions from leased or rented assets fall under Scope 1, 2 or 3 is based on the operational control of the asset:

- Emissions are Scope 1 or Scope 2 where the airport has operational control.
- Emissions are Scope 3 where the third-party leasing company has operational control.

3.4.29 If the airport leases an asset for only part of the reporting year, it should account for emissions for the portion of the year that the asset was leased.

3.4.30 The following emission sources are not included in Category 8:

- Fuels for leased assets (Scope 1).
- Energy for leased assets (Scope 2).
- Tenant-leased space in airport-owned buildings.

Emission Source	Description	Calculation Guidance
Upstream leased assets	Emissions from the operation of assets that the airport leases and that are not already covered in Scope 1 or Scope 2.	1. **Asset-specific method**: Collect asset/site specific fuel and energy use data and process and fugitive emissions data from individual leased assets. 2. **Lessor-specific method**: Collect the Scope 1 and Scope 2 emissions from lessor(s) and allocate emissions to the relevant leased asset(s). 3. **Average-data method**: Estimate emissions for each leased asset or group of assets based on average data, such as average emissions per asset type or floor space.

Category 11: Use of Sold Products

3.4.31 This category includes emissions that occur from the use of goods and services sold by the airport, where the product or service directly generates emissions when used by the customer.

3.4.32 Under *Airport Carbon Accreditation*, the airport's "*product sold*" is the infrastructure and services (runways, stands, roads, parking) that third parties can use for the purpose of air travel including:

- Airlines operating aircraft at the airport. The emissions from the full flight (i.e., Landing-Take Off Cycle-LTO, Climb, Cruise and Descent-CCD phases), APU operation, and engine run-ups during MRO shall be reported.
- Surface access emissions by passengers, visitors or third-party employees provided by public transport operators, private vehicles, taxis, hotel shuttles, tour operators, etc.
- Third parties' vehicle operations conducted on airport property including police, customs, immigration, border control, agencies, emergency services, security, etc. that access the airport but are not under contract by the airport. This also includes ground handling companies and aircraft service providers operating equipment such as tugs, belt loaders, GPUs, fuel trucks, catering vehicles, and de-icing rigs, where the airport does not operate the equipment.

Emission Source	Description	Calculation Guidance
1. Emissions From Use of Jet Fuel		
Aircraft main engine use (LTO and CCD phases)	Emissions from jet fuel combusted in aircraft main engines during the LTO and CCD phases. Includes commercial, cargo, general aviation, and private aircraft using airport facilities, but excludes military.	Airports can estimate full flight emissions through appropriate modelling tools, fuel-based calculations, or other methods.[7] There are advantages and disadvantages from each method, including data requirements and accuracy. For example, fuel-based calculations may lead to overestimating emissions at airports with high refuelling activity (where fuel is supplied for multiple flights of the same aircraft) and underestimating emissions at airports with low refuelling activity (typically smaller airports, where aircraft depart with fuel uplifted at a previous airport) Airports shall provide details of the calculation approach, along with the

[7] If the fuel uplift method is used for flights, then the APU and MRO fuel is already included; only if flight models are used, then the APU fuel has to be added.

		justifications and uncertainties associated with their calculations.
Auxiliary power units (APUs)	Emissions from fuel burned during ground operations while aircraft are parked or during pre-flight checks.	Estimate APU running hours from airport operations or airline data; apply fuel burn rates per aircraft type. Multiply by aviation fuel emission factors.
Engine testing and maintenance, repair and overhaul (MRO)	Emissions from fuel burned during engine testing, calibration, and maintenance activities by third parties using airport facilities.	Obtain records from MRO operators on frequency, duration, and fuel used during tests. Where data unavailable, apply standard fuel consumption rates per test and multiply by jet fuel emission factors.
2. Surface Access		
Passenger surface access	Emissions from passenger journeys to and from the airport via all transport modes (private car, taxi, bus, coach, rail).	1. **Survey or ticketing method**: Estimate total passenger trips by mode using travel surveys, ticketing data, parking records or traffic counts. 2. **Distance-based method**: Multiply trip distances by mode-specific emission factors (e.g., CO_2e per passenger-km). 3. **Load factor adjustment**: Where possible load factors (average passengers per vehicle) to improve accuracy.
Third party and visitor access	Emissions from surface journeys by airport visitors, staff of tenants, contractors, and other third-party personnel not directly employed by the airport.	
3. Third Party Vehicle Operations		
Third-party service vehicles (non-contracted)	Emissions from vehicles operated by external agencies (police, customs, border control, security) that access the airport but are not under contract or operational control of the airport.	1. **Activity identification**: Determine the number and type of vehicles regularly operating within airport boundaries and estimate operational patterns (e.g., hours on-site, distance travelled, or average fuel consumption). 2. **Fuel-based estimation**: Where fuel data is available, apply fuel-specific emission factors.
Ground support equipment fuel use by third parties	Emissions from equipment owned and operated by third parties involved in aircraft handling (ground power units, tugs, de-icing equipment).	1. **Fuel-use method**: Collect data on the number and type of GSE, associated fuel types (diesel, gasoline, LPG, or electric), and recorded or estimated annual fuel consumption. Apply appropriate emission factors for each fuel type. 2. **Activity-based method**: Where fuel data are unavailable, estimate fuel use based on hours of operation, load factors, and typical energy consumption per equipment type.

