AIRPORTS COUNCIL INTERNATIONAL

ACERT
AIRPORT CARBON AND EMISSIONS REPORTING TOOL

ACERT V.7
DO-IT-YOURSELF AIRPORT GREENHOUSE GAS INVENTORY TOOL

What is it?

ACI's Airport Carbon and Emissions Reporting Tool (ACERT) is a self-contained Excel spreadsheet that enables an airport operator to calculate its own greenhouse gas (GHG) emissions inventory. The tool is available at no cost to airports and can be used without emissions or environmental expertise by inputting readily available operational data.

Methodologies are consistent with the GHG Emission Calculation and Reporting Protocols. Emissions are divided according to ownership and control of the source:

Scope 1 - emissions owned and controlled by the airport operator, such as heat and electricity generation and airport vehicles.

Scope 2 - emissions from the off-site generation of electricity or heating/ cooling purchased by the airport operator.

Scope 3 – Upstream and downstream emissions along the airport's value chain, including:

- purchased goods and services.
- airport assets.
- aircraft activity in the LTO area and full flight.
- airline and other tenant vehicles, ground service equipment (GSE), and electricity usage.
- ground access vehicles (GAV) for staff, visitors, and passengers including buses and trains.

Why use it?

In order to manage GHG emissions, an operator needs to understand the sources, quantities and ownership of emissions at the airport. An inventory can help the airport operator to set goals and target mitigation efforts.

In addition, ACI would like to use ACERT data to compile regional and global aggregate emissions, enhancing understanding of airports' contribution to total aviation industry emissions.

How does it work?

Data are entered into a self-explanatory Excel spreadsheet. For the calendar year of the inventory, activity and consumables information is needed. This information is multiplied by either default or individual emission factors and compiled to produce a details inventory.

What are the outputs?

ACERT automatically generates an inventory report (see sample extract on following page) that includes a summary table of GHG emissions, and pie charts. Many airport specific Key Performance Indicators (KPI) support the understanding of the data. In addition, ACERT provides you with the necessary information needed to transfer from ACERT to the Airport Carbon Accreditation Online Application Portal.

How good is it?

An ACERT inventory is of sufficient quality to help set up an airport GHG reduction programme. The tool has been tested at several major airports including Zurich, Toronto and SeaTac. Results indicate that ACERT Scope 1 and 2 emissions were within 5-10% of those from a more detailed inventory calculation.

Jaime Pérez Basantes, Environment Manager at Corporacion Quiport and Chair of the ACI LAC Environment Committee, has used ACERT himself at Quito Airport and found the ACERT tool very simple and helpful: "ACERT is a wonderful solution to calculate the airport's carbon footprint and it is very easy to use. Once the airport has the necessary information, ACERT will do everything for you and appropriate results will be shown at the output report."

ACERT v7.0 is especially designed to calculate emissions for all Levels of Airport Carbon Accreditation: 1 Mapping, 2 Reduction, 3 Optimization, 3+ Neutrality and the new Levels 4 Transformation, 4+ Transition (2020) and Level 5 (2023).

Airport Carbon Accreditation is the only airport-specific carbon management standard and is now available globally in all five ACI regions (www.airportcarbonaccreditation.org).

Version 7.0 features the full upstream and downstream Scope 3 emission sources; updated emission factors for most modelled emissions; more flexibility to use own emission factors for all sources. ACERT should not be used in place of any model required by local regulation.

Where can I get it?

ACERT is available free of charge on our website.

* By using ACERT, users agree with the ACERT software license agreement.

