GUIDANCE ON REDUCING EMISSIONS BEFORE OFFSETTING

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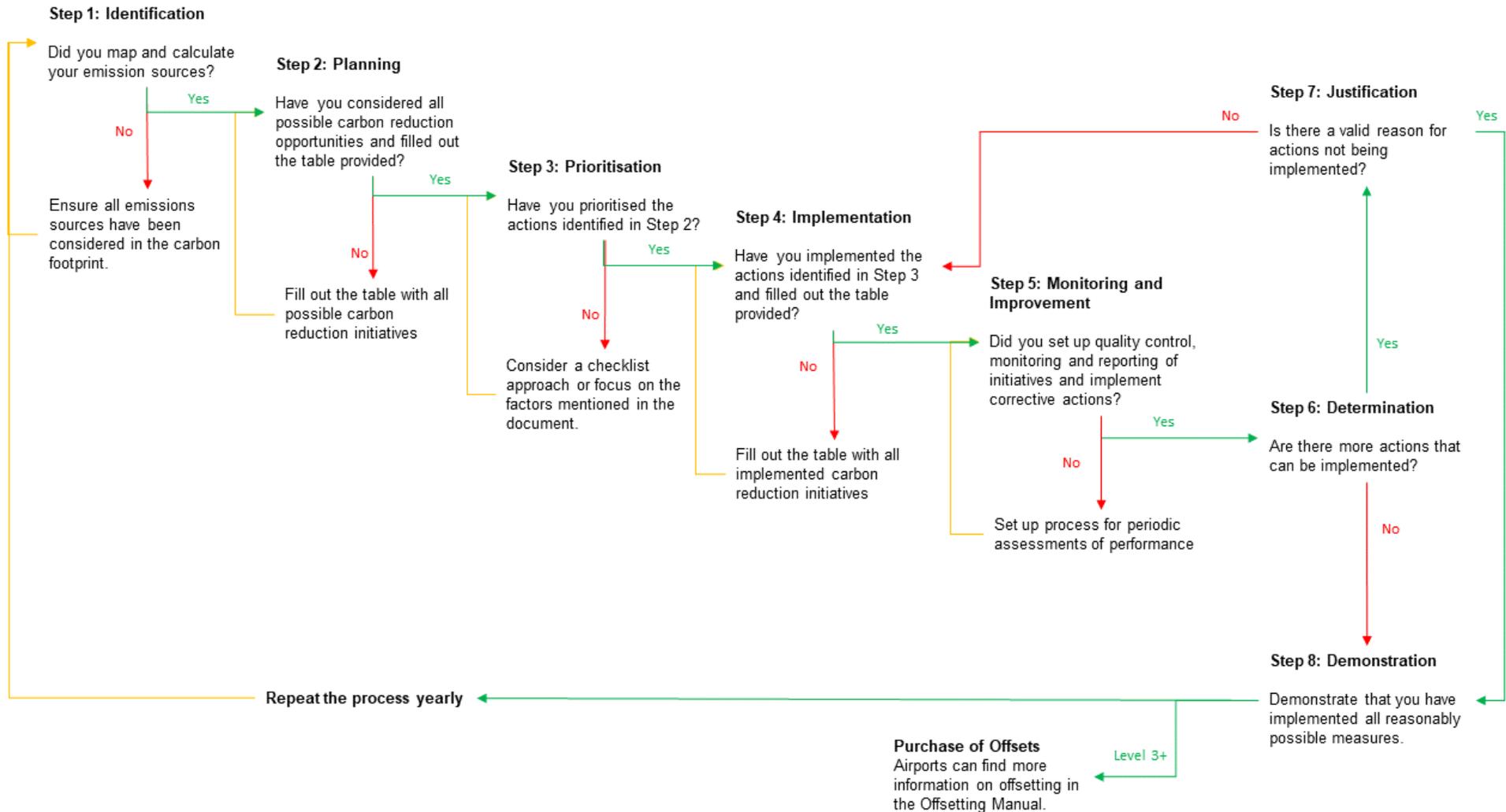aca@wspgroup.com