Box 4. Full Flight Emissions Data and ICAO

The requirement for airports to measure and report their full flight emissions at Levels 3 to 5 focuses on enhancing accountability, improving transparency and managing airports' Scope 3 emissions. This approach differs from the reporting requirements under CORSIA. This approach differs from, and it does not replace, the mandate and reporting requirements of ICAO Member States in relation to the globally harmonised ICAO's policies and Standards in addressing emissions from international aviation, including through CORSIA which is the global market-based measure that applies to the international aviation sector to meet the ICAO global aspirational goal. For example, under CORSIA, an aeroplane operator shall monitor its fuel use from all international flights to calculate its annual CO_2 emissions and to report them to the State to which it is attributed. Then, Member States report these emissions to ICAO for the calculation of the annual Sector Growth Factor that will serve to the States to calculate the annual offsetting requirements of their aeroplane operators. More information on CORSIA is available on the ICAO website: www.icao.int/environmental-protection/CORSIA/Pages/default.aspx

Category 13: Downstream Leased Assets

3.4.33 This category includes emissions from the operation of assets owned by the airport but leased to other entities such as airlines, ground handlers and other tenants. It focuses primarily on energy consumption and operational emissions from those leased assets.

3.4.34 Examples include:

- Airport owned hangars leased to airlines.
- Retail, food and office spaces within the airport terminal leased to tenants.
- Cargo facilities or storage areas leased to logistics operators.
- Car parks owned by the airport and leased to third-party operators.

3.4.35 The following are not included in Category 13:

- Emissions from assets leased to the airport (Scope 3 Category 8).
- Emissions related to tenant operations beyond energy use of leased assets.
- Capital goods or maintenance-related embodied emissions (Scope 3 Category 2).

3.4.36 Airports may apply one or more of the following methods to estimate emissions from downstream leased assets, depending on data availability and the level of control or information shared with tenants.

Emission Source	Description	Calculation Guidance
Downstream leased assets	Emissions from the operation of assets owned by the airport but leased to other entities.	1. **Asset-specific method**: Collect asset or site-specific energy and emissions data from each leased facility or tenant space. This includes data on electricity, heating, cooling, and other energy sources, as well as any process or fugitive emissions (e.g., refrigerant leakage) occurring within the leased premises. This method provides the most accurate results when sub-metering or detailed tenant reporting is available. 2. **Lessee-specific method**: Collect Scope 1 and Scope 2 emissions data directly from lessees (tenants) that operate within airport-owned facilities. Allocate these emissions to the relevant leased assets based on reported consumption or proportional floor area. This method is suitable when tenants have their own verified GHG inventories or sustainability reporting. 3. **Average-data method**: Where asset-specific or tenant data are unavailable, estimate emissions using average or proxy data. This may include average energy use per square metre, per building type, or per tenant category (e.g., retail, office, or operations). Apply appropriate emission factors for electricity and fuel types used.

Other Scope 3 Emission Categories

3.4.37 The following Scope 3 categories may be applicable to some airports depending on their specific activities, ownership structures, or operational arrangements, but they may not be relevant to all. Airports shall include emissions from these categories if they are determined to be applicable to their operations:

- **Category 9**: *Downstream Transportation & Distribution* – Emissions from the transportation and distribution of goods sold by the airport in vehicles and facilities not owned or controlled by the airport.
- **Category 10**: *Processing of Sold Products* – Emissions resulting from products sold by the airport that require further processing before use, such as emissions from the refining of jet fuel sold to airlines.
- **Category 12***: End-of-Life Treatment of Sold Products* – Emissions associated with the disposal or recycling of products sold by the airport, including e-waste and decommissioned airport equipment.
- **Category 14**: *Franchises* – Emissions from businesses operating under the airport's brand, including their Scope 1 and Scope 2 emissions, such as energy consumption and fuel use.
- **Category 15**: *Investments* – Emissions from the airport's investment portfolio, including equity shares in airport operations and other relevant industries with carbon emissions.

