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OVERVIEW

Airport Carbon Accreditation was developed and launched in Europe by Airports Council International (ACI) Europe in 2009. As of late 2014, Airport Carbon Accreditation had expanded world-wide to all ACI regions. It is the only voluntary global carbon management standard for airports. The milestones of the programme’s expansion to all regions are presented in Figure 1.

Figure 1 - Airport Carbon Accreditation Milestones

The aim of Airport Carbon Accreditation is to encourage and enable airports to implement best practices in carbon management and achieve emissions reductions. Accreditation provides the opportunity for airports to gain public recognition for their achievements, promotes efficiency improvements, encourages knowledge transfer, raises an airport’s profile & credibility, encourages standardisation, and increases awareness and specialisation.

The programme is overseen by an Advisory Board, which consists of representatives from authoritative institutions such as the International Civil Aviation Organisation (ICAO), the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Programme (UNEP), the European Commission, EUROCONTROL, the US Federal Aviation Administration (FAA) and Manchester Metropolitan University. Furthermore, a Task Force meets twice a year and regularly reviews information to ensure that the programme’s technical standards are updated in accordance with relevant needs and developments.

Airport Carbon Accreditation focuses on CO₂ emissions, as they comprise the large majority of airport emissions. Airports may include emissions of other greenhouse gases (GHGs) on a voluntary basis, as an example of best practices. Independent third-party verification by an approved verifier is an essential component of the programme.

Airports can participate at one of four progressively stringent levels of accreditation: 1. Mapping; 2. Reduction; 3. Optimisation; and 4. Transformation. In addition, airports at Level 3 and 4 can choose to offset their residual emissions, thereby achieving Level 3+ (Neutrality) and 4+ (Transition) respectively.
In 2020, Level 4 (Transformation) and 4+ (Transition) have been added to the *Airport Carbon Accreditation* programme to align it with the objectives of the Paris Agreement to limit the increase of global average temperature to 2°C above pre-industrial levels and aim to not exceed 1.5°C. Levels 4 and 4+ have been introduced as an interim step towards the long-term goal of supporting airports in achieving net zero carbon emissions\(^1\). Level 4 and 4+ will therefore encourage airports to reduce their emissions in line with the latest scientific and political developments and meet growing public and stakeholder expectations.

*Airport Carbon Accreditation* is developed in line with the GHG Protocol and ISO 14064 principles, as it sets the framework and management system to develop the carbon footprint and identify projects to reduce emissions\(^2\). Figure 2 summarises the main requirements of the programme at each accreditation level.

**Figure 2 - Main Requirements of Airport Carbon Accreditation**

<table>
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<th>Level 4+</th>
<th>Offsetting of residual Scope 1 &amp; 2 emissions</th>
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<tr>
<td>Level 4</td>
<td>Extended carbon footprint, absolute emissions reductions in line with the Paris Agreement, enhanced 3rd party engagement</td>
</tr>
<tr>
<td>Level 3+</td>
<td>Offsetting of residual Scope 1 &amp; 2 emissions</td>
</tr>
<tr>
<td>Level 3</td>
<td>Engagement of 3rd parties &amp; measurement of their emissions</td>
</tr>
<tr>
<td>Level 2</td>
<td>Emissions reduction target, carbon management plan &amp; annual reductions</td>
</tr>
<tr>
<td>Level 1</td>
<td>Carbon footprint &amp; policy</td>
</tr>
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\(^1\) The Intergovernmental Panel for Climate Change (IPCC) has defined net zero emissions as the state ‘when anthropogenic CO\(_2\) emissions are balanced globally by anthropogenic CO\(_2\) removals over a specified period.’ Airports will therefore aim to reduce their absolute emissions to the greatest extent possible and address any remaining emissions through investment in carbon removal and storage.

\(^2\) Specific sections of the Guidelines rely heavily on the GHG Protocol, 2004 (including amendments) and ISO 14064. Copyright provisions described in these documents apply to their use in this Application Manual.
Accredited airports receive a certificate indicating the level they have achieved. The main requirements at each level of accreditation are presented below and in Figure 3.

- **Level 1 Mapping**
  - Policy commitment to emissions reduction.
  - Development of a carbon footprint for the airport's Scope 1 and 2 emissions.

- **Level 2 Reduction**
  - Fulfilment of all Level 1 accreditation requirements.
  - Formulation of a carbon emissions reduction target.
  - Development of a Carbon Management Plan to achieve the target.
  - Demonstration of Scope 1 and 2 emissions reductions versus the three-year rolling average.

- **Level 3 Optimisation**
  - Fulfilment of all Level 2 accreditation requirements.
  - Additional carbon footprint to include specific Scope 3 emissions.
  - Development of a Stakeholder Engagement Plan.

- **Level 3+ Neutrality**
  - Fulfilment of all Level 3 accreditation requirements.
  - Offset of residual emissions under the airport’s control.

- **Level 4 Transformation**
  - Policy commitment to absolute emissions reduction.
  - Development of a carbon footprint for the airport’s Scope 1, 2 and 3 emissions, including additional mandatory sources.
  - Formulation of a long-term absolute reduction target for Scope 1 and 2 or Scope 1, 2 and selected Scope 3 carbon emissions which is in line with the IPCC 1.5°C or 2°C pathways.
  - Development of a Carbon Management Plan to set out the reduction trajectory and the measures required to achieve the target.
  - Development of a Stakeholder Partnership Plan, including emissions reduction targets and/or measures leading to effective reductions of the airport’s Scope 3 emissions.

- **Level 4+ Transition**
  - Fulfilment of all Level 4 accreditation requirements.
  - Offset of residual emissions under the airport’s control.
### Figure 3 - Summary of Participation Requirements at each Accreditation Level

<table>
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<th>Required Elements</th>
<th>Level 1 (Mapping)</th>
<th>Level 2 (Reduction)</th>
<th>Level 3 (Optimisation)</th>
<th>Level 3+ (Neutrality)</th>
<th>Level 4 (Transformation)</th>
<th>Level 4+ (Transition)</th>
</tr>
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<tr>
<td>Policy Statement</td>
<td>Policy commitment to emissions reduction</td>
<td></td>
<td></td>
<td>Policy commitment to absolute emissions reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Footprint</td>
<td>Emissions under Airport Control (Scope 1&amp;2)</td>
<td>Scope 1&amp;2 + selected Scope 3 emissions sources</td>
<td>Scope 1&amp;2 + all significant operational Scope 3 emissions sources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target and implementation</td>
<td>Formulation of a carbon emissions reduction target (absolute or relative) for Scopes 1&amp;2.</td>
<td></td>
<td></td>
<td>Formulation of a long-term absolute reduction target for Scope 1&amp;2 or Scope 1,2&amp;3 emissions, in line with the IPCC 1.5°C or 2°C pathways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target trajectory</td>
<td>No target trajectory required</td>
<td></td>
<td></td>
<td>Definition of a target emissions trajectory and milestones leading up to the target.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target Compliance</td>
<td>Annual improvement against past 3-year-rolling average required.</td>
<td></td>
<td></td>
<td>Compliance assessed every 6 years through carbon footprint, and at interim milestones and target year. 15% deviation from trajectory accepted. Milestones and targets must be met without any deviation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Management</td>
<td>Development of a Carbon Management Plan to achieve the target, with distinct requirements depending on the level of accreditation</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Stakeholder Management</td>
<td>Development of a Stakeholder Engagement Plan</td>
<td></td>
<td>Development of a Stakeholder Partnership Plan</td>
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<tr>
<td>Neutrality</td>
<td>Offset of residual emissions (Scope 1, 2 and staff business travel)</td>
<td></td>
<td></td>
<td>Offset of residual emissions (Scope 1, 2 and staff business travel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewal Cycle</td>
<td>Annually; Verified every 2\textsuperscript{nd} year</td>
<td>Annually; Every 3 years under certain conditions; Unverified footprint in interim years.</td>
<td>Every 3 years; Unverified footprint in interim years.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Approved verifiers</td>
<td>Level 1-3/3+ approved verifier</td>
<td></td>
<td></td>
<td>Level 4/4+ approved verifier</td>
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Figure 4 depicts the process of accreditation and the specific roles of the airport, the verifier, the programme's Administrator, and ACI EUROPE.
This Application Manual provides comprehensive and concise information to airports planning to become accredited at one of the levels of Airport Carbon Accreditation or to renew/upgrade their accreditation. It also includes references and links to more detailed information on specific topics.

Sections 2 and 2.1 provide a general overview of the programme. Sections 4 and 5 focus on requirements for all accreditation levels. Sections 6, 7, 8 and 9 look into specific requirements for some of the levels. Section 10 analyses verification issues and section 11 examines some special cases. Section 12 introduces an example of accreditation.

In the Application Manual issue 12, the following main changes are introduced compared to the previous edition: accreditation requirements for Level 4/4+, revised requirements for Scope 2 emissions reporting, clarification on the accounting of emissions from the use of biofuels and renewable electricity, introduction of eligibility criteria for off-site verification.
2 PRACTICAL INFORMATION

2.1 ELIGIBILITY

Airports that are members of any of the ACI regions are eligible to participate in Airport Carbon Accreditation. For the latest information about the programme visit www.airportcarbonaccredited.org while the participant Terms & Conditions are available at www.aca-application.org.

2.2 INDEPENDENT PROGRAMME ADMINISTRATOR

The independent programme Administrator is appointed by ACI EUROPE and is WSP. The Administrator grants formal accreditation approval and manages the application process. It guides and supports airports through this process; helps to develop and enforce the accreditation criteria and keeps them updated; provides supporting administrative and secretariat services, reports, records, guidance, webinars and training and oversees the appointment and training of third-party verifiers.

The Administrator is not responsible for compiling carbon footprints. This is the responsibility of the airports. Furthermore, the Administrator cannot act as an independent verifier to the programme as this would constitute a conflict of interest.

2.3 ONLINE APPLICATION TOOL

Application for accreditation (i.e., first-time accreditation, renewal and upgrade) is done through the online tool at www.aca-application.org.

2.4 APPLICANT SUPPORT AND HELPLINE

The Administrator provides a helpline service for all airports, which are considering or are in the process of applying as well as for all existing and potential verifiers. Airports are strongly encouraged to contact the Administrator via email at aca@wsp.com in case of questions in relation to the Application Manual, programme requirements, etc.

2.5 ACCREDITATION FEES AND OTHER COSTS

The methodology for the calculation of the accreditation fees is the same as for the calculation of ACI membership fees. They are calculated based on the band the airport belongs to, in accordance with official passenger figures, two years before the time of application (e.g., for accreditation in 2019 the band is based on 2017 official passenger figures). For band levels and fees contact the Administrator. In addition to these fees an airport should take into account the cost of preparing its application (e.g. internally or through a consultant) and the cost of third-party verification.

2.6 CONFIDENTIALITY

All application data that are provided for any purpose will remain confidential. The Administrator will compile aggregated data for public annual reporting, but no part of
this aggregated data can be dis-assembled and elements of it attributed to individual airports. At the specific request of the Advisory Board of the programme, some individual airport-specific data may be made available on a confidential basis to members of the Advisory Board for the purposes of ascertaining the overall veracity of the programme. The airport concerned will be informed of any such request. Finally, for the purpose of reporting on airport-specific best practice and case studies, permission will be sought from the airport prior to data use and publication.
3 ACCREDITATION LEVEL REQUIREMENTS

This section introduces the key requirements at each level of accreditation. Details are provided in subsequent sections of this document, while the verification requirements are presented in a dedicated section.

3.1 LEVEL 1 MAPPING

3.1.1 REQUIREMENTS OF LEVEL 1 ACCREDITATION

- **Policy commitment to emissions reduction.** Public written evidence of commitment to greenhouse gas, carbon or energy reduction at the highest level (i.e., Chief Executive Officer, Chief Operations Officer, Board of Directors) in the form of a signed policy statement. This may be an independent statement or part of an existing policy statement (e.g., EMAS or ISO 14001) or report (e.g., Annual or Environmental Report). A policy statement provides the opportunity to demonstrate executive-level commitment, raise the importance of emission reductions and energy efficiency, and develop the framework for meeting the programme’s requirements. The policy statement should be worded in a way that best meets the overall needs of the airport. It may be drafted in the national language of the country provided that the third-party verifier confirms that it meets the programme’s requirements. The statement shall be made available to the public (e.g., company website or publications). Relevant airport web-site links and documentation shall be provided to the Administrator as part of the application.

- **Development of a carbon footprint for the airport’s Scope 1 and 2 emissions.** It is recommended that airports consolidate all the key carbon footprint information and data into a Carbon Footprint Report. More information on this can be found in section 5.1.

3.1.2 REQUIREMENTS OF LEVEL 1 RENEWAL

- **Annual submission of a carbon footprint for the airport’s Scope 1 and 2 emissions.** The carbon footprint and the renewal application shall include any changes to the scope of emissions reported, differences in organisational boundaries, etc.
3.2 LEVEL 2 REDUCTION

3.2.1 REQUIREMENTS OF LEVEL 2 ACCREDITATION

- **Fulfilment of all Level 1 accreditation requirements.**
- **Formulation of a carbon emissions reduction target.** The target shall be related to Scope 1 and 2 emissions and also include the emissions improvement metric (i.e. absolute or intensity target). The airport shall also select a base year for the target. For more information around setting and achieving emissions reductions targets, see section 6.2.
- **Development of a Carbon Management Plan to achieve the target.** The airport shall also provide evidence to demonstrate that the Plan is being implemented effectively. Section 7 provides more detailed information on the contents of the Carbon Management Plan.
- **Demonstration of Scope 1 and 2 emissions reduction versus the three-year rolling average,** in order to encourage airports to continuously improve their carbon management performance.

3.2.2 REQUIREMENTS OF LEVEL 2 RENEWAL

- **Fulfilment of all Level 2 accreditation requirements.**
- **Revised Carbon Management Plan.** The Plan shall be revised at least every three years, and during the interim years the airport shall provide evidence for the implementation of the plan.
3.3 LEVEL 3 OPTIMISATION

3.3.1 REQUIREMENTS OF LEVEL 3 ACCREDITATION

- **Fulfilment of all Level 2 accreditation requirements.**
- **Additional carbon footprint to include specific Scope 3 emissions.** This will comprise emissions from activities that are central to the airport's operations and that an airport is expected to guide or influence. For more details on the additional emissions sources, see section 5.2.
- **Development of a Stakeholder Engagement Plan.** The Plan shall demonstrate that the airport has on-going dialogue, shares best practices, provides training, develops joint projects, and promotes cooperation with key stakeholders with the aim of reducing emissions from major activities which the airport can guide or influence. More information around the Stakeholder Engagement Plan and its required contents can be found in section 8.2.

3.3.2 REQUIREMENTS OF LEVEL 3 RENEWAL

- **Fulfilment of all Level 3 accreditation requirements.**
- **Revised Stakeholder Engagement Plan.** The Plan shall be revised at least every three years and during the interim years the airport shall provide evidence for the implementation of the plan.