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AIRPORT GHG INVENTORY

Sample Regional Airport Greenhouse Gas Emissions Inventory 2022

ACERT Version 7.2326

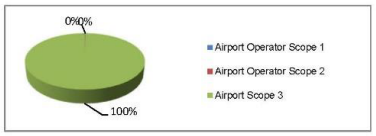
by: Richard Sample, Test Manager (Mail: my.email@mail.com)

Identifier	HWI
Airport	Sample Regional Airport
Airport Operator	Airport Operator Ltd
Country	Albania
ACI Region	Europe
Report Date	4.4.2023
ACA-Level	ACA Level 3+

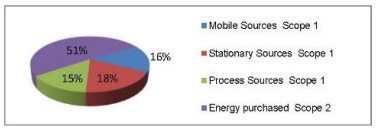
Operational Data		2022
Passenger Movements		10'000'000
Aircraft Movements		50'000
Cargo (t)		100'000
Traffic Units (or WLU)		11'000'000
Airport Operator Staff (FTE)		2500
Approximate total ground access	pers-km/a	104'304'400

Greenhouse Gas Emissions 2022

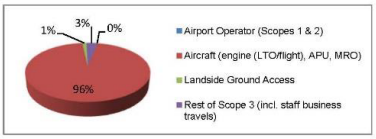
Scope Break Down:		
Airport Operator Scope 1	(t CO2e)	607.7
Airport Operator Scope 2	(t CO2e)	638.0
Airport Scope 3	(t CO2e)	645'507.7
Total Gross Emissions	(t CO2e)	646'753.4
minus Removals and Offsets	(t CO2e)	-
Total Net Airport Emissions	(t CO2e)	646'753.4



Airport Operator Source Break Down:			
Mobile Sources	Scope 1	(t CO2e)	196.3
Stationary Sources	Scope 1	(t CO2e)	230.6
Process Sources	Scope 1	(t CO2e)	180.8
Energy purchased	Scope 2	(t CO2e)	638.0
Gross Total Scopes 1+2		**(t CO2e)**	**1'245.7**



Source Group Break Down:		
Airport Operator (Scopes 1 & 2)	(t CO2e)	1'245.7
Aircraft (engine (LTO/flight), APU, MRO)	(t CO2e)	616'651.1
Landside Ground Access	(t CO2e)	8'384.5
Rest of Scope 3 (incl. staff business travels)	(t CO2e)	20'472.9



Airport Carbon Neutrality or Net Zero Path		
Total required offsets (Scopes 1&2, Bus. Travel)	(t CO2e)	1'247.7
Airport Operator Carbon Offsets purchased	(t CO2e)	-
Neutrality achieved	%	0.0%
Total required removals (Scopes 1&2)	(t CO2e)	1'245.7
Airport Operator Carbon Removals purchased	(t CO2e)	-
Net Zero (Scopes 1&2) achieved	%	No

Key Performance Indicators 2022

Airport Operator Carbon Intensity	(t CO2e/FTE)	0.5	(Scopes 1 and 2)
Airport Operator Carbon Intensity 2	(kg CO2e/pax)	0.12	(Scopes 1 and 2)
Airport Operator Carbon Intensity 3	(kg CO2e/TU)	0.11	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1-3)	(kg CO2e/TU)	58.80	(Scopes 1, 2, 3)
Aircraft Traffic Carbon Intensity	(kg CO2e/TU)	56.06	(Aircraft engine & APU)
Share of Airport Operator on total Emissions	%	0.2%	(Scopes 1+2 on Total, before any off-setting)
Airport Intermodality Carbon Intensity	(kg CO2e/TU)	1.97	(airport emissions without landside access and air traffic, per TU)
Total airport operator staff commuting	km/a	13'320'000	

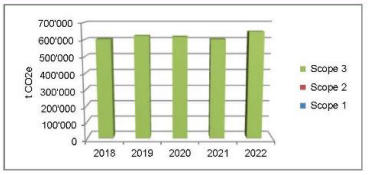
Electricity Reporting 2022

Airport Operator Electricity Use (incl renewables)	MWh	9'000
Airport Tenant Electricity Use (incl renewables)	MWh	1'000
Total Airport Electricity Consumption	MWh	10'000
Total Airport Renewable Electricity	%	50.0%

Location-based electricity emissions	t CO2e	171.0
Market-based electricity emissions	t CO2e	180.0

Historic Data

$t CO_{2e}$	2018	2019	2020	2021
Scope 1	1'200	800	800	650
Scope 2	1'050	850	700	600
Scope 3	600'000	620'000	615'000	600'000
Total	**602'250**	**621'650**	**616'500**	**601'250**



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.