3.5 GHG Inventory Report

3.5.1 Airports shall submit a GHG Inventory Report in the ACA Portal, which shall include:

1. **General contextual information** including a brief overview of the airport ownership structure, location, key operational metrics such as number of employees/passengers/aircraft movements/cargo. *Should not exceed 1-page*.
2. **Information on Data:**

   Data Collection: Reporting period, organisational and operational boundaries, data collection procedures, roles and responsibilities.

   Data Sources: A description of the sources of activity data, such as invoices, delivery notes, and meter readings (the source document itself is not required).

   Types of Data: Energy consumption data relevant to Scope 1 and Scope 2, including electricity use and fuel consumption.

   Data Management: Tools or software used, data quality controls, verification or assurance processes, and record-keeping practices.
3. **Methodology**: Emission factors, calculation formulas, assumptions made, and any exclusions applied, in line with the *GHG Protocol*.
4. **Inventory Adjustments**: Any adjustments due to asset changes, boundary changes, or data corrections.
5. **Data Analysis**: Presented by Scope (1, 2 and 3) (such as trends, comparisons, uncertainties, materiality).

4 Emission Reduction Target

4.1 Formulating the Emission Reduction Target

Target Type

4.1.1 At Level 4/4+ airports shall set an absolute long-term emissions reduction target, using either the location-based or market-based method to demonstrate emissions reductions and shall state which method they have used.

Target Scope

4.1.2 The criteria for setting the absolute emissions reduction target include:

1. All Scope 1 and 2 emissions as a minimum.
2. Be aligned with the IPCC 1.5°C pathway.[8]
3. Be set against a verified base year.
4. A long-term absolute emissions-reduction target at least 10 years ahead, no later than 2050. The target date should preferably fall on the middle or end of the decade (e.g. 2030; 2035; 2040; 2045;2050).
5. For targets exceeding 15 years, at least one interim milestone is required. Any interim milestone shall be set 10 or 15 years after the application year and before the long-term target.

4.1.3 Airports may also choose to voluntarily include Scope 3 emissions sources in their target. If an airport chooses to include one or more Scope 3 emissions sources in their emissions reduction target, the following requirements apply:

1. The total Scope 3 emissions included in the target shall be significant, which could either be:
   a. LTO emissions, or
   b. Any other Scope 3 sources which represent greater than 10% of the total Scope 3 inventory when excluding full flight emissions.
2. The airport shall demonstrate that it exercises significant influence over those Scope 3 emissions sources which are included. This shall be demonstrated by means of the airport's Carbon Management Plan which shall state which Scope 3 sources are included in the target, the third-party owner of those emissions and how the airport exercises influence over those emissions.

Existing Targets

4.1.4 If an airport has set an absolute target at Level 2, 3 or 3+ which meets these criteria, the airport can retain their existing target to become certified at Level 4 and 4+.

[8] Note that for any airports in a country which the national target is aligned to the IPCC 2-degree pathway, then alignment with the 2-degree pathway is accepted. Relevant proof should be provided and the administrator should be contacted.

4.1.5 A target set and approved by the Science Based Target initiative (SBTi) will automatically be accepted for Level 4/4+ certification as long as it is aligned to the IPCC 1.5°C pathway and set at least 10 years into the future.

Target Amount

4.1.6 The emissions reduction target amount shall be in accordance with the percentage reductions specified for each target year outlined in **Table 2.** which is considered to provide acceptable alignment with the IPCC 1.5°C pathway.

4.1.7 There is no limit in terms of the maximum emissions reduction target amount which can be applied for a given airport and a given target date.

***Table 2**: Target Percentage Reductions*

Target Year	Emission Reduction Against Base Year (1.5°C pathway)
2030	At least 40%
2035	At least 55%
2040	At least 70%
2045	At least 85%
2050	At least 90%

4.1.8 **Box 5** outlines the points an airport should consider when setting an absolute emissions reduction target.

Box 5. Setting an Absolute Emission Reduction Target

There are specific elements that airports should consider when formulating their target.

Airports should consider the future emissions scenario following "business as usual" without any significant reduction interventions, including the following:

- Historic evolution of emissions at the airport
- Expected future passenger numbers
- Projected air traffic movement growth
- Existence of planned developments for new terminals / runways
- Developments to public transport providing passenger access
- Decarbonisation of grid electricity generation
- Increase in fuel efficiency of vehicles
- Changing fuel mix of vehicles

For some airports, the future emissions scenario will suggest a significant reduction in emissions while for others it may suggest an increase. Airports should then consider the possible emission reduction actions they could implement. Ideally, airports should complete a cost-effectiveness exercise to compare actions leading to an optimal strategy for emissions reductions. Airports should consider the opportunities presented by the need to replace existing equipment/vehicles at the end of their operational life (e.g., replacing ageing boilers/chillers with efficient modern version of alternative low or zero carbon technologies like heat pumps).