3.3.3 REQUIREMENTS OF THREE-YEAR RENEWAL CYCLE AT LEVEL 3

When an airport has been accredited for three or more consecutive years at Level 3 it is permitted to move from annual renewal to a three-year renewal cycle, should it wish to do so. That means that after initial accreditation in year 0 and two successful renewals at that level in years 1 and 2, then in year 3 the airport shall fulfil specific requirements to be allowed to renew again in three years’ time. There are significant fee reductions from such an option. In order to extend its renewal cycle to three years, an airport shall fulfil the following requirements (see Section 11 for more details):

- **Fulfilment of all Level 3 renewal requirements.**
- **Update of the Stakeholder Engagement Plan.** The airport shall provide details and supporting evidence on the airport's planned stakeholder engagement activities for the three-year period.
- **Stakeholder emissions reduction.** Submission of quantitative, verified emissions reductions achieved for at least one Scope 3 emissions source as a result of an active stakeholder engagement initiative in place.
- **Annual submission of a non-verified carbon footprint in the interim years.**
3.4 LEVEL 4 TRANSFORMATION

3.4.1 REQUIREMENTS OF LEVEL 4 ACCREDITATION

- **Policy commitment to absolute emissions reduction.**
- **Carbon footprint to include additional (to Level 3) Scope 1 and Scope 3 emissions.** For more details, see section 5.3.
- **Formulation of an absolute carbon emissions reduction target.** The target shall be defined for the long-term and expressed in absolute terms only. The target amount and date shall be aligned to the IPCC 1.5°C or 2°C pathways. For more information around setting and achieving emissions reductions targets, see section 6.3.
- **Development of a Carbon Management Plan to achieve the target.** The airport shall define its trajectory to achieve its carbon emissions reduction target and the actions it expects to implement to remain on that trajectory.
- **Development of a Stakeholder Partnership Plan.** The Stakeholder Partnership Plan shall demonstrate that the airport actively drives third parties at the airport towards delivering emissions reductions themselves, either through their own reduction plans or through measures initiated by the airport operator. More information around the Stakeholder Partnership Plan and its required contents can be found in section 8.3.

3.4.2 REQUIREMENTS OF LEVEL 4 RENEWAL

Accreditation at Level 4 has to be renewed every three years. The requirements to be fulfilled are:

- **Submission of a verified carbon footprint** as per Level 4 requirements.
- **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.
- **Annual submission of a non-verified carbon footprint in the interim years.**
- **Every second renewal (i.e., every six years), the airport shall demonstrate that it is on track with the forecast trajectory to their long-term target or interim milestone.** For more details, see section 6.3.3.
3.5 LEVEL 3+ NEUTRALITY AND 4+ TRANSITION

3.5.1 REQUIREMENTS OF LEVEL 3+ AND LEVEL 4+ ACCREDITATION AND RENEWAL

- **For Level 3+ airports**: fulfilment of all Level 3 accreditation/renewal requirements. Airports at Level 3+ are also eligible to a three-year-renewal cycle as per requirements set out in 3.3.3.
- **For Level 4+ airports**: fulfilment of all Level 4 accreditation/renewal requirements.
- **Offset of residual emissions**, Airports should prioritise emissions reductions as much as possible and shall then submit evidence of offsets covering all Scope 1 and 2 residual emissions as well as Scope 3 airport operator staff business travel emissions.
THE AIRPORT INVENTORY BOUNDARY

Before calculating the carbon footprint, it is important that the airport defines its inventory boundary. The established organisational and operational boundaries together constitute an airport’s inventory boundary. These boundaries are required to properly account for and report emissions.

4.1 SETTING THE ORGANISATIONAL BOUNDARIES

Airport operations vary in their legal and organisational structures as they include wholly owned operations, incorporated and non-incorporated joint ventures, subsidiaries, etc. In setting organisational boundaries, an airport shall apply an approach to define those businesses and operations that constitute the company for the purpose of accounting and reporting GHG emissions.

*Airport Carbon Accreditation* uses an adaptation of the control approach (of the GHG Protocol) for setting organisational boundaries. Where an airport has operational control over a source of emissions, the airport shall account for 100% of these emissions.

4.2 SETTING THE OPERATIONAL BOUNDARIES

According to the GHG Protocol an operational boundary defines the scope of direct and indirect emissions for operations based on a company’s established organisational boundary. The operational boundary (Scope 1, Scope 2, Scope 3) is decided after setting the organisational boundary. The selected operational boundary is then uniformly applied to identify and categorise direct and indirect emissions at each operational level. Sources of emissions (activities/facilities) shall be categorised as Scope 1, 2 or 3 (See Figure 5):

**Scope 1**: Direct GHG emissions that occur from sources that are owned and/or controlled by the airport, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.

**Scope 2**: Indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling\(^3\) consumed by the airport. Scope 2 emissions physically occur at the facility where purchased electricity is generated.

**Scope 3**: All other indirect emissions, which are a consequence of the activities of the airport but occur from sources not owned and/or controlled by the company (e.g., aircraft movements, vehicles and equipment operated by third parties, off-site waste management, etc.). Such sources can be located within or outside the airport premises (geographical boundary).

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\(^3\) As per the GHG Protocol Scope 2 Guidance (2015), p. 5, the above four categories are collectively referred to as “electricity.” This Application Manual adopts the same approach.
4.3 IDENTIFICATION OF EMISSIONS SOURCES

Within this framework, airports shall identify the relevant emissions sources and determine where they have control over emissions (Scope 1, 2 and airport operator staff business travel) and where they can guide or influence emissions from activities of other stakeholders (Scope 3).

Although boundaries will vary from airport to airport, an example of how a typical airport might define its footprint boundary is provided in Figure 6. This is only an indicative example and each airport will need to complete this exercise based on their specific activities and facilities.
**Figure 6 - Indicative Example of a Typical Airport Carbon Footprint Boundary**

<table>
<thead>
<tr>
<th>CONTROL</th>
<th>GUIDE</th>
<th>INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities, services, activities and equipment for which the airport company has ownership/control.</td>
<td>Facilities, services, activities, and equipment owned / controlled by subcontractors, close partners and suppliers for which the airport company can provide guidance.</td>
<td>Facilities, services, activities and equipment owned/controlled by loose partners, tenants, customers, government agencies, etc. which the airport company can only influence.</td>
</tr>
</tbody>
</table>

**Scope 1 - Direct Emissions**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>GUIDE</th>
<th>INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boilers, furnaces, burners, turbines, heaters, incinerators, engines, firefighting exercises, flares, generators, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobiles (airside / landside), trucks, employee buses, ground power units, construction vehicles and plant, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onsite waste management, wastewater management, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerant losses, de-icing substances, leaks from plant particularly fire suppression CO₂, fuel tanks etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scope 2 - Energy Indirect Emissions**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>GUIDE</th>
<th>INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boilers, furnaces, burners, turbines, heaters, incinerators, engines, firefighting exercises, flares etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd party boilers, furnaces, burners, turbines, heaters, incinerators, engines etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scope 3 - Other Indirect Emissions**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>GUIDE</th>
<th>INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business travel of airport company staff.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicular, airport equipment and ground power units operated by 3rd parties, staff travel in own vehicles / commute, haulage, construction vehicles and plant, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business travel (3rd parties), land or maritime surface access (passengers), staff travel / commute (3rd parties), 3rd party owned vehicles, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTROL</td>
<td>GUIDE</td>
<td>INFLUENCE</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------------------------------------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td>Facilities, services, activities and equipment for which the airport company has ownership/control.</td>
<td>Facilities, services, activities, and equipment owned / controlled by subcontractors, close partners and suppliers for which the airport company can provide guidance.</td>
<td>Facilities, services, activities and equipment owned/controlled by loose partners, tenants, close partners, suppliers, government agencies, etc. which the airport company can only influence.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process emissions</th>
<th>Offsite management / disposal of airport waste, etc.</th>
<th>Management of waste where disposal arrangements are made by 3rd parties, etc.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Grid power and fuel consumed by close partners, etc.</th>
<th>Grid power and fuel consumed by other 3rd parties, etc.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Refrigerant losses, de-icing substances, leaks from plant particularly fire suppression CO(_2), fuel tanks etc.</th>
<th>Refrigerant losses, de-icing substances, leaks from plant particularly fire suppression CO(_2), fuel tanks etc.</th>
</tr>
</thead>
</table>

1 This is indicative of a typical airports carbon footprint boundary, including some emissions sources that are not mandatory (see Figure 7 for minimum requirements).
THE CARBON FOOTPRINT

The carbon footprint covering a 12-month period is a key component of Airport Carbon Accreditation. The programme has adopted the principles of the GHG Protocol to ensure that the reported information is a fair representation of an airport's emissions. It is preferred and expected that airports use data from the previous year, e.g. 2019 data when applying in 2020, but the Administrator will also accept data from the year before, e.g. 2018.

Recommendation

As part of best practice and transparency, Airport Carbon Accreditation encourages airports to publicly disclose their carbon footprint, emissions reduction targets, emissions offset and other relevant information.

Figure 7 shows each of the emissions sources which are required or voluntary to report by airports at each of the levels of the programme (Levels 1, 2, 3 and 3+, 4 and 4+), as well as the relevant reporting scope (Scope 1, 2 or 3).
### Figure 7 - Emission Sources and Reporting Requirements at Level 1 to 4

(V) = voluntary

<table>
<thead>
<tr>
<th>EMISSIONS SOURCE</th>
<th>ACCREDITATION LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level 1 (Mapping)</td>
</tr>
<tr>
<td>Vehicles and Machinery, including GSE</td>
<td></td>
</tr>
<tr>
<td>Fuel used for fire training, incl. hand-held extinguisher</td>
<td></td>
</tr>
<tr>
<td>Emergency Generators</td>
<td>Scope 1 &amp; 3</td>
</tr>
<tr>
<td>Furnaces, Boiler houses, Energy plants</td>
<td></td>
</tr>
<tr>
<td>Solid waste processing</td>
<td></td>
</tr>
<tr>
<td>Wastewater (Sewage) processing</td>
<td></td>
</tr>
<tr>
<td>Non-road construction machinery and equipment (contracted)</td>
<td>-</td>
</tr>
<tr>
<td>De-icing substances for surface and aircraft de-icing</td>
<td>-</td>
</tr>
<tr>
<td>Refrigerant losses</td>
<td>-</td>
</tr>
<tr>
<td>Electricity produced or purchased from off-site generation</td>
<td>-</td>
</tr>
<tr>
<td>Heating or cooling generated off-site and/or resold on-site</td>
<td>Scope 1 &amp; 3</td>
</tr>
<tr>
<td>Aircraft main engine fuel (LTO only)</td>
<td>-</td>
</tr>
<tr>
<td>Aircraft main engine fuel (full flight, on half-way or one-way method)</td>
<td>-</td>
</tr>
<tr>
<td>Aircraft APU fuel use</td>
<td>-</td>
</tr>
<tr>
<td>Aircraft engine maintenance (run-ups)</td>
<td>-</td>
</tr>
<tr>
<td>Landside vehicle access (origin-destination and back)</td>
<td>-</td>
</tr>
<tr>
<td>Landside train/rail access</td>
<td>-</td>
</tr>
<tr>
<td>Company Staff business travels (all modes)</td>
<td>-</td>
</tr>
<tr>
<td>Landside maritime access</td>
<td>-</td>
</tr>
</tbody>
</table>
5.1 CARBON FOOTPRINT AT LEVEL 1 AND 2

For the development of the carbon footprint at level 1 and 2, the airport shall calculate its Scope 1 and 2 emissions, from sources over which it has control including those arising from:

- **Stationary sources (Scope 1):** Boilers, furnaces, burners, turbines, heaters, incinerators, engines, firefighting exercises, generators, etc.
- **Mobile sources (Scope 1):** automobiles (airside/landside), trucks, employee buses, etc.
- **Process emissions (Scope 1):** On site waste and wastewater management, etc.
- **Other emissions (Scope 1):** Fire suppression CO₂, etc.
- **Indirect emissions (Scope 2):** Emissions from purchased electricity.

The emissions from the generation of electricity, heat, steam or cooling (collectively referred to as “electricity”) in a stationary combustion plant that is owned or leased by the airport shall be part of the airport's Scope 1 emissions. If an airport sells any of the electricity that is generated, it is not allowed to net off the emissions associated with that energy from its Scope 1 emissions.

Where an airport purchases electricity from a third-party (but not where it leases the plant) the emissions associated with those energy sources shall be included in the airport's Scope 2 emissions. If an airport sells any of the purchased electricity to another third-party (e.g. tenants or airport partners) it is allowed to net off the emissions associated with that energy from its Scope 2 emissions only if the energy sale is metered (regardless if the resale is actually based on the metering or other method, such as floor area). These netted off emissions shall then be included in Scope 3. If the re-sold energy from Scope 2 sources is not metered then it cannot be deducted from the total Scope 2 emissions.

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.

1. Leased or rented equipment that is under the control of the airport or is under the control of a leasing company but is operated for the sole benefit of the airport (e.g., leased vehicles or generators) shall be included in Scope 1 or Scope 2 emissions irrespective of the financial or legal arrangements.

1. Carbon footprints shall allow year on year comparisons. If an airport expands or reduces the footprint scope in subsequent years (e.g., additional GHGs), the carbon footprints of the three years preceding the new carbon footprint shall also be adjusted accordingly to allow for a “like for like” comparison.
5.2 CARBON FOOTPRINT AT LEVEL 3 AND 3+

In addition to the carbon footprint requirements of level 1 and 2, airports applying for level 3 or 3+ shall include as a minimum Scope 3 emissions from the following specific sources in the carbon footprint:

- The LTO cycle to a height of 3,000 feet. This includes emissions generated during approach, taxi and ground idle (in), taxi and ground idle (out), take off and climb. Airports shall report on emissions from all aircraft using the airport, including commercial airlines, private aviation, helicopters and cargo, but excluding military flights. Emissions data shall be based on actual aircraft movements and the most precise data available to the airport. The calculation methodology should be based on the ICAO Document 9889, Air Quality Guidance Manual (latest edition), wherever possible with the following input:
  - Actual time-in modes for the airport and aircraft type.
  - Fuel flow data from the ICAO engine datasheets.\(^4\)
  - Emission factor for jet fuel from the GHG Protocol or ICAO.
  - The number of engines running in each mode.

Where other methodologies are used for calculating aircraft emissions, airports shall provide details of the calculation method with justification and assumptions made. Airports shall provide information on any uncertainties. Furthermore, reporting on emissions from aircraft cruising is not required. However, voluntary reporting of such emissions is considered to be good practice.

- APUs and engine testing.\(^5\)
- GSE belonging to third parties necessary to handle the aircraft during the turnaround at the stand (e.g., ground power units, air climate units, aircraft tugs, conveyer belts, passenger stairs, fork lifts, tractors, cargo loaders). Note that GSE belonging to the airport shall be included in Scope 1 emissions.
- Land surface access emissions (staff and passengers travelling both to and from the airport). Airports shall supply data on surface access emissions with an explanation of assumptions and methodologies (e.g., questionnaires, reports, national databases).\(^6\)
- Electricity re-sold to or directly purchased by partners/tenants. In the case of electricity that is resold by the airport, it should be metered (regardless of whether the resale is actually based on the metering or other method, such as floor area). Otherwise, it falls under the airport's Scope 2 emissions.

