Accelerating HKIA’s carbon footprint reduction through multi-stakeholder engagement and its potential for multi-tenant facilities

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Overview of HKIA

- **Opened**: 6 July 1998
- **Total Site Area**: 1,255 hectares
- **Runways**: Two
- **Aircraft Parking Stands**: 182
  - Passenger: 106
  - Cargo: 43
  - Others: 33
- **Employees**
  - AA: 1,700
  - HKIA: 73,000
Greenest airport pledge

- May 2012: AAHK, endorsed by THB and 40 airport business partners, pledged to make HKIA the world’s greenest airport.
Benchmarking by aspect: HKIA vs “best-in-class”
Where to focus: transcending Hong Kong’s environmental DNA

- Noise
- Local Air Quality
- CO₂ Emissions
- Ground Transport
- Wastewater
- Solid Waste
- Water
- Energy
- Biodiversity
- Green Policy + Strategy
Spheres of relative influence

Local communities, NGOs and other relevant parties

HKIA airport business partners & tenants (73,000)

AAHK Airport operator (1,700)

Influence

Guide

Control
Business case for footprint reduction

- **Reduce cost**
  - Lower cost by reducing/avoiding consumption

- **Reduce regulatory risk**
  - Prepare for future regulatory requirements

- **Manage reputational risk**
  - Meet or shape public/stakeholder expectations

- **Reduce operational risk**
  - Establish a more resilient operating environment
Carbon management: HKIA’s roadmap

Continuous Investment

2008
Carbon Audit for AAHK

2009
1st airport-wide carbon audit

2010
25% carbon reduction pledge

2011
Online Carbon Audit System

2012-16
ACI-ACA Level 3

2016
Set new carbon target & implement strategies

Continuous Communication
The “4Ps” of HKIA Carbon Reduction Programme

**Pledge**
Reduce carbon intensity by 25% by 2015; a further 10% reduction by 2020

**Platform**
Online Carbon Audit System & free carbon audits

**Partners**
53 business partners

**Performance**
Carbon intensity was reduced by 25.6%
Pledge: airport-wide carbon reduction target

“We pledge to further reduce airport-wide carbon intensity by 10% by 2020 from 2015 levels”
Platform: investing in the infrastructure

• 2011: Online Carbon Audit System
  a) System development cost: **US$70,000+**
  b) Additional on-going investment in enhancing the audit boundary and system user interface

• **6 internal staff** trained as certified carbon auditors
Platform: emissions sources covered in CAS

Scope 1
Direct emissions
- Stationary Combustion (generators)
- Mobile combustion (vehicles and GSE)
- Refrigerant (PCA, chillers for cooling terminal bldg)

Scope 2
Indirect emissions from use of energy
- Electricity
- Towngas

Scope 3
Other indirect emissions
- Paper waste
- Processing of fresh water
- Sewage treatment
Platform: carbon data verification process

- 53 BPs input carbon data to CAS
- Desktop data checking by AA
- On-site audit of BPs’ carbon data
- AA reports annual performance in sustainability report
- Audit reports issued to BPs
- Post-audit follow up
Partnership: engagement with airport business partners

HKIA Carbon Reduction Programme

The AA aims to accelerate the rate of carbon reduction at HKIA by working closely with its airport business partners.

Between 2010 and 2013, the AA and over 40 business partners reduced the airport-wide carbon emissions by 25.6% per workload unit* from a 2008 baseline. In November 2016, the AA set a new pledge to further reduce the carbon emissions by 10% by 2020 from 2015 levels.

Please click the logos on the right to see how the airport community contributes to carbon reduction at HKIA.

*One workload unit is equal to one passenger or 100kg of cargo

Partnership: the value of engaging business partners

Airport-wide carbon emissions in 2015

60% 40%

[AAHK] [BPs]
Partnership: the funding model – cost sharing

- Carbon reduction initiatives must be justified by a sound business case
- There is no “one-size-fit-all” solution – flexibility is needed

CAS platform and training (AAHK)

AAHK
Funds carbon reduction projects for AA-owned facilities

BPs
Measures based on business nature & business case

All parties benefit from sharing best practices
Performance: best practices from AA – LED Replacement

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<tbody>
<tr>
<td><strong>Project:</strong></td>
<td>Installed 100,000 LEDs by 2015</td>
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<tr>
<td><strong>Annual Consumption</strong></td>
<td>27.5M kWh/year</td>
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<td><strong>Saving:</strong></td>
<td>18.2M kWh per year</td>
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<td><strong>Carbon Reduction:</strong></td>
<td><strong>Approx. 10,000 tonnes of CO$_2$-e/year</strong></td>
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Lighting 10%

Other electricity use 90%

- An overall achievement of 25.6% reduction in 2015

* Grid emission factor for 2008 was used throughout to enable year-to-year comparison
** Excludes emissions from new joining companies of the Programme
Setting a new carbon reduction target for 2016 - 2020

1st round of consultation with BPs on reduction opportunities

Initial target & support concepts were developed

2nd round of consultation with BPs on the initial target & support concepts

A survey to collect BPs’ views on target

10% target & support strategies

International trends in setting carbon targets

AA’s reduction potential

International trends in setting carbon targets
Way forward

- AA has established the following support strategies:
  a) Roundtable discussions with senior executives
  b) Technical working groups with BPs
  c) Benchmarking scheme
  d) HKIA carbon reduction award scheme
Applicability to other facilities

- Flexibility of the model makes it also suitable for other multi-tenant facilities:

  a) Shopping malls
  b) Multi-tenant office buildings
  c) Logistics centres with multi-tenant offices
  d) EcoPark
Thank you
Performance: best practices from BP - EGSE

- Example from JATS:
  - a) 10 electric loaders and 5 solar staircases
- Annual fuel savings for diesel:
  - a) 5 electric loaders: 40,000 litres
  - b) 10 solar staircases: 6,400 litres
- Total GHG savings: **120 tonnes per year**