4.2 Setting the Base Year

4.2.1 The base year is defined as a specific historic year against which a company's emissions are tracked over time. Airports shall choose as a base year the earliest relevant point in time for which they have reliable data, from 2010 or later. Airports shall not select 2020 or 2021 as the base year due to the impact of the pandemic.

4.2.2 The base year shall account for both Scope 1 and Scope 2 and shall be verified.

4.2.3 Airports can voluntarily include Scope 3 in their base year, noting that a different base year can be used for Scope 3 if data is not available for the base year being used for Scope 1 and Scope 2. In such a case it is recommended to choose the earliest year for which reliable data is available.

4.2.4 Following its selection, the base year should remain unchanged, unless some regulatory or other important reason emerges. The airport will have to justify any subsequent change of the base year.

4.3 Emissions Reduction Trajectory

4.3.1 Airports shall define an emissions trajectory as part of their Carbon Management Plan.

4.3.2 This trajectory shall outline the expected path of emissions reductions demonstrating how the airport plans to achieve its absolute emissions reduction target in alignment with their pathway, along with any interim milestones.

- Any projected increases in emissions at certain points need to be explained, ensuring that the overall trajectory still leads to the required emission reduction target.
- The trajectory shall be updated and verified every six years to ensure the airport is on track to meet its long-term target or interim milestones.

4.4 Compliance with Set Target

4.4.1 The airport shall present the expected emissions according to its trajectory and the actual emissions from the corresponding year. It shall also detail which initiatives have been implemented and the actual emissions reductions that have been achieved as a result.

4.4.2 Compliance against the trajectory shall be assessed every 6 years through the GHG Inventory, at interim milestones and upon the target year. Up to 15% deviation from trajectory is accepted. Milestones and targets must be met without any deviation.

4.4.3 Airports shall report the target using the method based on which the target was set. If an airport wants to switch from the location-based method to the market-based method (or vice versa), the airport shall change the target amount accordingly.

4.4.4 Airports shall demonstrate achievement of their target in accordance with the target year they have set.

4.4.5 When a target is achieved a new one shall be set that meets all relevant requirements.

4.5 Adjusting the GHG Inventory & Base Year

4.5.1 After joining the programme, it is possible that an airport will proceed with activities that trigger recalculations of the base year and the historic GHG Inventory (see the Materiality section in *Requirements for All Levels*).

4.5.2 The following cases shall trigger recalculation of the base year and historical GHG inventories as long as they result in a material variation to the Scope 1 or Scope 2 emissions, or if they affect the airport's ability to meet programme requirements (e.g., the three-year rolling average) (**Figure 3**):

A. A structural change that involves the transfer of ownership or control of emissions-generating activities or operations from one company to another. While a single structural change might not have a significant impact on the base year emissions, the cumulative effect of a number of minor structural changes can result in a significant impact. Structural changes include:

- **Mergers:** When two or more business units combine into one, leading to a change in the scope of operations and therefore the emissions.
- **Acquisitions**: When an airport acquires another company or business unit, which could introduce new emission sources or alter the emission profile of the airport.
- **Divestments:** When an airport sells a portion of its business or assets, reducing or changing the emission profile (this does not include the closure of assets).

These structural changes trigger recalculation because they merely transfer emissions from one company to another without any change of emissions released to the atmosphere, for example, an acquisition or divestment only transfers existing GHG emissions from one company's inventory to another.

B. Changes in calculation methodology (for example where CO2 was used rather than CO2e); retroactive updates to emission factors issued by the authoritative source ; or changes in activity data selected for the base year that result in a significant impact on the base year emissions. Note that recalculation of the base year will not be necessary due to updates to emission factors that may occur in years subsequent to the base year by the entity that publishes them. Those updated emission factors will apply to the calculation of the carbon inventory for the corresponding year.