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• Airport company staff business travel. Emissions from staff business travel shall be based on the most precise data available including ticket information, business mileage, expense claims, data from vehicle leasing companies, etc. Calculations should be based on the fuel use method where possible but calculations based on distance are acceptable.  

Airport may also include additional significant CO2 emissions sources, which they may be able to guide or influence (e.g., waste management).  

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

Airports shall also undertake quality control of the carbon footprint, in addition to the verification required by the programme. Section 7 of the GHG Protocol provides useful guidelines.

For airline flights ICAO has developed a useful application. See http://www.icao.int/ENVIRONMENTAL-PROTECTION/CarbonOffset/Pages/default.aspx
5.3 CARBON FOOTPRINT AT LEVEL 4 AND 4+

In addition to the carbon footprint requirements of Levels 1, 2 and 3, airports applying for level 4 or 4+ shall include the following additional emissions sources at Scope 1 and Scope 3. Since these sources include non-CO₂ emissions (refrigerant losses), airports at Level 4 or 4+ should report their carbon footprint in CO₂e.

- **De-icing substances for surfaces and aircrafts (Scope 1 and 3)**

  Airports shall report emissions from the use of de-icing substances for treatment of surfaces and aircraft. Emissions of carbon dioxide result from the biological or chemical degradation of de-icing substances, e.g. propylene glycol for aircraft de-icing and potassium formate for surface de-icing, when exposed to air during use or when washed into drainage systems. 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.

  The 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 de-icers or calculation methodologies are used, airports shall provide details of the calculation method with justification and assumptions made.

  Emissions factors shall be adjusted where a diluted solution is used, as the emissions factors would only be applicable for undiluted de-icing substances. For example, if a de-icing solution is used which is 1 part water and 1 part de-icing chemical, the emissions factor should be halved.

  De-icing related emissions should be included as Scope 1 or Scope 3 depending on the airport’s operational control.

- **Refrigerant losses (Scope 1 and 3):**

  The reporting of refrigerant losses (in CO₂e) is mandatory for the airport operator’s sources (Scope 1) and voluntary for any third-party sources (Scope 3) at the airport. Refrigerants can be lost from chillers, air handling units and fire suppression systems etc. Airports can calculate the emissions from refrigerants processing using the following information:

  - Type of refrigerant, and the respective global warming potential

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8 A list of these have been built into the ACERT tool and can also be found in the GHG Protocol, see: [https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%202016%20%29_1.pdf](https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%202016%20%29_1.pdf)
• The mass of refrigerant refill ('top up') required to be added by maintenance staff within the reporting year. Note; where refrigerant refill activity is performed less than once per year, it may be advisable to adjust the mass on a pro-rata basis, according to the period since the previous refill.

• **Mobile sources (Scope 3): Third party non-road construction vehicles and plant emissions**

Airports shall report on emissions from fuel used in non-road construction vehicles, generators, and on-site plant. Construction emissions shall only be calculated for machinery used by third parties in relation to any building owned, operated or financially supported by the airport operator. This excludes any emissions associated with the access of on-road vehicles to the airport site.

Only emissions associated with the construction phase need to be calculated and reported, i.e. embodied carbon (for sourcing and manufacturing of construction materials) is not required.

Where other methodologies are used for calculating construction emissions, airports shall provide details of the calculation method with justification and assumptions made. Airports shall provide information on any uncertainties.

• **Aircraft sources (Scope 3): All aircraft full flight (Cruise, Climb and Descent emissions):**

Airports shall report on emissions from all aircraft using the airport, including commercial airlines, private aviation, helicopters and cargo, but excluding military flights. Airports could choose to calculate these emissions by applying the ½ way approach, where half of the flight to and half of the flight from the destination airport is accounted for, by the origin and destination airports respectively. It is also acceptable to use a different approach and only consider the one-way flight from the origin to the destination airport.

A practical surrogate for calculating those emissions is using the amount of uplifted aircraft fuel at the airport. However, airports should note that using this method might lead to an overestimation of emissions for airports with a high refuelling activity (where fuel is uplifted for several flights of an aircraft) and an underestimation of emissions for airports with little refuelling activity (usually smaller airports, where aircraft depart with fuel uplifted at a previously served airport).

Alternatively, as a more advanced method, emissions data could be based on actual aircraft movements and the most precise data available to the airport, including the following inputs:

- Data for each flight, containing aircraft type and flight distance.
- Fuel flow data from the ICAO engine datasheets.
• Emission factor for jet fuel from the GHG Protocol or ICAO.

Where other methodologies are used for calculating aircraft emissions, airports shall provide details of the calculation method with justification and assumptions made. Airports shall provide information on any uncertainties.

Airport will collect data on aircraft emissions and Airport Carbon Accreditation will use the data submitted by airports for the purposes of accreditation only. Therefore, Airport Carbon Accreditation shall not use this data for any other purposes, such as for the attribution of emissions from international flights to a specific airport or country, and Airport Carbon Accreditation will not disclose these data in any form. In addition, the methodologies above for calculating aircraft emissions are subject to further review.

• **Mobile sources (Scope 3): Maritime surface access emissions:**

Airports shall report maritime surface access emissions (staff and passengers travelling both to and from the airport). Airports shall supply data on surface access emissions with an explanation of assumptions and methodologies (e.g., questionnaires, reports, national databases).

• **Process sources (Scope 3): All offsite emissions from activities originating at the airport, e.g. waste incineration, landfill, sewage etc:**

Airports shall report on the emissions occurring offsite from activities of the airport operator or third parties that originate onsite. This shall include the treatment and disposal of solid and liquid waste (including sewage) generated in the airport's operations. Emissions can be calculated using the average-data method set out in Category 5 of the GHG Protocol, Technical Guidance of Calculating Scope 3. Airports can calculate emissions with the following inputs:

- Total mass/volume of waste generated in operations.
- Proportion of waste being treated by different methods (e.g., percent landfilled, incinerated, recycled; percent of sewage treated by different methods).
- Emissions factors for specific waste treatment and disposal methods.

Where other methodologies are used for calculating these emissions, airports shall provide details of the calculation method with justification and assumptions made. Airports shall provide information on any uncertainties.

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Although it is mandatory to include these Scope 3 emissions sources in the carbon footprint at Level 4 and 4+, they do not all have to be included as part of any third-party inclusive target scope.

5.4 CARBON FOOTPRINT CALCULATIONS

5.4.1 GHG PROTOCOL WORKSHEETS & ACERT

Airports shall submit their carbon footprint data using, or in line with, the worksheets provided by the GHG Protocol, ISO 14064-1, ACI’s Airport Carbon and Emissions Reporting Tool (ACERT) or an appropriate combination of these tools.11

ACERT is a self-contained Excel spreadsheet specifically designed to enable an airport to calculate its GHG emissions inventory. ACERT was initially developed by Transport Canada and its consultant EBA with the Canadian Airports Council. A global version was developed with the further assistance of Zurich Airport and Toronto Pearson Airport. The tool is available for free and can be used by inputting readily available operational data.

Airports may use different tools and emissions factors that may be more up to date (e.g., emission factors published by the country’s relevant authority, emission factors calculated by the airport). In such cases the airport shall provide justification for the selection of the factors used.

Where participants wish to submit their carbon footprint data in a different format, the data calculations reporting shall meet the requirements presented in Figure 8. Data shall be presented in a clear format with supporting information in English.

Figure 8 - Minimum Requirements for Carbon Footprint Calculations

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>SCOPE</th>
<th>EMISSION TYPE</th>
<th>MINIMUM DATA REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Stationary combustion engines</td>
<td>Source description; Fuel type; Quantity consumed; Unit of measurement; Emissions factors; Calculated CO₂ emissions in metric tonnes.</td>
</tr>
<tr>
<td>1, 2</td>
<td>1</td>
<td>Mobile combustion engines</td>
<td>Fleet &amp; number of vehicles; Fuel type; Unit of measurement; Energy consumed; Emissions factor; Calculated CO₂ emissions in metric tonnes.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Process emissions</td>
<td>Type of waste treated; Quantity of waste treated; Emissions factor; Calculated CO₂ emissions in metric tonnes.</td>
</tr>
<tr>
<td>3, 3+</td>
<td>2</td>
<td>Emissions from the purchase of electricity, steam, heat and cooling</td>
<td>Plant description; Power consumed in kWh; Emissions netted off for sold energy (if metered); Emissions factor; Calculated CO₂ emissions in metric tonnes; Information about selection of product/supplier.</td>
</tr>
<tr>
<td>4, 4+</td>
<td>3</td>
<td>LTO cycle</td>
<td>For each mode: Time in mode; Fuel consumption for specific engines; Number of engines running; Emissions factor for jet fuel; Calculated CO₂ emissions in metric tonnes.</td>
</tr>
</tbody>
</table>

11 For the GHG Protocol see http://www.ghgprotocol.org/calculation-tools/all-tools. For ACERT see http://www.aci.aero/About-ACI/Priorities/Environment/ACERT.
<table>
<thead>
<tr>
<th>LEVEL</th>
<th>SCOPE</th>
<th>EMISSION TYPE</th>
<th>MINIMUM DATA REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>Engine run-up &amp; testing, APUs, etc.</td>
<td>Fuel consumption; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3, 3+</td>
<td></td>
<td>Mobile combustion engines (e.g., GSE) operated by third parties</td>
<td>Fleet &amp; number of vehicles; Fuel type; Unit of measurement; Energy consumed; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Emissions from the purchase of metered electricity, steam, heat and cooling by third parties</td>
<td>Plant description; Power consumed in kWh; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3, 3+</td>
<td></td>
<td>Airport company staff business travel</td>
<td>Fuel consumed or distance travelled; Mode of transport; Fuel type; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Surface access</td>
<td>Mode of transport; Information on data collection and sampling methods; Assumptions; Surveys; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>4, 4+</td>
<td>1, 3</td>
<td>De-icing</td>
<td>The amount and type of de-icing fluid used. The percentage concentration of the de-icing chemical. The emissions factor for biological/chemical degradation of the de-icing chemical. Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Refrigerant losses</td>
<td>Type of refrigerant, and the respective global warming potential. The mass of refrigerant refill (‘top up’) required to be added by maintenance staff within the reporting year. Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Non-road construction vehicles, generators and plant</td>
<td>Fleet &amp; number of vehicles; Fuel type; Unit of measurement; Energy consumed; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Cruise, climb and descent of aircraft</td>
<td>Data on total fuel uplifted at airport and potential correction factor for bunkering. More advanced would be data for each flight, containing aircraft type and flight distance; Fuel flow data from the ICAO engine datasheets; Emission factor for jet fuel from the GHG Protocol or ICAO; calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Maritime surface access</td>
<td>Mode of transport; Information on data collection and sampling methods; Assumptions; Surveys; Emissions factor; Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Offsite processing e.g. solid waste, wastewater</td>
<td>Total mass of waste generated in operations; Proportion of this waste being treated by different methods (e.g., percent landfilled, incinerated, recycled); Emissions factors for specific waste treatment methods. Calculated CO(_2) emissions in metric tonnes.</td>
</tr>
</tbody>
</table>

Sources of data may include the airport's technical, human resources, or accounting departments, reports, surveys, national statistics, etc.

For Scope 3 emissions, every effort shall be made to access the source documents of the relevant stakeholders, although it is understood that this may not always be possible,
for example where the stakeholder considers those documents to be commercially sensitive.

5.4.2 CALCULATION OF SCOPE 2 EMISSIONS: LOCATION AND MARKET BASED APPROACH

The programme has adopted the GHG Protocol Scope 2 Guidance according to which there are two ways of reporting Scope 2 emissions: location based and market based. The location based approach reflects the average electricity emissions of the country or region where the airport is located and uses an average emission factor specific to the grid on which the energy consumption occurs. The market-based approach reflects the emissions from the electricity sources and products that have been purposefully chosen and, under strict conditions, allows for the use of an emission factor that is directly associated with the type of electricity purchased.

All airports shall report their Scope 2 emissions using location-based data. If the airports are located in a market where there is a choice of electricity product or supplier, they may also report using the market-based method. This implies that any emissions reductions (as well as residual emissions to be offset) need to be calculated with the method chosen.

The emissions factors associated with the location and market based approaches are described in Figure 9, which is consistent with the GHG Protocol Scope 2 Guidance (2015).13

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12 To facilitate the decision on the appropriate method see Figure 6.1 of the GHG Protocol Scope 2 Guidance (2015).

13 See http://www.ghgprotocol.org/scope_2_guidance
Figure 9 - Use of Emissions Factors for Electricity Purchased or Generated from Renewable Sources

LOCATION BASED

1. If an airport produces electricity from on-site renewables, or purchases electricity from a direct line to a renewable or low carbon source, a source-specific emissions factor (e.g. zero for renewables) can be used only as long as the airport retains its energy attributes.\textsuperscript{14}

2. If an airport produces electricity from renewable sources on site, or purchases electricity from a direct line to a renewable or low carbon source, for which the airport has not retained its energy attributes, then that airport shall use the grid emissions factor. In most countries, energy attributes cannot be retained when receiving subsidies (e.g., feed-in-tariffs), but this may vary from one country to another depending on national regulation. It is the airport’s responsibility to check what their national regulation allows and apply the correct emission factor accordingly.

3. If an airport purchases electricity from the grid through any type of contractual agreement, the airport shall still use the grid emissions factor. A contractual agreement is any type of contract between two parties for the sale and purchase of energy that provides information about the type of energy it relates to. It includes energy attribute certificates (Renewable Energy Certificates-RECs, Guarantees of Origin-GOs, etc.), direct contracts (for both low-carbon, renewable, and fossil fuel generation), green power programmes, and supplier specific labelling and fossil fuel contracts.

MARKET BASED

When calculating the market based carbon footprint, an airport shall use the following hierarchy to decide which emissions factor to use:

1. If the airport holds or buys energy attribute certificates (e.g., RECs, generator declarations or GOs), it shall use an emissions factor that accounts for these. If not, it shall move to option 2.

2. If an airport has any contracts for electricity (e.g. Power Purchase Agreements from a specific renewable energy source), it shall use the contract specific information. If not, it shall move to option 3.

3. If an airport’s electricity supplier provides an emissions factor specific to the energy product it receives, it shall use this one. If not, it shall move to option 4.

4. If an airport has access to its country wide residual mix, it shall use this one.\textsuperscript{15} If this is unavailable, the airport shall use option 5.

5. Use the national grid emissions factor. In this case the figure will be identical to the one calculated with the location-based approach.

\textbullet \textsuperscript{1} In addition, to be accepted as a market based calculation, contractual agreements shall meet the following quality criteria. They shall:

\textsuperscript{14} Energy attribute certificates, including Guarantees of Origin (GOs) and Renewable Energy Certificates (RECs) are used as transferable certificates or credits indicating generation of a particular quantity of energy from renewable sources.

\textsuperscript{15} All EU countries have access to the residual mix and other information on the electricity market under the Reliable Disclosure Systems for Europe/RE-DISS project. See: \texttt{http://www.reliable-disclosure.org/documents}.
1. Convey the direct GHG emission rate attribute associated with the unit of 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 airport;
4. Be issued and redeemed as close as possible to the period of energy consumption to which the contractual agreement is applied; and
5. Be sourced from the same market in which airport’s operations are located and to which the contractual agreement is applied.