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RATIONALE

Airports looking to achieve Level 3+ 'Neutrality' under *Airport Carbon Accreditation* are asked to purchase offsets for emissions that cannot be reduced by other means. This relates to Scope 1 and 2 residual emissions as well as Scope 3 airport staff business travel emissions. This paper aims to set out a process to help guide airports on the steps they could take in order to reduce their emissions "as much as possible" before purchasing offsets. This document provides recommendations for airports and verifiers and does not introduce any new requirements to the programme. There is thus no obligation to follow this guidance to become accredited.

In addition to airports reducing carbon emissions to minimise their impact on climate change, the business case for doing so is growing even stronger. The key driver for airports to reduce their emissions is to maintain their licence to grow and operate, but it also builds on ESG programmes and results in financial savings from energy efficiency. Although offsetting can allow airports to be 'carbon neutral', some external stakeholders have concerns that offsets may be used in place of action by the emitter to reduce their own emissions. Therefore, this guidance aims to ensure there is a continued focus on the active reduction of the airport's own carbon emissions. The steps below could be carried out regularly, i.e. on a 12-monthly cycle, to ensure continued improvement and reduction of emissions. Once offsets have been purchased, further efforts to reduce emissions could still be investigated and implemented on an ongoing basis.

The flow diagram on the next page describes the process that airports could follow, and the steps are set out in more detail in the subsequent text. A table for airports to fill out is provided at the end of the document, along with examples of how this table may be used. Examples of reduction initiatives provided in this document are suggestions but do not represent an exhaustive list and could therefore be used by airports as a starting point for considering their own measures.

Figure 1 - A Flowchart that Airports Could Follow to Reduce Emissions 'as Much as Possible'

Step 1: Identification

Did you map and calculate your emission sources?

Yes

No

Ensure all emissions sources have been considered in the carbon footprint.

Step 2: Planning

Have you considered all possible carbon reduction opportunities and filled out the table provided?

Yes

No

Fill out the table with all possible carbon reduction initiatives

Step 3: Prioritisation

Have you prioritised the actions identified in Step 2?

Yes

No

Consider a checklist approach or focus on the factors mentioned in the document.

Step 4: Implementation

Have you implemented the actions identified in Step 3 and filled out the table provided?

Yes

No

Fill out the table with all implemented carbon reduction initiatives

Step 5: Monitoring and Improvement

Did you set up quality control, monitoring and reporting of initiatives and implement corrective actions?

Yes

No

Set up process for periodic assessments of performance

Step 6: Determination

Are there more actions that can be implemented?

Yes

No

Step 7: Justification

Is there a valid reason for actions not being implemented?

No

Yes

Step 8: Demonstration

Demonstrate that you have implemented all reasonably possible measures.

Repeat the process yearly

Purchase of Offsets

Airports can find more information on offsetting in the Offsetting Manual.

Level 3+

STEP 1: IDENTIFICATION

As part of the *Airport Carbon Accreditation*, airports must map their carbon footprints for each reporting year. This would allow the airports to understand what their key emission sources or 'carbon hotspots' are and would allow them to understand how the airport and its operations can contribute to global emissions.

Airports can identify their carbon hotspots by analysing their carbon footprints and identifying the emissions sources which make up the biggest proportion of total emissions. It could also be useful for the airports to look at changes to the contribution of emissions sources to the carbon footprint, as this may be indicative of where emissions may be highest in the future with the growth of passengers etc, so may also be included as carbon hotspots.

Initially, airports may find it useful to seek external support to guide them through the initial steps of this process. Training of relevant staff is also crucial to this step to ensure the carbon footprint is calculated accurately. Airports could consider certificated training and invite stakeholders and tenants. The training could also include information on the use of a carbon footprinting tool or monitoring software. If software is not currently used, this could be considered as a carbon reduction opportunity in later stages.