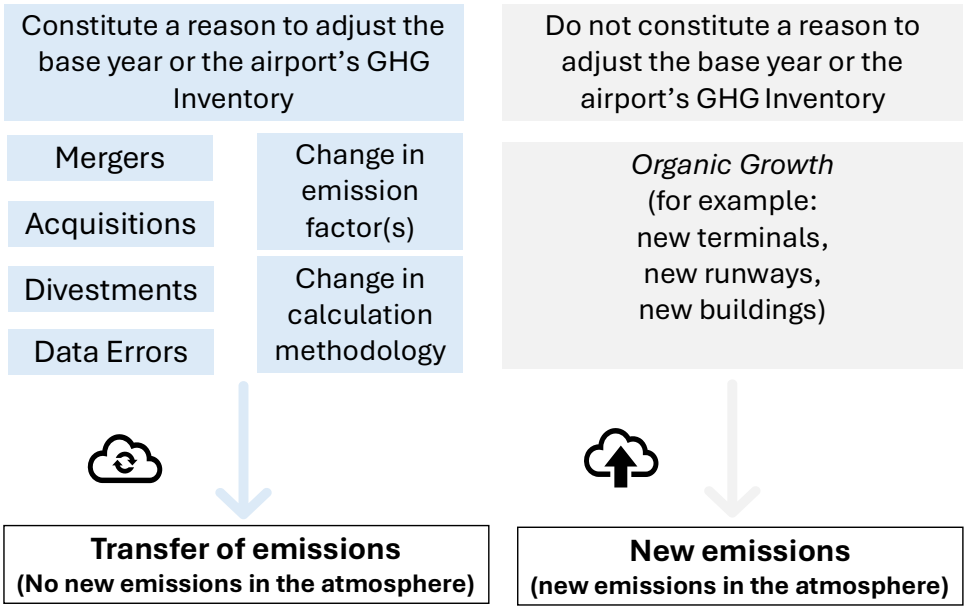
C. Discovery of significant errors, or a number of cumulative errors that are collectively significant (e.g. data entry errors, improper calculations, misclassifications or incorrect assumptions).

4.5.3 Any changes to an airport's physical infrastructure as a result of organic growth, such as the addition of a new terminal, the construction of a new runway, expansion of the airfield, or decommissioning of assets do not constitute a reason to adjust the base year or the airport's GHG Inventory as these do not represent structural changes but rather normal business growth and fluctuations. Consequently, in such a case the GHG Inventory shall be updated with the additional emissions.

4.5.4 Airports experiencing organic growth, should contact the Administrator to determine the appropriate process of reporting the emissions (including in the ACA Portal), as this requires dual reporting with and without the new assets.

4.5.5 When an airport is replacing an asset without a significant change to its operational boundary (such as an old heating system being replaced with a new heating system), this is not defined as an investment or divestment for the purpose of the programme.

***Figure 3**: Recalculating the GHG Inventory or Base Year*



4.6 Target Information Submission

4.6.1 The airport shall submit the following information in the ACA Portal to outline the details of their target: base year, base year emissions, current year, current year emissions, target year, target year emissions, milestone year and milestone emissions.

4.7 Changing the Emission Reduction Target or Interim Milestones

Changing the Target

4.7.1 If an airport wishes to change any element of the target, they shall notify the Administrator prior to submitting their application.

4.7.2 Airports are permitted to change their target once for the duration of the airport's certification at Level 4 and 4+ including:

- Change the Scope 3 sources included in the target.
- Change from a Scope 1 and 2 target to a target including Scope 3 emissions (and vice versa).
- Change the target amount.
- Change the target date.
- Change from location-based to market-based methodology (and vice versa).

4.7.3 Any change shall take place upon a renewal and shall be verified. If the target is changed, justification for the change shall be provided.

4.7.4 The new target shall be in line with all requirements outlined in this document.

4.7.5 When a target is achieved a new one shall be set that meets all relevant requirements and is more ambitious.

4.7.6 Changes to more ambitious targets are allowed more than once. Such a change shall still be verified and must be made upon the airport's renewal.

Changing the Interim Milestone

4.7.7 An airport can also change an interim milestone on one occasion in the run-up to the year when it is due. The new milestone shall meet all the other requirements set out for the definition of milestones.

5 Carbon Management Plan

5.1 Overview

5.1.1 The airport shall develop a Carbon Management Plan (CMP). The purpose of the CMP is to demonstrate the efforts made by the airport to reduce its emissions in line with the airport's absolute emissions reduction target and policy statement.

5.1.2 The CMP shall cover, at a minimum, Scope 1 and Scope 2 emissions as defined in the airport's GHG Inventory and may include relevant Scope 3 categories where applicable to the airport's reduction strategy.

5.1.3 The programme does not require the airport to establish new management committees or additional meetings specifically for carbon management. Existing internal forums may be used by adding a standing agenda item for carbon management.

5.2 Updating the CMP

5.2.1 Airports shall update the CMP at least every three years and provide supporting evidence if requested, to show that it is actively implemented.

