



ICAO

UNITING AVIATION

**E-GAP**



# ICAO Global Aviation Partnerships on Emissions Reductions (E-GAP)

**Multiplying Environmental Action**

**Airports and Aircraft Emissions**

**George Davies, Heathrow**



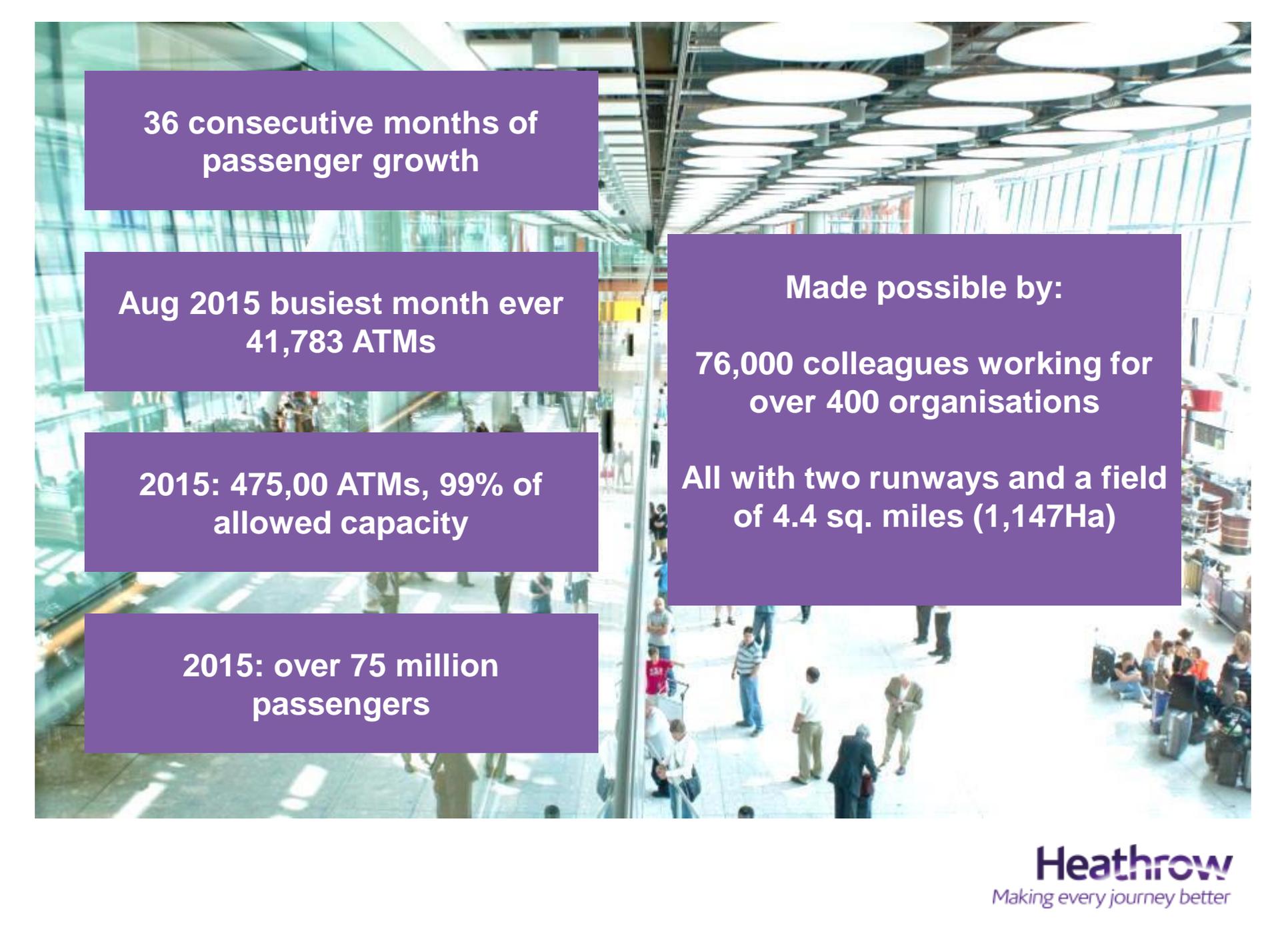
# Environmental Best Practice in collaboration with partners at Heathrow