STEP 2: PLANNING

The identification of hotspots is an important part of the planning process as it allows the airport to then establish what opportunities they have for reducing their carbon footprint. This allows for the development of a carbon management plan and other strategies such as monitoring plans. The plan could identify ways to reduce the carbon footprint and limit emissions from future activities and airports could fill out the table provided at the end of this document.

The planning stage could include the setting of GHG emissions reduction targets and could be revisited and updated every 12 months to ensure it remains effective and emissions continue to reduce as much as possible.

During the planning stage, airports may find it useful to form a committee covering all parts of the organisation. As carbon management plans are implemented across organisations, it is important to make sure all key areas are addressed in the plan and that responsibilities for implementation are identified and progress is tracked.

During the identification and planning stage, it could be useful for airports to consider validation or verification to ISO 14064 to ensure that reported climate change data is true, fair and reliable as supported by a robust management system.

A list of possible carbon reduction initiatives can be found in Annex I for consideration.

STEP 3: PRIORITISATION

Continuing on from the planning step, which sets carbon reduction targets and identifies possible efficiency measures to implement, these actions could be prioritised. There are a number of different factors that could be assessed or analyses carried out to determine this.

Largest hotspot: The first factor that could be assessed are sources that are emitting the highest proportion of carbon dioxide emissions and the feasibility of reducing these could be considered. This analysis may result in the greatest initial reductions as a result of these hotspots being targeted.

Carbon reduction: Secondly, the extent to which each carbon reduction initiative may reduce emissions for that emissions source. The initiatives that will result in the greatest reduction in emissions could be prioritised.

Cost: The initial capital investment each possible initiative could be considered first as this may show that some are not feasible due to significant capital cost and these initiatives can therefore be disregarded.

Return on investment: A ROI analysis would calculate the most tangible financial gains that can be expected from a project versus the actual cost of the project. This would allow prioritisation on financial benefits as well as costs and would therefore allow business cases to be made for specific implementation measures.

Cost benefit: A cost benefit analysis would not just look at the financial gains but consider any other benefits, including carbon emissions reduction, improvements to air quality etc. It is a more comprehensive assessment, including both financial and non-financial costs and benefits. Although this may require more data and time to assess, it would give the best information for prioritising possible carbon reduction initiatives.

STEP 4: IMPLEMENTATION

Before implementation, senior stakeholders could be consulted on the carbon management plan to understand their views on specific measures, discuss any concerns they may have that could be addressed and obtain approval to proceed where necessary. Airports may also find it useful to provide training for their stakeholders, and this could particularly be considered at Level 3 and above.

Once initiatives have been prioritised and ranked, implementation could begin. Airports could draw up a timeline for implementation and review every 12 months, considering costs and expected emissions reductions. This timeline would allow targets to be met over a specific period.

STEP 5: MONITORING AND IMPROVEMENT

Airports could have a process in place for undertaking periodic assessments of performance against the carbon management plan. Following monitoring, airports could implement corrective actions for improvement to ensure that targets are achieved for any initiatives that are not delivering the projected reductions.

STEP 6: DETERMINATION

The airport could establish, through calculations, that they have implemented or have a plan to implement all the reduction options that are available to them. The methodology to establish this could include the amount and type of GHG emissions that have been reduced and the time period that this was achieved. This reduction can be quantified in absolute terms or expressed in emission intensity terms (e.g. PAX or TU).

STEP 7: JUSTIFICATION

Airports could also be able to justify the reasoning behind any carbon reduction initiatives that were identified in the planning stage but not implemented during Step 4. If they are able to do this, they can progress to Step 8.

If initiatives have been considered but not implemented and the reasoning cannot be justified, airports could return to Step 4. An action plan could be useful as a structured approach to understanding the barriers to implementation (financial, physical, etc), and what needs to be done to overcome those barriers in order to invest and potentially revisit those carbon reduction opportunities in the future. The status of these initiatives can then be updated once they have been implemented.