5.2.2 If an airport has upgraded to Level 4/4+ from Level 2 or Level 3/3+ and therefore has an existing CMP, it shall be updated.

5.2.3 Airports at Level 4/4+ shall include an emissions trajectory in their CMP, demonstrating how the airport intends to achieve its absolute emissions reduction target, including interim milestones aligned with its pathway.

5.3 Contents of the CMP

GHG Management Initiatives

5.3.1 The CMP shall include all substantive GHG management initiatives undertaken by the airport. These are actions that directly support emissions reductions. Administrative activities (such as forming working groups) shall not be included unless they lead to specific planned measures that will reduce emissions.

5.3.2 Required information for each initiative shall include:

- **Description**: A clear summary of the action and how it will reduce emissions.
- **Scope**: The Scope(s) of emissions impacted (Scope 1, 2 or 3).
- **Estimate Emissions Reduction**: Quantified emission savings (if possible).
- **Department Responsible**: The airport department or third party accountable for delivering the action.
- **Duration**: Project start date, end date and/or key milestones.
- **Status**: If the project is in the planning stage, in progress or complete.

5.3.3 The CMP shall also detail which Board Committee or other Executive Body has overall responsibility for climate change matters and who has day-to-day responsibility for implementing the GHG management initiatives.

Communication and Training Plan

5.3.4 The CMP shall include a Communication and Training Plan outlining how the airport supports learning and awareness related to carbon management including:

- Increasing understanding of climate-related risks and mitigation actions.
- Developing competencies for employees in roles that influence the GHG Inventory.
- Maintaining awareness of progress towards emissions reduction targets.
- Supporting behavioural changes to reduce energy use.
- Extending communications and training to relevant third parties and business partners.

Self-Assessment and Auditing

5.3.5 As part of the Carbon Management Plan, airports should detail the self-assessments and auditing procedures taken to monitor progress of the GHG Management initiatives and to identify opportunities for improvement. Any corrective actions should be detailed.

5.4 Implementation of the Carbon Management Plan

5.4.1 Airports shall provide supporting written evidence if requested to demonstrate that the CMP is being implemented effectively.

5.4.2 Confirmation from the airport's verifier is required that a CMP that meets the relevant requirements has been formulated and implemented.

5.5 Carbon Management Plan Submission

5.5.1 **Table 3** shall be completed in the ACA Portal or be submitted separately as a document.

5.5.2 **Table 4** shall be completed in the ACA Portal or be submitted separately as a document.

Table 3: *Carbon Management Plan Template*

Carbon Management Initiatives	Scope	Estimated Emissions Reduction
Please indicate title of the carbon reduction initiative	Indicate the relevant Scope	Indicate the estimated emission reduction
e.g. Electrification of Ground Handling Equipment	e.g. Scope 1	e.g. 3500
Action	**Department Responsible**	**Duration**
In one sentence detail the action taken	Outline the airport department responsible	Date initiative will be complete
e.g. Replace diesel-powered baggage tugs with electric alternatives.	[add details]	dd/mm/yy
Status	Comments	
Indicate progress	[add details]	
[add details]		

Table 4: *Carbon Management Plan - Communication and Training Plan Template*

Communication/Training	Scope
Indicate title of communication or training	In one sentence explain the communication or training content
e.g. Carbon Training	e.g. Training in calculating Scope 1 and 2 Emissions
Action	**Department Involved**
Indicate date of event	Indicate the airport departments that received/attended event
dd/mm/yy	e.g. Operations Department

6 Stakeholder Partnership Plan

6.1 Overview

6.1.1 At Level 4/4+, airports shall demonstrate that it has formulated and is effectively implementing a *Stakeholder Partnership Plan*.

6.1.2 The SPP shall demonstrate how the airport is actively driving third parties at the airport to reduce emissions, which requires close collaboration with the airport's value chain to influence and support carbon reduction efforts.

6.1.3 All airports at Level 4 and 4+ shall have a SPP, regardless of whether they have chosen an emission reduction target including Scope 3.

6.2 Contents of the Stakeholder Partnership Plan

6.2.1 The SPP shall include a list of all the stakeholder groups that are responsible for contribution to the airport's Scope 3 Inventory, with a clear distinction of the stakeholder groups emitting the greatest volume of carbon from their operations.

6.2.2 For each stakeholder group the airport shall address the following requirements, fulfilling at least one for each stakeholder group with a discussion on why the others are not feasible or plans to fulfil them in the future. It is not mandatory for the airport to prepare these for each individual stakeholder.

