AIRPORTS COUNCIL INTERNATIONAL

ACI GUIDANCE MANUAL: AIRPORT GREENHOUSE GAS EMISSIONS MANAGEMENT

Frequently Asked Questions (FAQ)

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FAQ – FREQUENTLY ASKED QUESTIONS

This document is a supplement to the ACI Guidance Manual on Airport Greenhouse Gas Emissions Management (2009), available on the ACI website, www.aci.aero and should be read in conjunction with that Manual.

These FAQ will be updated regularly, so if you are using a downloaded version please ensure check that you have the latest version at www.aci.aero

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FAQ

1. **According to the IPCC, aviation is responsible for approximately 2% of man-made CO2 emissions. Does this include airport emissions?**

2. **Why are airport GHG requirements different at each airport?**

3. **If there are no local regulations, why strive to Carbon Neutrality?**

4. **Why replace aircraft APU usage with electricity that is generated from a coal fired power station?**

5. **Why doesn't the Manual make any firm recommendations on the inclusion of aircraft in-flight emissions in airport Scope 3 emissions inventories?**

6. **How can an airport operator collect whole-of-flight data? Should the data for the emissions from the whole flight come from airlines? Could the European Emissions Trading Scheme (ETS) use this data?**

7. **Is there a problem that including aircraft emissions in airport GHG inventories will lead to double counting?**

8. **If an airport operator uses electricity meters to measure power usage and then charges airlines and other tenants for their usage, are the associated emissions Scope 2 or 3.**

1. According to the IPCC, aviation is responsible for approximately 2% of man-made CO2 emissions. Does this include airport emissions?

The simple answer is no. Aviation emissions include only emissions from aircraft both in-flight and ground-based. This means that total aviation emissions can be derived directly from total fuel loaded on to aircraft. As also noted in the Manual, emissions from international aviation's "bunker fuels" were excluded from national inventories and targets under the Kyoto Protocol.

However, an airport emissions inventory can include emissions from aircraft on the ground and in-flight within its Scope 3 emissions. So there can be some elements of an airport's emissions inventory that are included in the IPCC 2% figure.

The IPCC aviation figure does not include an airport's Scope 1 and 2 emissions, nor emissions from ground transport and ground support equipment.

Finally, it is estimated that that total airport Scope 1 and 2 emissions plus those from ground support equipment would be less than 5% of total aviation emissions. Therefore even if they were included, these emissions would make no significant impact on the IPCC aviation figure of 2%.

2. **Why are airport GHG requirements different at each airport?**

Different airports have different reasons or drivers for addressing GHG emissions.

Under the Kyoto Protocol emissions associated with airports including domestic aviation and ground transportation are included within national inventories and targets. In Europe, airports with large emissions sources such as their own power stations have been included in the emissions trading scheme (ETS) since 2009.

In some other countries airports are required by local regulation to conduct inventories and report emissions. Many airports conduct GHG emissions inventories on an entirely voluntary basis, possibly motivated by Corporate Social Responsibility, Sustainability policy or community interests.

3. If there are no local regulations, why strive to Carbon Neutrality?

In fact, currently no airport in any country is required by law to achieve Carbon Neutrality. Certain airport operators have chosen to strive for such a target as part of their Corporate Social Responsibility or Sustainability programmes.

4. Why replace aircraft APU usage with electricity that is generated from a coal fired power station?

Installing Fixed Electrical Ground Power (FEGP) and Pre-Conditioned Air (PCA) will reduce auxiliary power unit (APU) usage and thus the emissions from aircraft at an airport. However, it will also increase either the airport's Scope 3 emissions from electricity on-sold to tenants or Scope 1 emissions if the airport has its own power

generation station.

In general, however, a large scale power station will generate electricity more efficiently and with less GHG emissions than an aircraft APU. (Otherwise it would make sense to replace power stations with APU's!) Therefore, the replacement of APU usage will result in a net GHG emissions reduction.

5. Why doesn't the Manual make any firm recommendations on the inclusion of aircraft in-flight emissions in airport Scope 3 emissions inventories?

Different airports have different reasons or drivers for addressing GHG emissions.

If an airport operator is conducting the inventory under a regulated requirement, the regulation should specify how in-flight emissions should be addressed. This could require that in-flight emissions are included in a Scope 3 inventory, however it is not reasonable that airports would be required to instigate measures to reduce these in-flight emissions.

If an airport operator is conducting an inventory on a voluntary basis, it may be worthwhile including in the Scope 3 emissions, either the aircraft LTO emissions or the whole of flight for departures. Such inclusions enhance the credibility of the work and may be useful for demonstrating the benefits of aircraft operational improvements at an airport.

6. How can an airport operator collect whole-of-flight data? Should the data for the emissions from the whole flight come from airlines? Could the European Emissions Trading Scheme (ETS) use this data?

There are several options for an airport operator to calculate or estimate the CO_2 emissions from the whole of flight for all departures from the airport.

One way is to base the calculation of aviation fuel dispensed. The combustion of each kilogram of fuel emits 3.16 kg of CO_2 and airport operators usually have access to accurate data on fuel dispensed. This was the method used at Seattle-Tacoma airport. Figures may be inaccurate if aircraft operators practice "tankering" – the transporting excess fuel in aircraft to avoid purchasing fuel at certain locations.

Another method that was used in Australia is to calculate the average fuel used for each flight based on origin-destination data (neutral winds and great circle distances) and using a method such as the Carbon Calculator developed by ICAO (see www.icao.int). The calculated fuel for most Australian airports matched fuel dispensed data within a few percent.

Aircraft operators might be able to provide more accurate data to airport operators for their airport emissions inventories. However, aircraft operators might not be able to provide airport specific data, and furthermore, given the number of different passenger and freight operators at some airports, it might be simpler to at least start with the above 2 options.

It is not at all possible that the European ETS would use airport Scope 3 emissions data for estimating any airline emissions or assigning allowances. Firstly an airport operator's

data on aircraft emissions would not normally be divided by airline. Secondly, the data would relate only to the one airport and airlines operate to a network of airports in and outside Europe. Finally, airlines are required to report their emissions to the European Commission for the ETS and the EC can not seek this data from airport operators.

7. Is there a problem that including aircraft emissions in an airport GHG inventory will lead to double counting?

Double counting could occur, for example, when calculating the emissions of a region or industry sector. If the emissions inventories of various airlines and airports are added together, there is a possibility that emissions sources appearing in several inventories could be counted multiple times, rendering the sum total an over-estimate.

The World Resources Institute developed the GHG Protocol and its system of classifying an organization's emissions into Scopes 1, 2 and 3, in part, in order to avoid this type of double counting. Only an organization's Scope 1 emissions should be attributed to that organization. When calculating a combined inventory for a group of organizations, double counting should be avoidable by only including the Scope 1 emissions of each organization.

8. If an airport operator uses electricity meters to measure power usage and then charges airlines and other tenants for their usage, are the associated emissions Scope 2 or 3.

If the airport operator initially purchased the electricity from an electricity provider, then the associated emissions should be Scope 3, and indeed Scope 3A emissions as the airport operator may be able to work with the tenants to reduce electricity use. However, if the airport operator generates the electricity from its own on-site station, these will be Scope 1 emissions.

In any case, it is important that the emissions are included somewhere in the airport inventory, that they are only counted once, that the inventory documents include an explanation of how they were categorised, and that future inventories treat them in the same manner.

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