STEP 8: DEMONSTRATION

Once the airport has followed all these steps, they could therefore be able to demonstrate that they have implemented all reasonable possible measures and can purchase offsets.

This entire process could be repeated on a yearly basis to ensure continual improvement and reductions in emissions. The carbon management plan could also be updated at least every 12 months to implement any changes needed.

Table 1 - A Table that Airports Could Use to Fill Out During the Planning and Implementation Stages

	PLANNING							IMPLEMENTATION	
SCOPE	GROUP	DETAILED SOURCE	TECHNICAL	OPERATIONAL	REGULATORY	ECONOMIC	OTHER	STATUS	REASONING
SCOPE 1									
SCOPE 2									
SCOPE 3									

Figure 2 - An Example of How the Table Could Be Used by Airports for Applications and Verification

			PLANNING					IMPLEMENTATION	
SCOPE	GROUP	DETAILED SOURCE	TECHNICAL	OPERATIONAL	REGULATORY	ECONOMIC	OTHER	STATUS	REASONING
SCOPE 1	Mobile	Vehicles			No idle policy	Airside license fee structure	Training of staff	Implemented	
			Fleet being replaced with electric					Planned	Next year because of planning needed for the finances
	Stationary	Generators		Increased maintenance				Implemented	
	Processes	Refrigerants	Controls upgrade					Not implemented	Would require replacement of units
SCOPE 2	Electric	HVAC	Installation of controls	Increased maintenance			Training of staff	Implemented	
			Building insulation and ventilation					Not implemented	Cost
		Lighting	LED, schedule					Implemented	
			Sensors					Not implemented	Sensors not necessary as a schedule has been implemented
SCOPE 3	Staff business travel				Policies for method of travel depending on distance			Implemented	
						Fee for flying short distances		Not implemented	No backing from leadership

ANNEX I

For airport consideration, possible carbon reduction initiatives could include, but are not limited to:

GROUP	ENERGY EFFICIENCY	MANAGEMENT	LOW CARBON ALTERNATIVES
MOBILE	- Upgrade fleet to more energy efficient vehicles	- Idling policies - Airside license fee structure - Training of staff on how to operate systems efficiently	- Upgrade fleet to electric vehicles
STATIONARY	- Replacement, upgrade of parts or improvement e.g. with insulation - Upgrade to high efficiency motors - Voltage optimisation through the renovation or replacement of transformers - Installation of controls for HVAC – time controls, temperature controls, motion sensors, air quality sensors, controls that prevent heating and cooling systems operating at the same time etc. - Ventilation and night cooling implementation - Heat recovery systems - Controls upgrade to optimise and reduce the need for ventilation pumps	- Training of staff on how to operate systems effectively (e.g. HVAC) - Improved maintenance, servicing and cleaning	
PROCESSES		- Implement measures to minimise leakages	
ELECTRICITY	- Replacement or upgrade to LED - Replacement with high efficiency CFL/fluorescent - Replacement and upgrade of hardware e.g. monitors, storage units - Decommissioning of unused or inefficient hardware e.g. printers - Controls upgrade for lighting e.g. motion sensors, timed schedule or light sensors which links to daylight - Installation of controls for HVAC – time controls, temperature controls, motion sensors, air quality sensors, controls that prevent heating and cooling systems operating at the same time etc.	- Improvement in monitoring e.g. through metering and sub-metering - Energy management software implemented - Installation of a new BMS or software - Power management software installation	- On site renewables: Solar PV, Biomass boiler/CHP, Wind, Energy from waste - Procurement of green electricity (e.g. RECs)
STAFF BUSINESS TRAVEL		- Policies on the method of staff business travel for specific distances - Fee for flying short distances	

The planning process could also include considerations for future investments and developments of the airport, and how these measures can be implemented into the design, e.g. sustainable construction standards.