6.2.3 ***Emission Reduction Measures Taken By Stakeholders:*** The airport shall include emission reduction measures taken by each stakeholder group in partnership with the airport and shall evidence their involvement in the actions taken by the stakeholders. If the airport did not have any involvement in the actions taken, the action shall not be included in the SPP.

6.2.4 ***Emission Reduction Measures Implemented By The Airport:*** The Airport shall include a list of any emission reduction measures implemented by the airport on stakeholder activities. For example, setting restrictions around use of APUs, setting requirements on electrification of vehicles and equipment; carbon rebates; carbon tariffs; or emissions limits on stakeholder activities.

6.2.5 ***Emission Reduction Objectives:*** An emission reduction objective for a specific stakeholder or stakeholder group. The emission reduction objective shall be absolute and can be set by either the airport or the stakeholder. If the stakeholder has set the objective, the airport will have to demonstrate contribution to the objective setting.

6.3 Updating the Stakeholder Partnership Plan

6.3.1 The SPP shall be updated at least every three calendar years, with the revised plan including updated information about the stakeholder engagement, emission reductions achieved through stakeholder cooperation and any updated objectives set.

6.3.2 If an airport has upgraded to Level 4/4+ from Level 3/3+ and therefore has an existing Stakeholder Engagement Plan, it shall be updated to fit the requirements of the Level 4 SPP.

6.4 Implementation of the Stakeholder Partnership Plan

6.4.1 Confirmation from the airport's verifier is required that the SPP meets the relevant requirements has been formulated and implemented.

6.4.2 The programme does not require the establishment of additional management committees or meetings specifically for stakeholder partnerships. Many airports already hold regular meetings with stakeholders (e.g. airlines, handlers, catering, retail) where carbon management and targets can be discussed as a new agenda item.

6.4.3 If an airport complies with EUROCONTROL's Collaborative Environmental Management (CEM)[9] specifications this is considered adequate proof of an SPP.[10]

6.5 Stakeholder Partnership Plan Submission

6.5.1 **Table 5** shall be completed in the ACA Portal or be submitted separately as a document.

[9] https://www.eurocontrol.int/initiative/collaborative-environmental-management

[10] *Airports operating in states that belong to the European Civil Aviation Conference (ECAC) may also use a dedicated web-tool proposed by EUROCONTROL: https://www.eurocontrol.int/portal/collaborative-environment-management-online*

Table 5: Stakeholder Partnership Plan Template

Stakeholder Engaged	**Prioritisation**	**Emission Source**
Indicate the name or category of the stakeholder involved	Indicate the importance of the stakeholder in reducing emissions	Outline the stakeholder Scope 3 emission category
e.g. Ground Handlers	*e.g. low/medium/high*	*[add details]*
Details of Partnership & Objectives		**Date**
Describe the collaborative initiative or action taken towards reducing emissions		*dd/mm/yy*
e.g. Co-developed objective by the airport and the ground handlers for the latter to reduce their emissions by at least 70% by the end of 2030. The airport is driving this through an updated Ground Handlers' contracts whereby they must electrify 90% of their GSE by 2030.".		
Status	**Departments Involved**	**Stakeholder Responsibility**
Indicate progress of action	Outline the airport department responsible	Outline the stakeholder responsibility to achieve the emission reduction
e.g. Ongoing	*[add details]*	*e.g. Ground Handlers to provide quarterly updates on the progress in electrifying their GSE.*
Comments		
[add details]		

7 Carbon Offsets and Credits (Level 4+)

7.1.1 At Level 4+, airports shall purchase carbon credits to offset their residual emissions from Scope 1, Scope 2 and business travel. Airports at this level shall purchase carbon credits from reduction or removal projects that have been developed by the "Endorsed Crediting Programmes" of the International Carbon Reduction and Offset Alliance (ICROA) or that have been deemed "Carbon Crediting Program Eligible" by the Integrity Council for the Voluntary Carbon Market (ICVCM). In addition to the above, airports can use New Zealand ETS and Label Bas Carbone approved projects.

7.1.2 Airports should conduct a due diligence exercise to ensure that the purchased carbon credits are of high quality and that they are real; additional; measurable; verifiable; permanent; and unique. Airports shall not purchase carbon credits from programmes or projects which do not align with these criteria and the requirements outlined in *Airport Carbon Accreditation Carbon Offset Requirements*.

7.1.3 The Carbon Offset Requirements document is available here and provides the full list of requirements for airports in purchasing their carbon credits at Level 4+: https://www.airportcarbonaccreditation.org/technical-documents/.

7.1.4 During the interim and renewal years, airports shall purchase carbon credits for their residual Scope 1, Scope 2 and business travel emissions and shall provide the proof of purchase such as the certificate.