ICAO Global Aviation Partnerships on Emissions Reductions (E-GAP):  
Multiplying Environmental Action

September 16<sup>th</sup> 2015

George Davies, Head of Environment Strategy & Assessment

**Heathrow**  
Making every journey better



**36 consecutive months of  
passenger growth**

**Aug 2015 busiest month ever  
41,783 ATMs**

**2015: 475,00 ATMs, 99% of  
allowed capacity**

**2015: over 75 million  
passengers**

**Made possible by:**

**76,000 colleagues working for  
over 400 organisations**

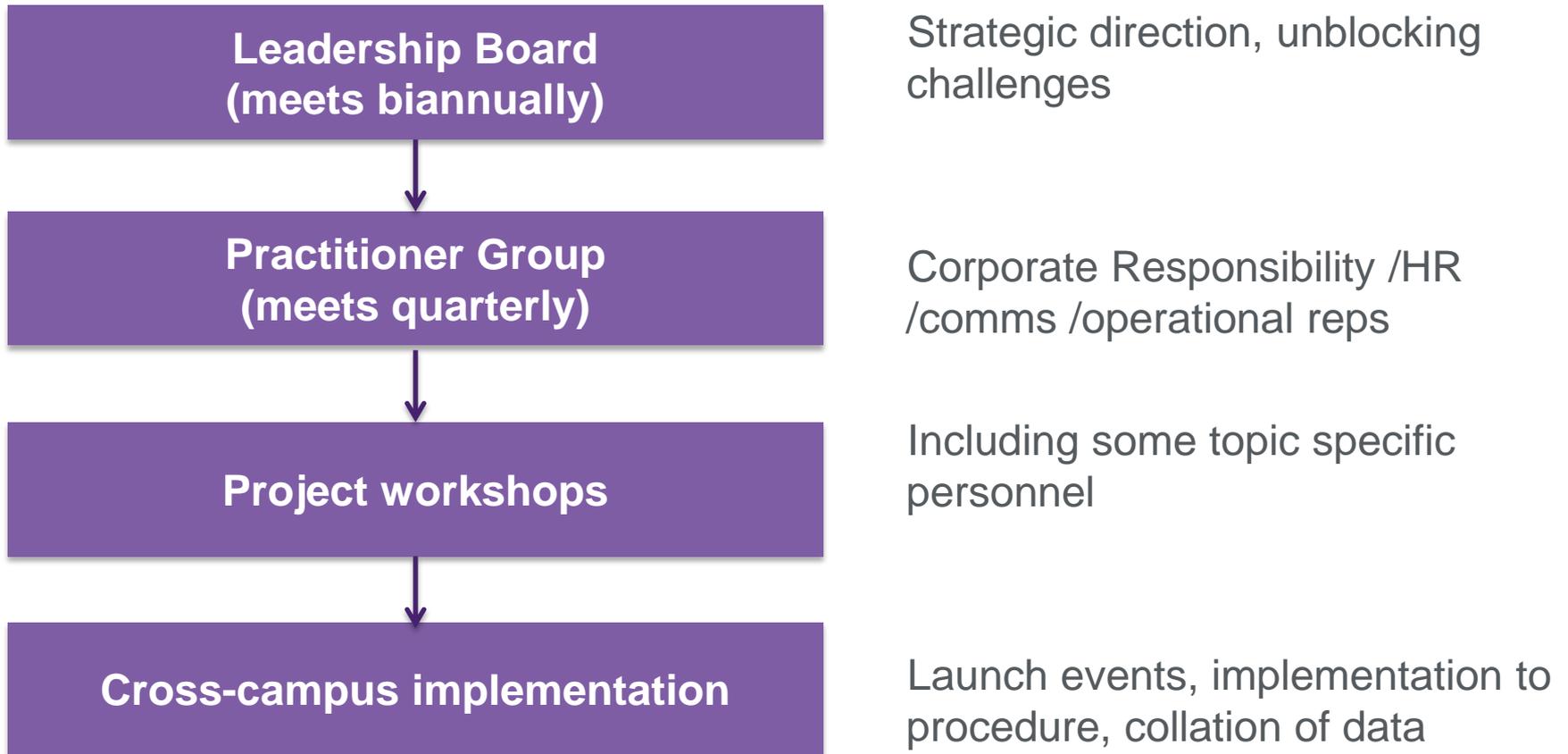
**All with two runways and a field  
of 4.4 sq. miles (1,147Ha)**