If an airport is purchasing 100% renewable electricity and the emissions factor is not stated on the contractual agreement (e.g., energy attributes or Power Purchase Agreement) and is not otherwise specified by the supplier, then the airport shall use the emissions factor of 0 kgCO$_2$eq/kWh. However, if an emissions factor is stated, the airport should discuss with their supplier what these emissions are related to. Any emissions associated with the generation of the renewable electricity or the operation of the facility shall be reported by the airport as Scope 2. Any other emissions sources can be reported by the airport as Scope 3 on a voluntary basis.

5.4.3 USE OF BIOFUEL

For the purpose of this manual, biofuel is an all-inclusive term for all biogenic, non-fossil sourced fuels (e.g., renewable natural gas/green gas, renewable diesel, biodiesel). The benefits of using biofuel as an alternative to conventional fuels should be accounted for in the airport’s carbon footprint. The airport shall apply one of the following methodologies per each type of biofuel used in the airport’s operations.

**Purchased Biofuel**

CO$_2$ emissions from biofuels used directly at the airport (on-site) shall be reported using the emissions factor provided by the biofuel supplier. This emissions factor is usually zero – except if well-to-tank emissions (i.e. those associated with the processing and transportation of the fuel to the user) are taken into account by the supplier.

On a voluntary basis, airports may calculate the direct CO$_2$ emissions released through the combustion of biofuels and report it separately from the scopes in the carbon footprint. These emissions should be calculated by requesting the associated biogenic emissions factor from the supplier or other relevant institutions (e.g., national authority).

Other/non-CO$_2$ greenhouse gases associated with using biofuel and emissions from the production and transportation of biofuel can be accounted for on a voluntary basis by the airport. This is not a mandatory requirement of the programme.
Biofuel Attribute Certificates

In some markets, airports are able to purchase biofuel attribute certificates to compensate for the emissions associated with the use of fossil fuels on-site. In this situation, because the airport will be purchasing and using conventional fuels along with these certificates, the Scope 1 emissions from the use of these fuels shall be accounted for using the location-based approach. Airports may also report applying the market-based approach to demonstrate the benefits of using biofuel attribute certificates.

For the location-based approach, the emissions factor for the fossil fuel used by the airport shall be used to reflect the emissions actually generated. For the market-based approach, the airport shall use the appropriate emissions factor to reflect the purchase of the attribute certificates from the supplier. This emissions factor is usually zero – except if well-to-tank emissions (i.e. those associated with the processing and transportation of the fuel to the user) are taken into account by the supplier.

Heat purchased from biofuel used by a third-party

If the airport purchases heat (i.e., steam) from biofuel that is used by a third-party, this will be accounted for in the airport’s Scope 2 emissions using the emissions factor provided by the supplier for both location and market-based calculations.

Quality Criteria

Emissions factors provided by the supplier shall meet the following quality criteria:

- In the case of biofuel used on-site, they shall:
  - Convey the direct GHG emission rate associated with the unit of biofuel.
- 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.
5.5 THE CARBON FOOTPRINT REPORT

All airports are required to upload a copy of their carbon footprints with their on-line application. This can be submitted in different formats but shall clearly provide emissions breakdowns by scope and by emission source (e.g. electricity consumption, heating, LTO, etc.). It is recommended (but not required) that airports compile all the key information and data from Section 5 into a Carbon Footprint Report. The recommended contents of the report are presented in Figure 10. Alternatively, they can provide this information as part of other reports/documents.

Figure 10 - Recommended Contents of the Carbon Footprint Report

- Purpose/objectives of the report and intended use/users as well as the reporting period.
- General information about the airport (e.g., brief historical information, ownership structure, location, employees, passengers/aircraft movements/cargo over the years, general map, etc.).
- Information about organisational and operational boundaries and emissions sources. In order to properly identify their inventory boundary, airports should classify their emissions (Scope 1, 2, and 3; Control/Guide/Influence) and identify the departments or stakeholders with responsibility regarding these emissions, changes, exclusion of sources, etc. This identification/classification should take place even at Level 1.
- Description of the airport’s carbon management policies, strategies or programmes, including participation in Airport Carbon Accreditation (e.g., level, history, targets) or other initiatives.
- Information about past CO₂ (and where relevant other) emissions (e.g., reference year, quantities, historical information, sources and activities, comparisons).
- Carbon footprint calculation methodology including:
  - Procedures for the collection, documentation and processing of emissions data.
  - Details on the role of airport departments regarding the carbon footprint process.
  - Emissions target setting and selection of base year (if relevant).
  - Data sources (e.g., invoices, delivery notes, weigh-bridge tickets, meter readings).
  - Data management (e.g., software, responsible department, data storage).
  - Emission factors, formulas, etc. and their justification.
  - Expected materiality & measurement accuracy (e.g., assumptions, explanations, calibration).
  - Potential exclusion of specific emission sources.
  - Adjustments for new assets or asset divestment.
  - Quality control procedures (audits, comparisons, recalculations).
  - Contact persons responsible for the carbon footprint and the report.
- Data used for calculating the carbon footprint including:
  - Energy consumption data.
  - Fuel consumption data.
  - Production data (e.g., tonnes of waste, kWh of electricity produced).
  - Raw material consumption data.
  - Passenger and employee surveys.
  - LTO cycle information.
  - Flight information (e.g. aircraft type, flight distance)
  - Other data (e.g., private vehicles, public transport, surface access, travel, de-icing, APUs).
- Data presentation/analysis (e.g., graphs, tables, comparisons, progress towards target, trends, uncertainties) by Scope (1, 2, 3) and emission source.
• Documented procedures for identifying sources and quantities of emissions.
• Samples of data sources (e.g., invoices, delivery notes).
• Assurance processes to which the airport or its operations are subjected (e.g. internal audit, external reviews and certifications).
• References.

Data sources shall be available for review by the verifiers. Verifiers may request additional information to the one listed above.
6 SETTING & ACHIEVING EMISSIONS REDUCTION TARGETS

6.1 INTRODUCTION

A summary of the requirements for setting and achieving emissions reduction targets is presented in Figure 11; for airports at Level 2, 3 and 3+ as well as airports at Level 4 and 4+. Further details of these requirements are presented in the subsequent sections.

Figure 11 - Summary of Requirements for Setting and Achieving Emissions Reduction Targets

<table>
<thead>
<tr>
<th>ACCREDITATION LEVEL</th>
<th>L2</th>
<th>L3</th>
<th>L3+</th>
<th>L4</th>
<th>L4+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target type</td>
<td>Absolute or intensity target using either passenger numbers, traffic units or kg of cargo.</td>
<td></td>
<td></td>
<td>Absolute targets only.</td>
<td></td>
</tr>
<tr>
<td>Target scope</td>
<td>Scope 1 and 2 emissions.</td>
<td></td>
<td></td>
<td>Scope 1 and 2 emissions (mandatory).</td>
<td>Scope 3 emissions (voluntary) including either LTO or one or more sources representing &gt;10% of total Scope 1, 2 &amp; 3 emissions (excluding LTO and cruise) and over which the airport exercises significant influence.</td>
</tr>
<tr>
<td>Target amount</td>
<td>No specific reduction amount is required.</td>
<td></td>
<td></td>
<td>Target reductions shall be in line with the IPCC 1.5°C pathway (wherever possible) or the 2°C pathway, but can also be more ambitious.</td>
<td></td>
</tr>
<tr>
<td>Baseline year</td>
<td>Baseline shall be chosen by the airport.</td>
<td></td>
<td></td>
<td>Airports should use the baseline year of 2010, where possible.</td>
<td></td>
</tr>
<tr>
<td>Target date</td>
<td>No specific target date is required.</td>
<td></td>
<td></td>
<td>Target dates should fall on the middle or the end of the decade (e.g. 2030 or 2035).</td>
<td>Long term targets shall reach at least 10 years into the future, but can be as far off as 2050. If the long-term target is greater than 15 years into the future, airports shall set interim milestone: generally 10-15 years into the future.</td>
</tr>
<tr>
<td>Emissions trajectory</td>
<td>No emissions trajectory required</td>
<td></td>
<td></td>
<td>Airports must define the emissions trajectory from their current application year to their long-term target (via any interim milestone).</td>
<td></td>
</tr>
</tbody>
</table>
6.2 LEVEL 2, 3 AND 3+

Airports at Level 2, 3 or 3+ shall set a challenging but realistic target for emissions reduction in absolute terms or in terms of emissions intensity. In order to attain or remain at that level, airports shall demonstrate annual improvement in Scope 1 and 2 emissions against a three-year rolling average. Ultimately, airports shall demonstrate achievement of their target in accordance with the target year they have set. When setting the target, the airport should take into consideration financial, operational and business requirements and constraints, availability of technologies, monitoring and reporting requirements, the views of stakeholders, etc.

6.2.1 SELECTING ABSOLUTE VS INTENSITY TARGETS

Airports shall decide between an absolute and an intensity target.\textsuperscript{16}

**Absolute target:** A target defined by reduction in absolute emissions over time (e.g., reduce CO\textsubscript{2} emissions by 25% below 2015 levels by 2020 or reduce CO\textsubscript{2} emissions by 10,000 tonnes below 2015 levels by 2020).

**Intensity target:** A target defined by reduction in the ratio of emissions and a business metric over time. In the case of airports, the target shall be expressed either as tonnes of CO\textsubscript{2} per passenger or as tonnes of CO\textsubscript{2} per Traffic Unit (TU). A TU is defined as 1 passenger movement or 100 kg cargo arriving or departing. For example, an airport may decide to reduce CO\textsubscript{2} emissions per passenger by 15% below 2015 levels by 2020; reduce CO\textsubscript{2} emissions by 0.20 kg/passenger below 2015 levels by 2020; or reduce CO\textsubscript{2} emissions per TU by 10% below 2015 levels by 2020, etc.

\textsuperscript{1} The programme recognises that airports may have existing targets (e.g., targets based on government requirements or Corporate Social Responsibility reporting) that do not relate directly to the targets described above. In other cases, the organisational boundary of their footprint may differ from the minimum requirements for Airport Carbon Accreditation.

\textsuperscript{16} For a comparison between absolute and intensity targets, airports can review p. 76 of the GHG Protocol.
Accreditation. In such cases the Administrator will generally accept the existing targets as long as suitable evidence of performance versus those targets is available. In recognition of the unique circumstances at each airport this will be considered on a case-by-case basis.

The airport shall provide a verified carbon footprint of the base year to be used for the target as well as an explanation of the selection of the base year.

6.2.2 ACHIEVING REDUCTIONS & THE THREE-YEAR ROLLING AVERAGE

An airport shall demonstrate annual emission reductions against a three-year rolling average for the specific type of target it has selected (i.e., absolute or intensity). This works as follows: The year being reported (i.e., Year 0 emissions) shall be compared with the arithmetic mean (i.e., average) emissions of Years -1, -2 and -3. If an airport joining or upgrading to Level 2 or beyond does not have complete historical data to enable it to calculate the full three-year average, it may compare Year 0 emissions with Year -1 or the average of Years -1 and -2 emissions. As soon as three years of historical data become available, the airport shall compare its Year 0 emissions to the rolling three-year average. Airports entering the programme directly at Level 2 or above shall verify any historical carbon footprints they are using for comparison against Year 0.

All airports can use either the location-based or market-based method to demonstrate emissions reductions.

6.2.3 ADJUSTING THE THREE-YEAR ROLLING AVERAGE FOR INVESTMENT OR DIVESTMENT

After joining the programme, it is possible that an airport will invest in new assets (e.g., terminals) and/or divests old assets (e.g., firefighting services). It is therefore necessary to show the effect of the new investment or the divestment on the previous years’ carbon footprints to enable a like-for-like comparison. When an airport is investing in or divesting assets, the following principles will apply.

When an airport is replacing an asset without a significant change to its operational boundary (e.g., an old heating system with a new one), this is not defined as an investment or divestment for the purposes of this Application Manual.

**Divestment:** In the case of divestment, the airport shall re-calculate the footprint for the past three years excluding the emissions from the asset, which has been divested. These new historical emissions shall be used to calculate the average against which the current year’s performance will be compared.

**Investment:** In the case of an airport investing in new assets, there will be a period of time where there is not sufficient data to provide a like-for-like comparison against their historical carbon footprints. To balance between the programme’s wish to see the impact of the new asset as early as possible and this lack of historical data, until a new asset has
been in operation for two full years, the emissions of the new asset shall be reported separately, not as part of the airport's main carbon footprint. Consequently, to identify reductions, only the emissions from the pre-existing asset will be compared to the airport's historical emissions. This will ensure a like-for-like comparison. Once the new asset has been in operation for more than two full years, its emissions data shall be included in the comparison using one of the two approaches set out below.

6.2.3.1 Method A - using one single rolling average

After two full years of operation of the new asset, the airport will be comparing the emissions from all assets from Year 0 to Year -1. The year after, the emissions of Year 0 will be compared to those from Year -1 and Year -2, for all assets. This implies that after four years of full operation of the new asset, the airport will be able to use a three-year rolling average as baseline to demonstrate emissions reductions.

6.2.3.2 Method B - using disaggregated rolling averages

After two full years of operation of the new asset, the average historical emissions of the new asset shall be calculated separately from the historical emissions of the pre-existing assets. For the new asset, emissions from Year -1 will form a separate average, whereas for the pre-existing assets, emissions from Year -1, Year -2 and Year -3, i.e. the full three-year-rolling average, will be used.

Then the airport shall sum up the rolling averages for both the new asset and the pre-existing assets and demonstrate reductions against this sum. Emissions from the new assets will continue to form a separate rolling average until three years of historical data is available.

If the airport invested in more than one asset over the same time period, the rolling averages shall be calculated separately from both the rest of the airport and the other new assets.

With this method, the airport can use a three-year-rolling average as baseline to demonstrate emissions reductions as soon as a new asset has been in operation for two full years. Therefore, this method is particularly relevant, but not exclusively so, to airports that are experiencing continued expansion.

6.2.3.3 Example of Adjustment with New Assets

An airport has had one terminal (T1) for many years. For 2012 the calculation of the three-year rolling average for T1 is not a problem as the airport has emissions data for 2011, 2010 and 2009. The same is true for the calculations for 2013, 2014 and 2015.

In midyear 2016 it opens terminal 2 (T2), while T1 remains open. In 2016 it has emissions from T1 and partially from T2. Therefore for 2016, when demonstrating its improvements, the airport shall report T1 emissions versus the three-year rolling average for T1 only (2013, 2014 and 2015). For 2017 it shall again compare the emissions of T1 versus the
average performance of T1 only (2014, 2015, 2016) because it has no full historical data for T2.

However, for its footprint in 2018, the airport shall include the emissions associated with T1 and T2 as two full years of comparable data is available. Depending on the approach taken to adjust for investment in new assets, the airport shall:

When using Method A:

- For 2018 compare the performance of T1 and T2 versus the performance of T1 and T2 in 2017 only, as there is only one year of historical data for the combined operation.
- For 2019 the airport shall compare the performance of T1 and T2 versus the average performance of T1 and T2 in 2017 and 2018, as there are two years of historical data for the combined operation.
- From 2020 the airport will be able to compare its performance of T1 and T2 versus the full three-year-rolling average again (2017, 2018, 2019).