Illustrative Example of Calculating Residual Emissions to be Offset

An airport at Level 4+ has the following residual annual emissions after implementing all feasible reduction measures:

- *Scope 1 residual emissions*: 2,500 tCO_2e
- *Scope 2 residual emissions*: 1,500 tCO_2e
- *Scope 3 staff business travel emissions*: 300 tCO_2e

At Level 4+, the airport must purchase carbon credits to offset all residual Scope 1 and Scope 2 emissions, plus Scope 3 staff business travel emissions. The total volume of offsets required is therefore:

- *Scope 1 residual + Scope 2 residual + Scope 3 staff business travel*
- 2,500 + 1,500 + 300 = 4,300 tCO_2e

In this example, the airport must purchase 4,300 eligible carbon credits for the reporting year from the programmes specified above.

8 Verification

8.1.1 Regarding verification of the airport's application, verifiers shall attest that all of the requirements of Level 4/4+ have been adhered to, including:

- Policy Commitment.
- The GHG Inventory.
- Emission Reduction Target (in line with IPCC 1.5°C pathway).
- Base Year Emissions (if not already verified).
- Carbon Management Plan.
- Stakeholder Partnership Plan.
- Carbon Credits Purchased for Offsetting (Level 4+).

8.1.2 The verification of the GHG Inventory shall be conducted in accordance with the requirements of *ISO14064-3* and in line with the *GHG Protocol*.

8.1.3 Airports that are certified to Level 4 or 4+ have a three-year renewal cycle whereby verification is required every third year (**Table 6**).

***Table 6**: Verification Requirements for Level 4 and 4+*

Entry (Year 1)	Interim 1 (Year 2)	Interim 2 (Year 3)	Renewal 1 (Year 4)	Interim 1 (Year 5)	Interim 2 (Year 6)
Verification	No verification	No verification	Verification	No verification	No verification

9 Public Reporting

9.1.1 The programme promotes transparency in carbon management and emission reduction claims. Therefore, public reporting is required at all levels of the programme. At Level 4/4+, the airport shall publish the following information on the airport's website or other public documents:

- Signed Policy Commitment.
- The GHG Inventory (Total Scope 1, Scope 2 and Scope 3 emissions).
- Emission Reduction Target and Base Year.
- Proof of Purchase of Carbon Credits to Offset Residual Emissions (Level 4+).
  - Certificate(s)[11] and Web link

[11] If certificates represent credits for more than one year, airports may (instead of the certificate) provide the same information that is included in the certificate in another format (e.g., list).

10 Certification Renewal at Level 4

10.1.1 To renew certification at Level 4/4+, airports shall fulfil all certification requirements as outlined in this document.

10.1.2 Airports at Level 4 are required to renew their certification every three years. To renew, the following requirements shall be met:

- Submission of a verified GHG Inventory.
- Submission of a GHG Inventory Report.
- Revised Carbon Management Plan: the plan shall demonstrate that the airport has achieved in a timely manner any relevant long-term target or interim milestone that had been set.
- Update of the Stakeholder Partnership Plan: with information about the progress of stakeholder emissions reduction against the overall objective for the stakeholders.
- Every second renewal (every six years), the airport shall demonstrate that it is on track with the forecast trajectory to their long-term target or interim milestone.

10.1.3 During the interim years, airports shall submit their non-verified GHG Inventory and Inventory Report for all Scope emissions. The airport shall clearly outline any changes to the emission sources reported.

10.1.4 Additionally, during the interim years for airports at Level 4+ proof of purchase of carbon credits to offset residual emissions shall be provided.

Annex 1

Checklist for Level 4 & 4+

Indicative list to support airports in the certification process. Airports shall ensure that all the Level specific requirements are met.

Requirement	Check
Policy Commitment	
Publicly available policy commitment signed by highest level.	
GHG Inventory	
GHG Inventory including Scope 1, Scope 2, & Scope 3 emissions.	
GHG Inventory Report	
GHG Inventory Report which meets all specified requirements.	
Long-Term Emission Reduction Target	
A long-term absolute emissions-reduction target aligned with the Paris Agreement 1.5°C pathway set against a specified base year.	
Carbon Management Plan	
A Carbon Management Plan has been developed which meets all specified requirements.	
Stakeholder Partnership Plan	
A Stakeholder Partnership Plan has been developed which meets all specified requirements.	
Offsetting (for Level 4+ only)	
Carbon credits from reduction or removal project have been purchased to offset Scope 1, Scope 2 and business travel emissions.	
Verification (if required)	
A verification report.	