# Heathrow Sustainability Partnership

*Working collaboratively to achieve a shared vision*

# Heathrow Sustainability Partnership Structure



# 27 Projects under HSP – live projects



Looking after  
Passengers and  
our People

- Safety Charter
- Heathrow Commuter



Reducing  
Environmental  
Impacts

- Clean Vehicles Partnership
- Cooking Oil Recycling Club
- Energy Code of Practice
- Pollution Prevention Code of Practice
- Departures Code of Practice



Supporting  
Economic Growth  
and investing in  
Communities

- Heathrow Academy
- Heathrow Business Summit
- Heathrow Jobs & Careers Fair

# Heathrow Sustainability Partnership Energy Code of Practice

“

As the world's busiest airport, reducing energy consumption at Heathrow can help us achieve our carbon reduction goal ”



Heathrow Energy Reduction  
Code of Practice



# Reducing resource consumption in our Terminals

## Escalators



## Lifts



## Special assistance areas



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# Heathrow's Blueprint for noise reduction

Ten practical steps to cut noise  
by summer 2015



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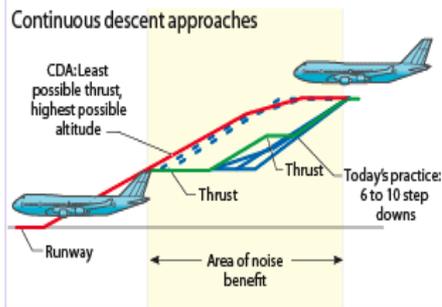
# Our “Noise Blueprint” - ten practical steps

## Quieter technology



1. Early phase-out of noisiest planes
2. Fitting quiet technology to A320s

## Quieter procedures



3. Campaign on “quiet approaches”
4. Campaign on landing gear deployment
5. Exploring Steeper approaches
6. Improve night-time rotation