When using Method B:

- For 2018 compare the performance of T1 and T2 versus the sum of the three-year-rolling average of T1 emissions in 2017, 2016 and 2015 and T2 emissions in 2017.
- For 2019 the airport shall compare the performance of T1 and T2 versus the sum of the three-year-rolling average of T1 emissions in 2018, 2017 and 2016, and the rolling average of T2 emissions in 2018 and 2017.
- From 2020 the airport will be able to compare its performance of T1 and T2 versus the full three-year-rolling average for both assets (2017, 2018, 2019). There is no need to separate the calculations of the average historical emissions for both assets anymore.

Figure 12 presents the above information in a table format.
6.3 LEVEL 4 AND 4+

6.3.1 SETTING LONG TERM TARGETS AT LEVEL 4 AND 4+

Airports at Level 4 and 4+ shall meet different requirements in relation to setting and achieving emissions reduction targets (compared to those for airports at Level 2, 3 and 3+).

**Target type**

For Level 4 and 4+, emissions reduction targets shall only refer to absolute reductions, regardless of any further growth in air traffic or airport infrastructure. Airports may also set targets for emissions intensity for internal carbon management purposes, but these do not contribute to Level 4 and 4+ certification.

If an airport has already set an absolute target for Level 2, 3 or 3+ which meets the other criteria set out below for Level 4, it may be eligible to be accredited at Level 4 and 4+. Otherwise the airport shall set a new target for Level 4 which supersedes any previous target for the purpose of accreditation.
**Target scope**

Level 4 and 4+ airports shall include all Scope 1 and 2 emissions in their target as a minimum (i.e., an airport operator target scope).

If an airport chooses to do so, it may also incorporate one or more sources of Scope 3 emissions in its target and thus partially or entirely cover the airport as a system (i.e., a third-party-inclusive target scope). In this case, airports shall ensure that their Scope 1 and 2 emissions at least remain stable in the future, if further reductions are not possible. Airports are encouraged to regularly assess whether additional reductions on Scope 1 and 2 can be achieved.

The option of setting a third-party inclusive emission reduction target allows airports to identify and pursue the most effective emissions reduction opportunities, recognizing that they may relate to the airport operator's Scope 3 sources. This decision is at the discretion of the airport operator along with the selection of which Scope 3 emissions sources are included in such a target. However, two further requirements shall be met for any third-party inclusive target:

- The total Scope 3 emissions included in the target shall be significant - in this case defined as LTO emissions or any other sources being greater than 10% of the total (Scope 1, 2 and 3, but excluding aircraft LTO and cruise) emissions.
- The airport operator 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 operator exercises influence over those emissions.

In the context of aircraft operations at an airport, emissions sources which would typically meet the above requirement include operations at the gate, during taxi and in some cases LTO. Many other Scope 3 sources could be included with suitable justification on a case by case basis.

1. In defining whether to include Scope 3 emissions in the target and if so; which emissions sources to include, the airport operator should consider the financial, operational and business requirements and constraints, availability of emissions reduction technologies, monitoring and reporting requirements, the views of stakeholders, etc. Generally speaking, limiting the target to Scopes 1 and 2 will very likely reduce the ability of the target to drive airport-wide reductions.

**Target amount and date**

In order to achieve Level 4, airports are required to adopt targets in line with the Paris Agreement, which sets the objective of “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C (…)”.

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Against this background and given the conclusions of the IPCC Report from October 2018, it is strongly recommended that airports follow the 1.5°C scenario to define their absolute emissions reduction target. However, it is understood that many airports are operating under varying levels of challenges and regional disparities that might either encourage or prevent them from being able to set very ambitious targets (e.g., access to greener energy). They will need to have the flexibility to set targets that are achievable to them and contribute to the overall reductions in the airport sector. Therefore, aiming to recognise airports’ alignment with the Paris Agreement, the minimum standard required to achieve Level 4 is compliance with the 2°C scenario.

Taking into account the above requirements, the following table sets out a target amount for each possible long-term target date (or interim milestone date) which is considered to provide acceptable alignment with the IPCC 1.5°C pathway or 2°C pathway. An acceptable range is provided for each target date/amount. However, 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 6 - The Target Amounts for Each Possible Long-Term Target Date when Using a 2010 Baseline**

<table>
<thead>
<tr>
<th>TARGET YEAR</th>
<th>TARGET AMOUNT VS 2010 BASELINE (2°C pathway)</th>
<th>TARGET AMOUNT VS 2010 BASELINE (1.5°C pathway)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2030</td>
<td>-25% (range of -10% to -30%)</td>
<td>-45% (range of -40% to -60%)</td>
</tr>
<tr>
<td>2035</td>
<td>-34% (range of -21% to -39%)</td>
<td>-59% (range of -55% to -70%)</td>
</tr>
<tr>
<td>2040</td>
<td>-44% (range of -33% to -48%)</td>
<td>-73% (range of -70% to -80%)</td>
</tr>
<tr>
<td>2045</td>
<td>-53% (range of -44% to -56%)</td>
<td>-86% (range of -85% to -90%)</td>
</tr>
<tr>
<td>2050</td>
<td>-63% (range of -55% to -65%)</td>
<td>Net zero</td>
</tr>
</tbody>
</table>

An airport will have to explain in its application how it derived its individual target from the above IPCC reference, taking account the elements outlined in Box 1.
In line with the IPCC, the baseline date should be 2010. However, the airport can select a different baseline, provided that it justifies its choice. For instance, some airports might not be able to use 2010 as a baseline because of lack of high quality emissions data. In the case of an airport established after 2010, the first full operating year could be chosen. For airports that do not choose the 2010 baseline year, they shall still choose targets that are in line with the percentage bands stated in Table 6. The baseline year should then remain unchanged, unless some regulatory or other important reason emerges. The airport will have to justify any change of the baseline.

A long-term target shall be set which is at least 10 years into the future from the date of application for Level 4 or 4+. The latest acceptable target date is 2050. The target date should fall on the middle or end of the decade.

- e.g. An airport applying for Level 4 in 2020 could set a long-term target for the year 2030, 2035, 2040, 2045 or 2050.

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**Box 1. Defining an emissions reduction target**

There are several elements that airports need to consider in order to define an ambitious but realistic target. Airports should first consider their future baseline, which would be the scenario they expect without any significant interventions. This could include considering the following points amongst others:

- 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 baseline will suggest a significant reduction in emissions while for others it may suggest an increase. Following this exercise, airports may consider a long list of possible actions they could implement. Ideally, airports could complete a cost-effectiveness exercise to compare possible 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).

By completing this exercise, an airport should feel confident that its emission reduction target is realistic on the basis of implementing all or some of the actions identified. In other cases, the reduction target may appear to require a further stretch beyond what can currently be considered realistic. However, an ambitious long-term target will drive innovation in carbon reductions and further actions may become apparent as time passes.
Airports can have a long-term target that is less than ten years into the future if they are aiming to reach net zero emissions.

Airports setting a long-term target greater than 15 years into the future shall also set at least one interim milestone which also aligns with the relevant IPCC pathway and it should also fall on the middle or end of the decade. Any interim milestone shall typically be 10 or 15 years after the application year or before the long-term target year.

- e.g. An airport applying for level 4 in 2020 and with a long-term target for the year 2050, could set two interim milestones for the years 2030 and 2040 or it could set just one for the year 2035.

Existing targets set by airports (e.g., targets based on government requirements or Corporate Social Responsibility reporting) will only be accepted for Level 4/4+ if they meet all of the requirements set out here. A target set and approved by the Science Based Target initiative (SBTi) will automatically be accepted for Level 4/4+ accreditation as aligned to the IPCC 1.5°C pathway or 2°C pathway if it is set at least 10 years into the future. However, if a SBTi target is set less than 10 years into the future, a second target shall also be set for the purposes of Level 4/4+ accreditation (10-15 years into the future to comply with Level 4/4+ requirements), and this target does not need to be approved by the SBTi.

The airport shall provide a verified carbon footprint for the baseline year which is to be used for the Level 4/4+ target.

**Changing the target or interim milestone**

In the years preceding each interim milestone or the long-term target, a Level 4 or 4+ airport may on one occasion:

- change the Scope 3 sources included in the target
- change from Scope 1 and 2 to third-party inclusive target scope and vice versa
- change the target amount or date

The change should take place upon a renewal and shall be verified. The new target shall meet all the other requirements stated i.e. the new target is still aligned to the IPCC 1.5°C pathway or 2°C pathway and the new target must be at least ten years into the future from the year the original target was set.

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.

- For example, if an airport has a target for 2050 and an interim milestone for 2035, it can redefine once the interim milestone, and once the target.

- The above restriction on the frequency of a change does not apply to cases where the change in a target/milestone is aimed at making it more ambitious. This means that an
airport can change their target to be more ambitious on several occasions. Such a change shall still be verified and must be made upon the airport's renewal.

6.3.2 SETTING AN EMISSIONS REDUCTION TRAJECTORY

In addition to defining its long-term target and corresponding target year – as well as any interim milestone(s) – a Level 4 or 4+ airport shall determine the emissions trajectory it expects to follow to achieve the target. It shall include its expected carbon emissions trajectory in its Carbon Management Plan and this shall correspond with the actions and expected emissions reductions contained therein.

The emissions trajectory can include a projected increase at any point as long as it eventually reaches the required emission reduction target in the corresponding target year. The airport will have to explain why any increase is expected.

Refer to Box 1 (Defining an emissions reduction target) for further guidance on how an airport might consider the future emissions baseline (trajectory) and additional actions to drive emissions downwards.

6.3.3 ACHIEVING TARGETS AT LEVEL 4 AND 4+ AND DEMONSTRATING PROGRESS

Airports shall demonstrate progress against their emissions trajectory by means of their carbon footprint and Carbon Management Plan. In particular:

- Airports must demonstrate the achievement of the long-term target or interim milestones once the target date has been reached. This will be verified at the renewal following the target/milestone due date. It will not be possible for a Level 4 or 4+ airport to renew their application if they have not achieved a past target/milestone.
- Additionally, every six years, (every other renewal cycle), actual airport emissions will be compared to the trajectory and the airport is required to be on track. A maximum deviation of 15% above the forecast emissions trajectory will be accepted in that renewal year.
- An airport shall present the expected emissions according to its trajectory and the actual emissions for the corresponding year. It shall also detail which initiatives have been implemented, and the actual emissions reductions that have been achieved as a result.

An airport may adjust its emissions trajectory at each renewal, provided its Carbon Management Plan still demonstrates it is on track to meet its long-term target and, if applicable, interim milestone(s).

Note that making changes to the emission trajectory is separate to making changes to the long-term target (or interim milestone) itself. The option and requirements for changes to targets and milestones are set out in Section 6.3.1.
Airports at Level 4 and 4+ can use either the location based or market based method when it comes to setting and demonstrating achievement of their emission reductions targets. Airports shall report 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 and justify the reason for the changes.
7 CARBON MANAGEMENT PLAN

At Level 2 and above, an airport shall develop a Carbon Management Plan. The purpose of the Plan is to demonstrate the meaningful efforts by the airport to reduce its emissions in line with the set target and policy statement. As a minimum, the Plan shall cover Scope 1 and 2 emissions as they have been defined in the carbon footprint. After its initial development, the Plan shall be updated at least every three years.

Airports shall provide supporting written evidence as required in the application form to demonstrate that the Plan is being implemented effectively. Confirmation from the airport’s verifier is required (in accordance with the verification timelines described in Section 10.3) that a Plan has been formulated and implemented. Airports can incorporate the Carbon Management Plan within other programme reports.

7.1 CONTENTS OF THE CARBON MANAGEMENT PLAN

A Carbon Management Plan shall contain at least the following parts:

- Responsibility, resource allocation, and organisational structure.
- Carbon management initiatives.
- Implementation plan.
- Communication, awareness, and training.
- Self-assessment/auditing.

For Levels 4 and 4+, it should in addition contain the long-term target set by the airport, as well as the associated emissions trajectory, as per requirements set out in Section 6.

The following sections provide recommendations on the contents of each part.

7.1.1 RESPONSIBILITY, RESOURCE ALLOCATION AND ORGANISATIONAL STRUCTURE

Senior/Executive management commitment and clear allocation of roles and responsibilities are essential to the success of any management programme. The Plan should incorporate the following features:

- Allocation of human and financial resources for the development and implementation of management plans.
- Appointment of an Airport Energy/Carbon/Climate Change Manager to lead and manage the airport’s Carbon Management Plan.
- Establishment of a cross-airport Energy/Climate Change Team/Committee to bring together a wide range of airport functions, such as technical, environmental, financial, and operational. This group can define the strategic direction for the airport, ensure targets and action plans are realistic and resources are allocated appropriately, review progress and overcome constraints.
7.1.2 CARBON MANAGEMENT INITIATIVES

There is a wide range of carbon management initiatives that an airport can consider, including:

- Improved energy efficiency.
- Use of low carbon energy sources on site.
- Procurement of green electricity (e.g., RECs).

ACI's *Guidance Manual: Airport Greenhouse Gas Emissions Management* (2009) provides some useful examples, including the following:

- Modernisation of power, heating and cooling plants.
- Generation, use or purchase of electricity from renewable sources.
- Design, inclusion or retrofitting of “smart” and energy efficient buildings and component technologies, including double glazing, window tinting, variable shading, natural lighting, LED (light emitting diode) lighting, absorption-cycle refrigeration, and heat recovery power generation. LEED and BREEAM building certification programmes can provide guidance.
- Modernisation of vehicles and GSE, and use of alternative fuels for buses, cars and other air and land side vehicles, including compressed natural gas, hydrogen, electric, and hybrid vehicles.
- Driver education on fuel conserving driving and implementation of no-idling policy.
- Solid waste management that includes recycling and composting.
- Provision of public transport and rapid transit to/from the airport including buses, light rail and trains.
- Educational campaigns (or using by-laws) to reduce vehicle idling, individual passenger drop-off and pick-up, etc.
- Encouragement of alternative fuel or hybrid taxis, rental and other cars using incentives such as priority queuing, parking cost reduction and priority parking areas.

Additional resources for carbon management initiatives could include ATAG’s Aviation Climate Solutions (2015)\(^{18}\), ACRP’s Guidebook for Developing a Zero or Low-Emissions Roadmap at Airports\(^ {19} \) and previous *Airport Carbon Accreditation* Annual Reports\(^ {20} \).

7.1.3 IMPLEMENTATION STRATEGY AT LEVELS 2, 3 & 3+

An implementation strategy is useful in order to describe the means by which carbon management initiatives will be carried out. It should include topics such as objective,
project design, management and roles, risk management, timelines, monitoring, evaluation, checklists, reporting, etc.  

7.1.4 IMPLEMENTATION STRATEGY AT LEVELS 4 AND 4+

The implementation section of the Carbon Management Plan for Levels 4 and 4+ shall include the elements required for the implementation strategy at Levels 1, 2, 3 and 3+ but in a more extensive manner. This means that based on the defined long-term target, interim milestones and emissions trajectory, it shall include the projected emissions reduction from each carbon management initiative, the resulting contribution to the airport's emissions trajectory and associated timelines.

