ACERT v6.0
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 ACI Guidance Manual on Airport Greenhouse Gas Emissions Management (2009) and the GHG Protocol. Emissions are divided according to ownership and control of the source:

Scope 1 - emissions owned and controlled by the airport operator, such as 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 - emissions owned and controlled by airport tenants and other stakeholders including:
- aircraft activity in terminal area,
- airline and other tenant vehicles, ground service equipment (GSE) and electricity usage;
- ground access vehicles (GAV) for staff 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.

Who can use it?

ACERT can be useful for:
- airports with no dedicated environmental staff or budget for consulting fees; and
- airports developing GHG management on a voluntary (non-regulated) basis.

Input for ACERT can be completed by operations, planning or maintenance staff with no emissions training or expertise.

How does it work?

Data are entered into a self-explanatory Excel spreadsheet.
For the calendar year of the inventory, the following information is needed:
- total aircraft, passenger and cargo movements;
- fuel use by airport and tenant vehicles, buildings, emergency generators and fire training;
- electricity (and heat) purchased by the airport operator and tenants;
- aircraft movements categorized either by specific aircraft type, or by generic aircraft type, or total fuel loaded on to aircraft;

- aircraft taxi and APU usage times and engine run-ups;
- glycol de-icer use;
- information on sewage and waste disposal;
- either a detailed landside traffic study or estimates of passenger and staff ground access such as use of public transport, and car, taxi, bus and train activity; and
- corporate travel by airport staff.
- scope 1 and 2 offsets to calculate the remaining emissions or neutrality (3+)

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 v6.0 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 and 4+ Transition (2020).

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 6.0 features maritime landside access and aircraft en-route as a new emission sources; updated emission factors for most modelled emissions; more flexibility to use own emission factors for some sources.
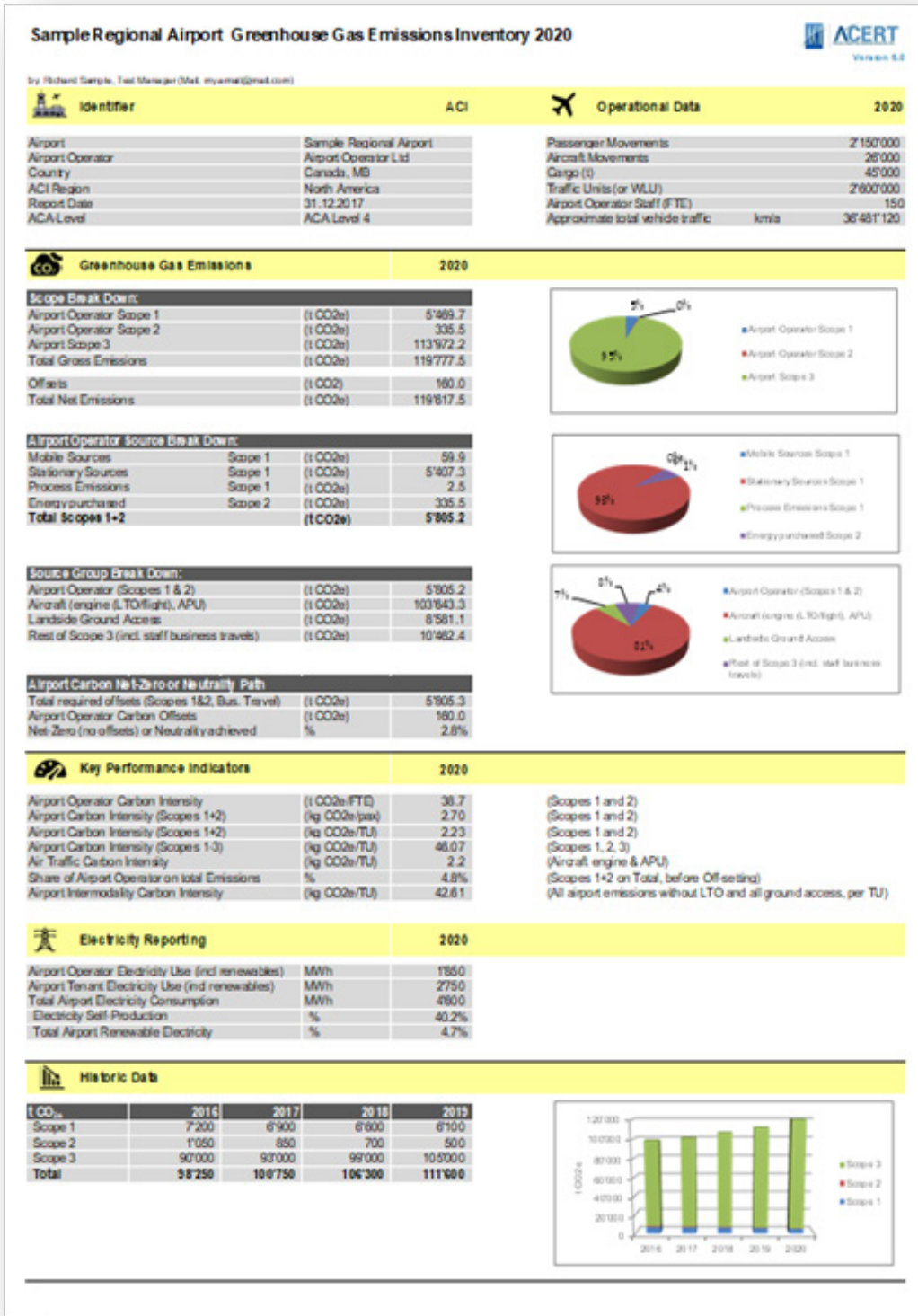
ACERT should not be used in place of any model required by local regulation.