7.1.5 COMMUNICATION, AWARENESS & TRAINING

The success of any management plan is highly dependent on the competencies and participation of employees and other stakeholders. When assessing training and information needs, an airport should consider the level of understanding of the business risks presented by climate change, job specific knowledge and skills required by those whose activities have a direct impact on the airport's carbon footprint, the need for a general level of awareness of the airport's progress and any specific behavioural changes required on the part of users of energy consuming equipment and facilities, communication and provision of training to third parties and business partners, etc. For more information airports can also consult the section on the Stakeholder Engagement or Partnership Plan.

7.1.6 SELF-ASSESSMENT & AUDITING

Auditing and self-assessment can help an airport keep track of progress and identify areas for improvements. Airports should define processes for assessing performance and prioritising actions. This could be done by using a Carbon Management Matrix, which can provide insight into the effectiveness of carbon management plans and identify areas where more work is required.

Airports may also undertake specialised studies (e.g., life-cycle assessment or energy efficiency studies), provide training to key departments, project managers and third parties.

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parties to develop relevant skills, or integrate energy and carbon assessments and auditing into existing airport audit and inspection arrangements.
8 STAKEHOLDER MANAGEMENT

8.1 INTRODUCTION

Stakeholders represent an important component of airport efforts to manage greenhouse gas emissions. Stakeholders include operational and service companies, such as airlines, ground handlers, cargo handlers, catering companies, waste management contractors, public and local transport operators, passengers, decision makers, planners, employees, tenants, retailers, cargo operators, civil works and other contractors.

Airports at Level 3 and 3+ shall formulate a Stakeholder Engagement Plan, while airports at Level 4 and 4+ shall develop a more demanding Stakeholder Partnership Plan. A summary of the respective requirements for stakeholder management is presented in Figure 13, while further details are presented in the subsequent sections.

Figure 13 - Stakeholder Management

<table>
<thead>
<tr>
<th></th>
<th>Level 3 (Optimisation)</th>
<th>Level 3+ (Neutrality)</th>
<th>Level 4 (Transformation)</th>
<th>Level 4+ (Transition)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Stakeholder Engagement Plan</td>
<td>Stakeholder Partnership Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>On-going dialogue, sharing of best practices, and promoting cooperation with stakeholders with the aim of reducing emissions from major stakeholder operations.</td>
<td>Actively driving third parties at the airport towards delivering emissions reductions themselves either through their own reduction plans or through measures initiated by the airport operator.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emission reduction objectives for stakeholders</td>
<td>No</td>
<td>Yes (absolute or relative)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting</td>
<td>Yes, for initial accreditation and every renewal.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Information</td>
<td>Description of stakeholders, allocation of responsibilities for engaging with key stakeholders, evidence of engagement and outcomes, implementation plan.</td>
<td>Inclusion of all stakeholders that are responsible for a significant contribution to the Scope 3 footprint, setting of emissions reduction objectives for stakeholders, carbon reduction plans/measures directly taken by the stakeholders with airport contribution or defined by the airport operator.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revisions</td>
<td>After its initial development, the Plan shall be revised at least every three years. The revised Plan shall include updated information about stakeholders, joint initiatives, achievement of emission reductions, updated objective setting, training and awareness, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verification</td>
<td>Confirmation from the airport’s verifier is required (in accordance with the verification timelines defined in Section 10.3) that a Plan has been formulated and implemented.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8.2 STAKEHOLDER ENGAGEMENT PLAN FOR AIRPORTS AT LEVEL 3 AND 3+

At Level 3 and 3+, an airport shall demonstrate that it has formulated and effectively implements a Stakeholder Engagement Plan. *Airport Carbon Accreditation* accepts that an airport can guide and influence but cannot control stakeholder (i.e., third parties) operations. Therefore, the airport shall demonstrate that it has on-going dialogue, shares best practices, and promotes cooperation with stakeholders with the aim of reducing emissions from major stakeholder operations. The airport will be judged on whether it is making a real and thoughtful effort to engage the stakeholders and not on the outcome of stakeholder engagement. Nevertheless, it is considered as best practice to achieve emissions reductions from stakeholder sources.

After its initial development, the Plan shall be revised at least every three years. The revised Plan shall include updated information about stakeholders, joint initiatives, achievement of targets, training and awareness, etc. During the interim years the airport shall provide evidence as part of its application regarding the implementation of the Plan. Confirmation from the airport’s verifier is required (in accordance with the verification timelines defined in Section 10.3) that a Plan has been formulated and implemented. Airports may wish to incorporate the Stakeholder Engagement Plan within other programme documentation.

The programme does not require the airport to establish additional management committees and meetings specifically for stakeholder engagement. In many cases there are already regular meetings between the airport and stakeholders (e.g., airlines, handlers, catering, retail) at which a new agenda item could be discussed regarding carbon management.

The Stakeholder Engagement Plan shall include at minimum the following information:

- Identification, description, categorisation and prioritisation of the stakeholders the airport can guide and influence. These are the stakeholders associated with Scope 3 emissions and will generally include airlines, ground handlers, cargo handlers, catering companies, waste management contractors, public and local transport operators, passengers, decision makers, planners, employees, tenants, retailers, cargo operators, civil works and other contractors, etc.
- Allocation of roles and responsibilities for engaging and facilitating partnerships with key stakeholders.
- Evidence of engagement and outcomes (e.g., minutes of meeting, presentations, press releases, trainings).
- An implementation plan of the intended approach to engaging with stakeholders including proposed actions and timings.
The implementation plan should consider a combination of the following:

- Awareness campaigns and training.
- Interactive sessions (forums, workshops, committees) to become familiar with airport policies and objectives and to support their implementation.
- Joint initiatives to improve infrastructure use, operations, etc. (e.g., reduction of running and taxiing times).
- Minimum performance standards for buildings, retail units, operations, vehicle fleets, etc.
- Incentives and cost structures to encourage good practices (e.g., incentives for recycling, differential charges for aircraft depending on emissions).
- Carbon management and energy efficiency clauses into third-party contracts.
- Performance audits.
- Site visits.
- Communication initiatives.
- Other.

Airports may wish to consult additional resources to facilitate the formulation of their Stakeholder Engagement Plan including UNEP’s “Stakeholder Engagement Manual,” which is based on five steps.\(^23\)

\(\oplus\) The programme accepts evidence of complying with EUROCONTROL’s Collaborative Environmental Management (CEM) specifications as adequate proof of a Stakeholder Engagement Plan.\(^24\) Airports operating in states that belong to the European Civil Aviation Conference (ECAC) may also use a dedicated web-tool proposed by EUROCONTROL.\(^25\)

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\(^23\) For more information see: https://wedocs.unep.org/bitstream/handle/20.500.11822/26862/HANDBOOK%20FOR%20STAKEHOLDER%20ENGAGEMENT.pdf?sequence=1&isAllowed=y

\(^24\) The CEM specification is available at: https://www.eurocontrol.int/collaborative-environmental-management-cem

\(^25\) https://www.eurocontrol.int/portal/collaborative-environment-management-online
8.3 Stakeholder Partnership Plan for Airports at Level 4 and 4+

At Level 4 and above, an airport shall demonstrate that it has formulated and is effectively implementing a Stakeholder Partnership Plan. The Stakeholder Partnership Plan differs from the Stakeholder Engagement Plan as it shall demonstrate that the airport actively drives third parties at the airport towards delivering emissions reductions themselves. All airports at Level 4 and 4+ shall have a Stakeholder Partnership Plan, regardless of whether they have chosen a third-party inclusive reduction target or not. The Stakeholder Partnership Plan shall include the following:

- All stakeholders that are responsible for a significant contribution to the Scope 3 footprint. It is up to the airport to define what a "significant contribution" means in its specific context. The airport can use as a reference the 10% threshold defined in 6.3.1, but can also choose to incorporate stakeholders with a smaller contribution.
- The setting of emissions reduction objectives for a specific stakeholder or a group of stakeholders. These objectives can be absolute or relative and can either be set by the airport operator or by the stakeholder. If the stakeholder has set the objective, the airport will have to demonstrate significant involvement/contribution to the objective setting.
- Carbon reduction plans/measures directly taken by the stakeholders in partnership with the airport and leading to emissions reductions. Again, the airport operator shall demonstrate their involvement in these measures and plans. If the stakeholders had implemented these plans unilaterally, the airport operator will not be able to include these in the Stakeholder Partnership Plan.
- Reduction measures defined by the airport operator on stakeholder activities e.g. APU restrictions, emissions limits.

It must be noted that it is not mandatory to define an emissions reduction objective and carbon reduction plan/measures and restrictions for each individual stakeholder. Rather, each stakeholder group needs to be covered by at least one of these categories.

Similarly to the Stakeholder Engagement Plan, after its initial development, the Stakeholder Partnership Plan shall be revised and verified at least every three years. The revised Plan shall report on the emissions reductions achieved from stakeholder sources as a result of the cooperation between the airport and the stakeholder.

The programme does not require the airport to establish additional management committees and meetings specifically for stakeholder partnership. In many cases there are already regular meetings between the airport and stakeholders (e.g., airlines, handlers, catering, retail) at which a new agenda item could be discussed regarding carbon management.
OFFSETTING

In order to achieve Level 3+ (Neutrality) and Level 4+ (Transition), airports shall compensate for their Scope 1 and 2 residual emissions as well as Scope 3 airport staff business travel emissions that cannot be reduced by other means by purchasing offsets. In the context of Airport Carbon Accreditation, carbon offsetting refers to the use of carbon credits to compensate for residual airport CO₂ emissions.

International initiatives have developed offsetting frameworks to ensure environmental integrity and requirements to rule out negative externalities while promoting co-benefits. As the Neutrality and Transition levels are the most stringent of the accreditation levels and require actions outside the direct control of airports, a dedicated Offsetting Manual has been developed to inform and guide airports in relation to offsetting instruments, to establish requirements and recommendations as well as to provide practical support through dedicated offset procurement guidelines. The Offsetting Manual is available on the Airport Carbon Accreditation website²⁶.

Airports may choose to register on-site projects that lead to carbon reductions as offset projects. However, if the airport generates offsets from such projects and sells them, it cannot claim the associated emissions reductions, i.e. these reductions cannot be accounted for in the airport’s carbon footprint.

Energy attribute certificates, including Guarantees of Origin (GOs) and Renewable Energy Certificates (RECs) are used as transferable certificates or credits indicating generation of a particular quantity of energy from renewable sources. Energy attribute certificates are technically not offsets. Whereas offsets account for a reduction of emissions achieved in a given project, energy attribute certificates indicate the appropriate emissions factor for the electricity generated. Therefore, energy attribute certificates do not represent a claim of emission reductions compared to a baseline and can only be used to report in a more precise manner an airport’s Scope 2 emissions as per the market based method.²⁷

Airports are encouraged to use energy attribute certificates to reduce their Scope 2 emissions before purchasing offset credits to offset their residual emissions. This directly supports the generation of low carbon / renewable energy and avoids potential risks associated with offsets.

²⁶ https://www.airportcarbonaccreditation.org/component/attachments/?task=download&id=159

²⁷ For more information see: http://resource-solutions.org/site/wp-content/uploads/2015/08/RECsOffsetsQA.pdf
10 INDEPENDENT THIRD-PARTY VERIFICATION

10.1 WHY VERIFY

Independent third-party verification is an essential requirement for all levels of Airport Carbon Accreditation. The primary aim of independent third-party verification is to provide confidence that the reported information, statements, and plans represent a faithful, true, and fair account of an airport’s efforts. Ensuring transparency and verifiability is crucial. The more transparent, well controlled and well documented an airport’s emissions data and systems are, the easier it will be to verify.

Additional information on verification requirements, as well as the process of becoming independent third-party verifier, is available in the Verifier Manual on www.airportcarbonaccreditation.org.

10.2 WHAT TO VERIFY

10.2.1 LEVELS 1, 2, 3 & 3+

The verifier shall attest that the following application information meets the programme requirements (depending on the specific level of accreditation):

- Policy statement,
- Carbon footprint,
- Emissions reduction target and base year,
- Comparison of annual emissions versus the 3-year rolling average,
- Carbon Management Plan,
- Stakeholder Engagement plan,
- Offsets (for Level 3+),
- Emissions reductions achieved for at least one Scope 3 emissions source (this is only in case of the three-year renewal cycle for Level 3/3+).

The verification of the carbon footprint shall be conducted in accordance with the requirements of ISO14064-3 and in line with the GHG Protocol.

For example, for Level 1 the verifier shall attest that the policy statement and carbon footprint meet the programme requirements. For Level 2 in addition to the Level 1 verification requirements, the verifier shall attest that the carbon footprint of the base year, the emissions reduction target, the annual emissions versus the 3-year rolling average, as well as the development and implementation of the Carbon Management Plan meet the programme requirements. The carbon footprint of the base year is to be verified only once, unless the airport decides to change it, in which case the new base year needs to be verified as well.

Where an airport provides both a location based and a market based carbon footprint, both carbon footprints shall be verified. Where the verification evidence is not available
in English, the verifier shall speak the language it is in, and confirm that it has been reviewed.

Airports entering the programme directly at Level 2, 3 or 3+ shall provide verification regarding any historical carbon footprints they are using for comparison as part of the three-year rolling average.

10.2.2 LEVELS 4 & 4+

For Level 4 and 4+, the verifier shall attest that the following application information meets the programme requirements:

- Policy statement,
- Carbon footprint (including the wider scope at these levels),
- Absolute long-term target is in alignment with IPCC's 1.5°C or 2°C pathways,
- Carbon Management Plan, including emissions’ trajectory and expected reductions from initiatives,
- Comparison of actual emissions versus the trajectory,
- Stakeholder Partnership Plan,
- Emissions reductions achieved for Scope 3 emissions addressed by the Stakeholder Partnership Plan,
- Offsets (for Level 4+).

The verification of the carbon footprint shall be conducted in accordance with the requirements of ISO14064-3 and in line with the GHG Protocol.
10.2.3 SUMMARY OF WHAT TO VERIFY

Figure 14 presents the verification requirements at each level of accreditation.

Figure 14 - Verification Requirements per Level of Accreditation

<table>
<thead>
<tr>
<th>ACCREDITATION LEVEL</th>
<th>VERIFICATION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 Mapping</td>
<td>Policy statement &amp; carbon footprint</td>
</tr>
<tr>
<td>Level 2 Reduction</td>
<td>Level 1 requirements and emissions reduction target, carbon footprint of base year of target setting (once), annual emissions lower versus the 3-year rolling average, and Carbon Management Plan</td>
</tr>
<tr>
<td>Level 3 Optimisation</td>
<td>Level 2 requirements and Stakeholder Engagement Plan</td>
</tr>
<tr>
<td>Level 3 Optimisation Three year renewal cycle</td>
<td>Level 3 requirements and quantitative verified emissions reductions achieved for at least one Scope 3 emissions source for which there is an active stakeholder engagement initiative in place</td>
</tr>
<tr>
<td>Level 3+ Neutrality</td>
<td>Level 3 requirements and offsets</td>
</tr>
<tr>
<td>Level 3+ Neutrality Three year renewal cycle</td>
<td>Level 3+ requirements and quantitative verified emissions reductions achieved for at least one Scope 3 emissions source for which there is an active stakeholder engagement initiative in place</td>
</tr>
<tr>
<td>Level 4 Transformation</td>
<td>Policy statement &amp; carbon footprint, long-term absolute emissions reduction target (in line with IPCC 1.5°C or 2°C pathway), Carbon Management Plan, Stakeholder Partnership Plan with emissions objectives</td>
</tr>
<tr>
<td>Level 4 Transformation Renewal</td>
<td>Level 4 requirements, demonstration that the airport has achieved any long-term target / interim milestone for a year which has passed, verified emissions reductions achieved from Stakeholder Partnership Plan Every six years the airport must demonstrate that they are on track with their forecast trajectory to their target.</td>
</tr>
<tr>
<td>Level 4+ Transition</td>
<td>Level 4 requirements and offsets</td>
</tr>
<tr>
<td>Level 4+ Transition Renewal</td>
<td>Level 4 three-year renewal requirements and offsets</td>
</tr>
</tbody>
</table>

Using professional judgement, verifiers shall confirm that all questions on ACA online have been completed with an appropriate level of detail before the application is submitted for Administrator review.
### 10.3 WHEN TO VERIFY

Airports are required to submit a verified application (including carbon footprint, policy and any other programme information relevant to their level of accreditation) on their initial year of application, and every second year subsequently as long as they remain at the same level of accreditation. Airports participating at Level 3 or 3+ on a three-year renewal cycle are required to submit a verified application every third year. For the years when verification is not required, the airport shall still submit a non-verified carbon footprint.

Airports at Level 4 or 4+ will also be on a three-year renewal cycle so will be required to submit a verified application every third year. For the years when verification is not required, the airport shall still submit a non-verified carbon footprint.

Verifiers will have to verify the achievement of any interim milestones or long-term targets upon the renewal following their due dates. Verifiers will only have to verify that an airport is aligned to their emissions reduction trajectory every six years, although verifiers should upon every renewal check whether airports are at risk of deviating from the trajectory and warn them accordingly.

If an airport upgrades from one level to another, it shall submit a verified application, regardless of whether or not the previous year’s application was verified. Examples of verification timelines are presented in Figure 15.

**Figure 15 - Examples of Verification Timelines**

<table>
<thead>
<tr>
<th>Airport Year</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Apply at Level 1 Verification required.</td>
<td>Apply at Level 1 Verification required.</td>
<td>Renew with three-year renewal cycle at Level 3/3+ Verification required.</td>
<td>Apply at Level 4/4+. Verification required.</td>
</tr>
<tr>
<td>2</td>
<td>Renew at Level 1 Submission of non-verified application.</td>
<td>Upgrade to Level 2 Verification required, as well as one-time verification of the base year.</td>
<td>No renewal required Submission of non-verified carbon footprint.</td>
<td>No renewal required Submission of non-verified carbon footprint.</td>
</tr>
<tr>
<td>3</td>
<td>Renew Level 1 Verification required.</td>
<td>Renew at Level 2 Submission of non-verified application.</td>
<td>No renewal required Submission of non-verified carbon footprint.</td>
<td>No renewal required Submission of non-verified carbon footprint.</td>
</tr>
</tbody>
</table>
10.4 WHO CAN VERIFY

Verification is provided by approved verifiers only. An airport shall directly appoint one of the approved verifiers listed on the programme's website. Airports may use verifiers that are located outside of their designated region.

Verifiers are approved on an individual basis and not on a company basis. These individuals meet specific Airport Carbon Accreditation requirements, making them eligible to undertake verification services for this programme. Individuals or companies that wish to have their personnel approved should consult the programme's website or contact the Administrator. Only verifiers that have completed specific additional training on Level 4 & 4+ and passed a separate exam will be allowed to carry our verifications of Level 4 and 4+ applications.

The Administrator is responsible for overseeing the appointment and training of third-party verifiers. All prospective verifiers shall demonstrate relevant experience, participate in the verifiers' webinar and pass an associated short examination. Airports may, and are strongly encouraged to participate in this webinar, which is available to them at no cost as it provides useful information on the following topics:

- Background of the programme.
- The roles of the Administrator, verifier, etc.
- Key requirements at each level of participation.
- Key requirements for verification.
- Key verification outputs.

Any consultants assisting airports in preparing all or part of their application shall not provide any verification services to the same airport. Consultants shall not appoint a verifier on behalf of the airport. Third-party verification shall be carried out completely independently of the consultant or airport. Furthermore, neither ACI regional offices nor the Administrator can recommend verifiers or provide verification services.

Third-party verifiers will generally charge for verification services. These charges are separate to the programme accreditation fees and are payable directly to the verifier by the airport.

10.5 OFF-SITE VERIFICATION

Off-site verification refers to a verification of an application being undertaken without the verifier being physically present at the airport. Off-site verification still includes the review of all data, processes and policies relevant for Airport Carbon Accreditation, and a discussion of these via teleconference with the verifier.

All verification shall be completed on-site unless prior approval by the Administrator has been granted. Any airport wishing to use off-site verification must make a request in writing to the Administrator prior to the verification process commencing. Approval for
off-site verification will be granted on a case-by-case basis. Off-site verification may be allowed for all airports meeting at least one of the following conditions:

- The airport is completing a renewal application (except for three-yearly renewal which requires on-site verification every three years); or
- The airport is upgrading accreditation from Level 3 to Level 3+; or Level 4 to 4+; or
- There is a demonstrable lack of availability of verifiers in the region; or
- The airport is located in a very remote location (for example, a small island state); or
- The airport is part of a group of airports adopting the sampling approach (see section 10.5).

**Airports which are allowed to proceed with off-site verification by the Administrator are still required to complete an on-site verification every 2\textsuperscript{nd} (or alternate) verification.** For example, if an airport has renewed its accreditation with an off-site verification, its next renewal will have to be carried out on-site.

### 10.6 AIRPORT GROUP SAMPLING APPROACH TO ON-SITE VERIFICATION

Airport groups (including Small Airport Group applications) may qualify to use a sampling approach to on-site verification for any application type (Entry, Upgrade, Renewal). The sampling approach means that only a selected set of individual airports in the group will be verified on-site. The other airports in the group will be verified off-site. To qualify, an airport group shall meet the following criteria:

- There is one overarching group carbon reduction policy,
- The *Airport Carbon Accreditation* application process is centrally coordinated,
- All sites are subject to centrally coordinated internal auditing processes,
- A minimum of 3 airports requiring verification are applying in the same year.

In order to use the sampling approach to on-site verification, the airport group must first make a written request to the Administrator including the suggested sample in that year. This sample should be representative and demonstrate how it relates to any years where the sampling approach has been used previously. The proposed sample should be developed under guidance from the verifier and submitted to the Administrator prior to verification commencing.

The sample must:

- Differ each year (i.e. the sample needs to include at least one airport site not covered in the previous year)
- Ensure that on-site verification accounts for at least 50% of the total Scope 1 and 2 emissions of all verified airports within the group in that year

The sample shall be representative of the airport group and should consider:

- Airport size (Band A - S)
• Complexity
  • Application type: Entry, Upgrade, Renewal
  • Application level: 1 – 4+

• Geographic dispersion
• Issues with previous applications, if any

All other airports that require verification in that year but are not included in the on-site verification sample shall complete an off-site verification. Off-site verification will still include the collection and review of all data, common processes and policies at one of the airports where an on-site verification is being completed that year. The application will be discussed via teleconference with the verifier. All verifications (both on-site and off-site) that are needed in that year shall be completed by the same verifier.

10.7 VERIFICATION & THE CONCEPT OF MATERIALITY

The concept of “materiality” is essential to understanding the process of verification. Materiality refers to the concept that individual errors or the aggregation of errors, omissions and misrepresentations could affect the carbon footprint and influence decisions made from this information. Materiality is used to identify information that, if omitted or mis-stated, would significantly misrepresent the footprint as a whole and ensure that such material discrepancies are omitted/minimised.

The acceptable level of materiality is determined by the verifier based on the agreed level of assurance. As a general rule, an error is considered to be materially misleading if its value exceeds 5% of the total inventory for the part of the organisation being verified. Therefore, airports shall make every effort to provide high quality data and other pertinent information to the verifier.

It is acknowledged that it may be difficult to determine if the 5% error threshold has been maintained for some Scope 3 emissions sources. Data availability, assumptions required to estimate emissions from some Scope 3 emissions sources, sampling methodologies and varying data that are not under an airport’s direct control shall be assessed to a limited level of assurance, using professional judgement. For those emissions sources, the airport shall be able to demonstrate to the verifier that:

• The data available is as accurate as possible.
• The data has been prepared in line with the Scope 3 reporting guidelines contained in the section on Carbon Footprint at Level 3 and 3+, and Level 4 and 4+.
• Any assumptions made in calculating the emissions from those sources are properly documented.
11 SPECIAL CASES

11.1 BEYOND PROGRAMME REQUIREMENTS

An airport may choose to voluntarily expand the scope of the footprint, its carbon management activities or its stakeholder engagement activities beyond the minimum participation requirements. For example, an airport may include additional greenhouse gases in the footprint, target setting, etc. In that case it shall use the CO$_2$-equivalent metric (CO$_2$-e). In addition, an airport at Level 1 and 2 can voluntarily report on Scope 3 emissions. Those emissions would neither be subject to verification nor target inclusion.

11.2 CARBON FOOTPRINT REPORTING CYCLE

Airports may want to change their carbon footprint reporting cycle (this is the 12 month period over which the airport reports its carbon emissions). This is acceptable as long as, when moving into the new reporting cycle, there is no gap in emissions mapping. For example, if an airport last time reported its emissions between January 1$^{\text{st}}$, 2014 and December 31$^{\text{st}}$, 2014 and wants to start reporting annually between May 1$^{\text{st}}$ and April 30$^{\text{th}}$, then the airport needs to next submit a carbon footprint covering the period May 1$^{\text{st}}$, 2014 to April 30$^{\text{th}}$, 2015. In this example, a carbon footprint for the period May 1$^{\text{st}}$ 2015 to April 30$^{\text{th}}$ 2016 only would not be acceptable.

11.3 SMALL AIRPORT GROUP APPLICATIONS

Airport groups (i.e., operators with multiple airports) may aggregate some or all of its small airports (defined as airports with less than 500,000 passengers/year) into a single “Small Airports Group” application. All airports within the application need to opt for the same level of accreditation. The same requirements described earlier for each level of accreditation are applicable, noting the following permissible voluntary adjustments for all the airports of the “Small Airport Group”:

- Development of one common carbon footprint including both the:
  - Individual emissions data for each airport in the small airport group, and
  - Aggregated emissions data for all airports in the small airports group.
- Formulation of a common Carbon Management Plan (for Level 2 and higher).
- Formulation of a common target and trajectory in the Carbon Management Plan, with specific targets and trajectories for each individual airport submitted in attached documents (for Level 4 and 4+) outlining how each individual airport contributes to the group target.
- Development of a common Stakeholder Engagement Plan (for Level 3 or 3+).
- Development of a common Stakeholder Partnership Plan, with specific measures and objectives in place for each individual airport (for Level 4 or 4+).
If this approach is adopted, the airport group shall demonstrate that each individual airport meets the requirements of the level of application (e.g., for a Level 2 application, each airport shall demonstrate an individual reduction in their carbon footprint).

1. If during the renewal of a “Small Airports Group” application, an airport of the group does not meet the level specific requirements (e.g., Level 2 requirements), the operator shall remove that airport from the “Small Airports Group” application and submit a separate application for that specific airport for the appropriate level of accreditation (e.g., Level 1).

2. If an airport group submits a “Small Airport Group” application, which does not include all its sub-500,000 passenger/year airports, it cannot add small airports during the programme year. Additional small airports can only be added to the “Small Airport Group” application on renewal of the accreditation, in which case the renewal fee will be applied.

11.4 LEVEL 3 AND 3+ THREE-YEAR RENEWAL REQUIREMENTS

When an airport has been accredited for three or more consecutive years at Level 3 or 3+, it may choose to move from an annual to a three yearly renewal cycle. As a result accreditation costs will be reduced significantly. In order to do so, the airport shall be able to demonstrate that quantitative, verified emissions reductions have been achieved for at least one Scope 3 emissions source for which there is an active stakeholder engagement initiative in place. These reductions shall be the result of an initiative in which the airport has played a significant role.

A relevant report shall include a description of the emissions reduction initiative, the airport's role in the initiative and the specific stakeholder(s) involved, the emissions improvement metric (absolute or intensity target), timeline, roles, etc. The report shall provide details on the Scope 3 emissions reductions (in tCO₂/year or tCO₂-e/year) that have been achieved versus a 'business as usual' baseline scenario, i.e. by comparing it with what would have happened in the absence of the emissions reduction initiative. Emissions reductions shall be verified. The airport can choose initiatives for any emissions source that it can guide or influence, and is not limited to the mandatory Scope 3 emissions that shall be reported at Level 3/3+. The sections on the Carbon Management Plan and the Stakeholder Engagement Plan contain examples of how an airport may seek to achieve reductions of Scope 3 emissions.

An airport shall have its full application, including the Scope 3 emissions reductions, verified upon moving to the three-year renewal cycle, and again upon renewal in three years' time. On provision of the verified information above, the airport's accreditation will be valid for three years. However, the airport shall also continue to provide non-verified carbon footprint data to the Administrator on an annual basis.

1. When an airport has been accredited for three or more consecutive years at Level 3 and upgrades to Level 3+, it can still take advantage of the three-year renewal provisions.
Similarly, when an airport has been accredited for one or two consecutive years at Level 3 and upgrades to Level 3+, it can also take advantage of the three-year renewal provisions, as soon as the required time requirements are met. For example, after initial accreditation at Level 3 in year 0, one successful renewal at the same level in year 1 and an upgrade to Level 3+ in year 2, then in year 3 the airport can adopt the three-year renewal cycle.

11.5 RENEWAL WITH AN INCREASE IN EMISSIONS (LIMITED DEVIATION)

In order to be accredited at Level 2, 3 or 3+, airports shall demonstrate an on-going reduction in their Scope 1 and 2 emissions versus a three-year rolling average. However, there may be circumstances beyond an airport’s control (e.g., large sporting events, implementation of costly infrastructure projects) under which an airport may have a stabilisation or increase of emissions in one year despite an overall downward trend in emissions. Therefore, airports are allowed one deviation per four-year period from the time of first accreditation at Level 2, 3 or 3+, subject to a clear evaluation process and to the final approval of the Advisory Board. An airport contemplating this approach shall undertake the following actions:

1) Contact the Administrator prior to submitting an application to explain the case for limited deviation.
2) Identify the exact proportion of CO₂ emissions that has been caused each year by the extreme event. This shall be done by taking an emissions source and directly comparing the annual or monthly emissions with several years/months of data in which the extreme event was not present. The airport shall then exclude these extra emissions from the reduction calculations.
3) Provide the Administrator with evidence to support the above calculations, including a description of how the airport will get back on track, i.e. achieve real and tangible year on year emissions reductions.