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.

AIRPORT GHG INVENTORY

Sample Regional Airport Greenhouse Gas Emissions Inventory 2020

ACERT
Version 6.0

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

Identifier		ACI	Operational Data		2020
Airport	Sample Regional Airport		Passenger Movements		2'150'000
Airport Operator	Airport Operator Ltd		Aircraft Movements		26'000
Country	Canada, MB		Cargo (t)		45'000
ACI Region	North America		Traffic Units (or WLU)		2'600'000
Report Date	31.12.2017		Airport Operator Staff (FTE)		150
ACA-Level	ACA Level 4		Approximate total vehicle traffic	km/a	38'481'120

Greenhouse Gas Emissions — 2020

Scope Break Down:

			2020
Airport Operator Scope 1		(t CO2e)	5'469.7
Airport Operator Scope 2		(t CO2e)	335.5
Airport Scope 3		(t CO2e)	113'972.2
Total Gross Emissions		(t CO2e)	119'777.5
Offsets		(t CO2)	160.0
Total Net Emissions		(t CO2e)	119'617.5

Airport Operator Source Break Down:

			2020
Mobile Sources	Scope 1	(t CO2e)	59.9
Stationary Sources	Scope 1	(t CO2e)	5'407.3
Process Emissions	Scope 1	(t CO2e)	2.5
Energy purchased	Scope 2	(t CO2e)	335.5
Total Scopes 1+2		**(tCO2e)**	**5'805.2**

Source Group Break Down:

			2020
Airport Operator (Scopes 1 & 2)		(t CO2e)	5'805.2
Aircraft (engine (LTO/flight), APU)		(t CO2e)	103'643.3
Landside Ground Access		(t CO2e)	8'561.1
Rest of Scope 3 (incl. staff business travels)		(t CO2e)	10'462.4

Airport Carbon Net-Zero or Neutrality Path

Total required offsets (Scopes 1&2, Bus. Travel)	(t CO2e)	5'805.3
Airport Operator Carbon Offsets	(t CO2e)	160.0
Net-Zero (no offsets) or Neutrality achieved	%	2.8%

Key Performance Indicators — 2020

Airport Operator Carbon Intensity	(t CO2e/FTE)	38.7	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1+2)	(kg CO2e/pax)	2.70	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1+2)	(kg CO2e/TU)	2.23	(Scopes 1 and 2)
Airport Carbon Intensity (Scopes 1-3)	(kg CO2e/TU)	46.07	(Scopes 1, 2, 3)
Air Traffic Carbon Intensity	(kg CO2e/TU)	2.2	(Aircraft engine & APU)
Share of Airport Operator on total Emissions	%	4.8%	(Scopes 1+2 on Total, before Off-setting)
Airport Intermodality Carbon Intensity	(kg CO2e/TU)	42.61	(All airport emissions without LTO and all ground access, per TU)

Electricity Reporting — 2020

		2020
Airport Operator Electricity Use (incl renewables)	MWh	1'850
Airport Tenant Electricity Use (incl renewables)	MWh	2'750
Total Airport Electricity Consumption	MWh	4'600
Electricity Self-Production	%	40.2%
Total Airport Renewable Electricity	%	4.7%

Historic Data

t CO2e	2016	2017	2018	2019
Scope 1	7'200	6'900	6'600	6'100
Scope 2	1'050	850	700	500
Scope 3	90'000	93'000	99'000	105'000
Total	**98'250**	**100'750**	**106'300**	**111'600**

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