The Administrator will review the documents and determine whether there is a case for a limited deviation. If so, the Administrator will formulate a recommendation to the Advisory Board, which shall take the final decision. If in the following year the airport cannot demonstrate a reduction in emissions, it will not be able to renew its accreditation at Level 2, 3 or 3+, unless it can factually demonstrate that specific circumstances beyond an airport’s control, have led to several years of increasing emissions. The information provided will be validated by the Advisory Board.

11.6 USE OF DEGREE DAY DATA

Airports can calculate a temperature corrected carbon footprint when experiencing annual variation in the weather (e.g., an extreme weather events or a change in normal temperatures over the course of a year). Using these figures, the airport is able to assess
the effects and demonstrate the impacts of the difference in temperature on the carbon footprint.

Degree days offer a methodology for determining the amount of heating (or cooling) required for a given location, by considering the long-term average weather conditions at that particular site. Each year the amount of degree days required will vary slightly, depending on the weather over the year. By using the long-term average for a particular location, an airport can determine whether an increase or reduction in heating/cooling in a given year is due to the weather conditions or changes in energy efficiency.28

Airport Carbon Accreditation accepts the use of degree day data by an airport to correct for annual variation in the weather in order to make a comparison with the established long-term average. This can help an airport demonstrate emissions reductions by removing excess emissions due to extreme weather from its carbon footprint. Airports and their verifiers shall ensure that the data used is from a robust and valid source, and that it is used consistently over time.

11.7 APPLICATION REQUIREMENTS NOT MET

If an airport does not meet the minimum requirements of the level applied for, the Administrator will notify and discuss with the applicant (to the degree possible) about the requirements to achieve accreditation.

If an airport decides to downgrade to a lower level, the Administrator will credit the difference between the fee paid for the first application and that due for an application at the lower level. Alternatively, the difference may be credited to the airport’s renewal fee for the following year.

If an airport decides that it cannot meet the requirements for any of the levels of the programme, it has the right to withdraw its application. In this case the Administrator will refund 50% of the application fee, recognising the effort that the Administrator has put into providing support and assessing the application.

If airports at Level 4 renew at their six-yearly renewal with emissions greater than 15% above their expected trajectory, they shall be given one year to reassess and re-apply rather than immediately losing their Level 4 accreditation. They shall re-apply with a revised trajectory, and, if necessary, a revised interim milestone or long-term target, which shall still be in line with the IPCC pathways. The new trajectory or target and any additional actions or measures shall be submitted to the Administrator. Such an airport would remain on the original three-yearly renewal cycle so shall have to renew again two years on (if re-submitting a full year later).

Airports will only be allowed to redefine the target or milestone once in the run-up to the target/milestone date. For example, if an airport has a target for 2050 and an interim

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milestone for 2035, it can redefine once the interim milestone, and once the target. Airports shall also ensure that the new target or milestone meets all the requirements of the original target e.g. the new target must be between ten and fifteen years into the future from the year the original target was set. If an airport has already redefined their interim milestone or long-term target once in the lead-up to the interim milestones or final target, the airport would only be able to re-define their trajectory.

If an airport does not meet an interim milestone or long-term target at renewal, the airport would lose their Level 4 or 4+ accreditation. The airport can then choose to apply at a lower accreditation level until it is able again to fulfil all requirements of Level 4 or 4+.

In case of a disagreement between the airport and the Administrator regarding the merits and requirements of the application, the airport has the right to appeal to the Advisory Board, via the respective ACI regional offices. In case of an appeal, the application documentation and fee paid will be held by the Administrator without any further work being undertaken by the Administrator in respect to that application, pending the outcome of the appeal process. The outcome of any appeal to the Advisory Board will be final and will be binding upon both the airport and the Administrator.
12 EXAMPLE OF ACCREDITATION

In order to provide more clarity regarding the programme's requirements the following section introduces an example of accreditation.

Middletown airport serves 15,000,000 passengers and handles 200,000 flights per year. In 2017 the airport's management decided to become accredited at Level 1 and gradually worked its way to Level 4+.

In 2017, the CEO of the airport signed a policy committing to greenhouse gas reduction, which was placed on the website and in the annual sustainability report. The airport’s environmental department developed a carbon footprint for 2016 Scope 1 and 2 emissions (Figure 16). All the information regarding the development of the footprint (e.g., methodology, data, graphs) was placed in a Carbon Footprint Report. The airport's application was verified by an approved independent verifier. The airport was accredited in 2017.

**Figure 16 - Carbon Footprint of Middletown Airport (Scope 1 & 2 emissions)**

<table>
<thead>
<tr>
<th>SOURCE OF EMISSIONS</th>
<th>SCOPE</th>
<th>TONNES OF CO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrol consumption by airport vehicles and other equipment</td>
<td>1</td>
<td>1.050</td>
</tr>
<tr>
<td>Diesel consumption by airport vehicles and other equipment</td>
<td>1</td>
<td>2.180</td>
</tr>
<tr>
<td>LPG consumption by airport vehicles and other equipment</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>Diesel consumption by generators</td>
<td>1</td>
<td>155</td>
</tr>
<tr>
<td>Electricity consumption</td>
<td>2</td>
<td>37.050</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>40.685</strong></td>
</tr>
</tbody>
</table>

In 2018 the airport renewed at the same level of accreditation, and therefore the carbon footprint for 2017 (i.e., 40,000 tonnes of CO₂) and relevant application did not have to be verified.
In 2019 the airport decided to upgrade to Level 2. Firstly, the airport calculated the 2018 carbon footprint (i.e., 39,000 tonnes of CO\textsubscript{2}). It also set an absolute target to reduce by 2025 its Scope 1 and 2 emissions by 20% below the 2015 base year (i.e., 42,000 tonnes); a reduction target of 8,400 tonnes of CO\textsubscript{2}.

Middletown airport formulated a detailed Carbon Management Plan explaining how the target will be achieved (e.g., initiatives, responsibilities, timeline, communication) and when necessary provided relevant evidence (e.g., minutes of meeting, copies of training material). Furthermore, the airport demonstrated a reduction of the 2018 emissions (39,000 tonnes) versus the three-year rolling average of 2015 (42,000 tonnes), 2016 (40,685 tonnes) and 2017 (40,000 tonnes) emissions, i.e., 40,895 tonnes.

The application was verified, including the carbon footprint of 2018, the target base year (i.e., 2015), the emissions reduction target, as well as that 2018 emissions are lower versus the 3-year rolling average. In addition, the verifier confirmed that the Carbon Management Plan was developed in accordance with the Application Manual.

In 2020 the airport upgraded to Level 3. The 2019 carbon footprint was updated to include, besides Scope 1 and 2 emissions, Scope 3 emissions from the LTO cycle, engine testing and APUs, third-party GSE operations, electricity re-sold to partners/tenants, surface access by passengers and airport company staff as well as airport company staff business travel (Figure 17). The airport also continued to demonstrate reduction of its Scope 1 and 2 emissions; the 2019 emissions (38,070 tonnes) were lower compared to the three-year rolling average of 2016 (40,685 tonnes), 2017 (40,000 tonnes) and 2018 (39,000 tonnes) emissions, i.e., 39,895 tonnes.
Figure 17 - 2019 Carbon Footprint of Middletown Airport (Scope 1, 2, & 3 emissions)

<table>
<thead>
<tr>
<th>SOURCE OF EMISSIONS</th>
<th>SCOPE</th>
<th>TONNES OF CO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrol consumption by vehicles and other equipment</td>
<td>1</td>
<td>830</td>
</tr>
<tr>
<td>Diesel consumption by vehicles and other equipment</td>
<td>1</td>
<td>1.800</td>
</tr>
<tr>
<td>LPG consumption by vehicles and other equipment</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>Diesel consumption by generators</td>
<td>1</td>
<td>190</td>
</tr>
<tr>
<td>Electricity consumption</td>
<td>2</td>
<td>35.050</td>
</tr>
<tr>
<td><strong>Total Scope 1 &amp; 2</strong></td>
<td></td>
<td><strong>38.070</strong></td>
</tr>
<tr>
<td>LTO cycle</td>
<td>3</td>
<td>136.200</td>
</tr>
<tr>
<td>Engine testing</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>APU</td>
<td>3</td>
<td>12.825</td>
</tr>
<tr>
<td>Electricity resold to partners/tenants</td>
<td>3</td>
<td>16.875</td>
</tr>
<tr>
<td>3rd party GSE</td>
<td>3</td>
<td>2.200</td>
</tr>
<tr>
<td>Surface access</td>
<td>3</td>
<td>158.500</td>
</tr>
<tr>
<td>Airport staff business travel</td>
<td>3</td>
<td>110</td>
</tr>
<tr>
<td><strong>Total Scope 3</strong></td>
<td></td>
<td><strong>326.810</strong></td>
</tr>
<tr>
<td><strong>Total Scope 1, 2, &amp; 3</strong></td>
<td></td>
<td><strong>364.880</strong></td>
</tr>
</tbody>
</table>

At the same time the airport developed and implemented a detailed Stakeholder Engagement Plan that was based on the extensive ongoing cooperation with airlines, ground handlers, and other important stakeholders. Some of the key activities included awareness and training programs, a car pooling initiative, an annual GHG management workshop, and an energy efficiency project with retail companies. The application was verified in accordance with the relevant requirements (e.g., footprint, lower 2019 emissions versus the 3-year rolling average), while the verifier also confirmed that the Stakeholder Engagement Plan was developed in accordance with the Application Manual.
As the airport was making good progress towards the 2025 target and had been implementing a number of effective measures, in 2021 the management decided to achieve carbon neutrality the following year. The airport first assessed different pathways to carbon neutrality, combining various emission reductions and offsetting options. Following this assessment, the airport decided to first procure electricity from renewable energy sources through the purchase of RECs, to further reduce its 2021 carbon footprint by 2,000 tonnes, and then offset the remaining, unavoidable, emissions. After the purchase of the RECs, the carbon footprint of 2021 showed Scope 1 and 2 emissions of 34,900 tonnes of CO$_2$ and airport staff business travel emissions of 100 tonnes of CO$_2$. Consequently, in 2022 Middletown airport would need to offset 35,000 tonnes of CO$_2$.

After a thorough market search and consultation of the Offsetting Manual, the airport concluded that the purchase of CERs from the UNFCCC (through the Climate Neutral Now website, www.climateneutralnow.org) was the best alternative. The management decided to buy offsets that were related to a methane avoidance project in Chile at a cost of 2.40 US$/tonne. Therefore, the offsetting cost in 2022 was 84,000 US$. The application was verified in accordance with the relevant requirements (e.g., footprint, lower 2020 emissions versus the 3-year rolling average, renewed Carbon Management Plan as three years had passed from its development), while the verifier also confirmed that the offsets had been purchased through an official market. As of 2022, the airport maintained carbon neutrality, offsetting annually the continuously declining CO$_2$ emissions.

Middletown airport decides to upgrade to Level 4 the following year and chooses to include Scope 1 and 2 emissions in their target. Firstly, the airport sets their long-term target as net zero in 2050, following the 1.5°C pathway. They also need to set an interim milestone of 59% decrease by 2035 compared to their 2010 baseline (51,000 tonnes). This means Middletown airport’s carbon footprint in 2035 for Scope 1 and 2 emissions would need to be 20,910 tonnes. Following this, the airport updates their Carbon Management Plan with the detail of their trajectory to reach first their interim milestone in 2035 and then the long-term target in 2050. This will include the initiatives Middletown will
implement and the expected decrease in emissions. For example, Middletown airport plans to replace all vehicles with electric vehicles in 2027 and this would decrease their carbon footprint by 2,000 tonnes.

Middletown airport’s carbon footprint for 2022 is updated to include construction emissions in Scope 1 and cruise, climb and descent aircraft emissions and offsite process emissions of waste and sewage in Scope 3. In addition to this, the airport develops a Stakeholder Partnership Plan to replace their existing Level 3 Stakeholder Engagement Plan. Middletown airport wants to enforce restrictions on the use of GSE as well as to provide preferential treatment for airlines with lower emissions during aircraft taxiing. The application was verified in accordance with the relevant requirements, while the verifier also confirmed that the targets and milestones and the Stakeholder Partnership Plan was developed in accordance with the Application Manual.
13  **APPENDIX I: GUIDELINES FOR ENGAGING A VERIFIER**

Independent third-party verification by an approved *Airport Carbon Accreditation* verifier is an essential hallmark and component of the programme.

Verification provides confidence that an airport has met all the requirements for accreditation at the level at which it is applying. In order to help an airport engage an impartial and independent third-party *Airport Carbon Accreditation* verifier, these indicative procurement guidelines may be used when an airport is choosing a verifier through a formal Request for Proposal (RfP). Airports should adjust the wording of these guidelines in accordance with their needs, conditions, and legal requirements, etc.

13.1 **INTRODUCTION AND PURPOSE OF THE REQUEST FOR PROPOSAL (RFP)**

With this RfP we (airport name) invite you to tender for the independent third-party verification of our application for accreditation under the *Airport Carbon Accreditation* programme at (insert level for which applying).

Your role would be to review and sign off on the content, calculations and documents and any necessary amendments or clarifications to our airport’s application before it is submitted by us to the Administrator for accreditation under the programme.

The Administrator will then assess whether a) the application has been prepared in line with the *Airport Carbon Accreditation* Application Manual and, b) the verification has been properly conducted according to the programme rules, and therefore whether or not our application for accreditation can be approved. The Administrator is the sole independent arbiter of whether or not we can be accredited under the programme.

13.2 **FORMAT, STRUCTURE AND SCOPE OF VERIFICATION**

The format of the complete verification process will be subject to further discussion with us. We would expect you to review all sources of actual data, processes and policies, carry out a site visit, and write up both a final verification report and complete the ACA Online application form. The process is detailed in the Verifiers Manual, Issue 1.

There are specific circumstances under which an airport may apply to the Administrator for an off-site verification. If this request is approved the verifier will not have to carry out a site-visit.

13.3 **CONTENT OF YOUR OFFER**

In your offer you must:

- Provide a copy of your CV
- Provide evidence that you are an approved verifier for the *Airport Carbon Accreditation* programme
• Indicate whether you have carried out any independent verifications under the programme within the last two years (or earlier) giving the names of the airports concerned, date(s) of verification(s) and accreditation levels. (Note: whilst Airport Carbon Accreditation verification experience is a plus, applications from first time Airport Carbon Accreditation verifiers are welcome)

• Provide one reference from an airport for which you have carried out a verification (if you are not a first time Airport Carbon Accreditation verifier)

• Identify the specific services and activities for which you are tendering as part of your verification

• Indicate the input required from the airport to support the verification, e.g. in terms of data

• Indicate the estimated time (in days) for carrying out the required verification, identifying travel days as needed separately

• Provide a fixed fee quotation to undertake the verification services, taking into account e.g.:
  • The level of accreditation that we are applying for (individually or as an airport group)
  • Our airport size and geographic location etc.
  • The need for a site visit

To enable you to put forward a suitable quotation you may contact the undersigned (name and contacts) for further information.

Name / contact details

13.4 FORM AND DEADLINE FOR TENDER

Your offer must be in electronic form unless specifically agreed otherwise and must reach (named contact) by (time/date).