## Land-use & mitigation



7. School double-glazing complete by April 15
8. More adobe buildings in local primaries

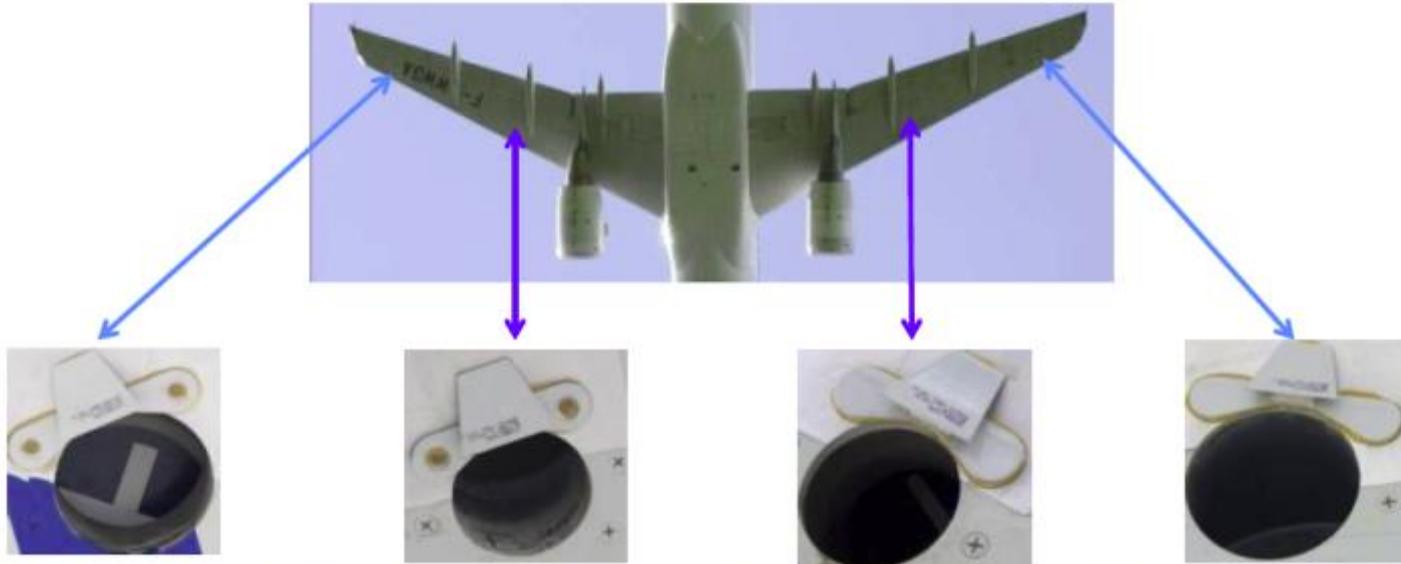
## Operating restrictions



9. Increase in noise fines October 14
10. Focus on late-running departures

# Fitting quiet tech to A320's

Flow deflectors installed forward of the cavities to suppress tonal noise



Note : Illustration above are from flight test installation

Final version below have screw fixations



# Heathrow's blueprint for reducing emissions

Our ten-point plan to reduce  
Heathrow's emissions in 2015



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# Our ten-point plan to manage and reduce emissions

Terminal 2 | The Queen's Terminal



## Aircraft activity



## Airport traffic



1

### Reduce emissions from aircraft at the gate

When their engines are turned off, aircraft rely on on-board generators, known as APUs, for internal power and climate control. To discourage APU use, we've invested around £20 million on equipment to supply pre-conditioned air and electrical power to aircraft at many gates. We've also set limits on the use of APUs by aircraft standing at gates offering ground-based air and power.

To help achieve this, we will encourage airlines to regularly use ground-based air and power with a target to increase usage by 15% in 2015, investigate ways to expand and upgrade our supplies and publish an investment plan by the end of the year. We'll also ensure that airlines adhere to the limits we've set on APU use. By comparing our performance and standards against other leading airports, we'll work to be among the best.

2

### Phase out the oldest and dirtiest aircraft

Some aircraft pollute more than others. The worst are aircraft that were built before the introduction of a series of higher international emissions standards. In 2014, these aircraft types accounted for just over 6% of Heathrow flights.

To encourage airlines to fly cleaner aircraft, we already link our landing fees to an aircraft's NOx emissions. In 2015, we've proposed to nearly double our NOx landing fees and will work at a senior level with our airline partners to encourage an earlier phase-out of older aircraft. We'll work to add the international NOx standards to our quarterly Fly Quiet league table to create a single comparison table for airline performance on noise and emissions.

3

### Improve taxiing efficiency

Taxiing produces just over 40% of our ground-based aircraft emissions. By working more collaboratively with our airline partners, we've streamlined the decision-making process, which helps to reduce taxi times and emissions. We've also been working with the air-transport community to develop a code of practice that encourages the turning off of one or more engines during taxiing – known as 'reduced-engine taxiing'.

During 2015, we'll do more by:

- Working with NATS to record the frequency and effectiveness of reduced-engine taxiing
- Increasing the frequency of reduced-engine taxiing
- Upgrading taxiways to maximise efficiency
- Investigating other approaches such as hybrid-electric aircraft tugs that tow aircraft to the runway while their engines are off.

4

### Provide more and better electric-vehicle charging points

To encourage more electric vehicles to Heathrow, we've installed 21 charging points in our car parks. They're part of the Source London network. In 2015, we'll upgrade the charging infrastructure in our short-stay car parks and look for the best way to introduce points for our taxi feeder, long-stay passenger and colleague car parks.

5

### Incentivise low-emission vehicles

Heathrow has invested millions in public transport to host the UK's largest free travel zone and deliver the Personal Rapid Transport system to provide electric transport for passengers between the business car parks and Terminal 5. Since 2002, we've been home to one of the biggest employee car share schemes in Europe.

We want to encourage a wider range of low-emissions vehicles at Heathrow. So we'll develop incentive schemes for low or zero-emission buses, coaches and taxis. Measures we're looking at include lower fees for better performing vehicles and priority to hybrid or electric taxis in our taxi feeder park. We'll also review our colleague incentive schemes to encourage low or zero-emission cars for staff commuting.

6

### Work with partners to set up emission zones and standards

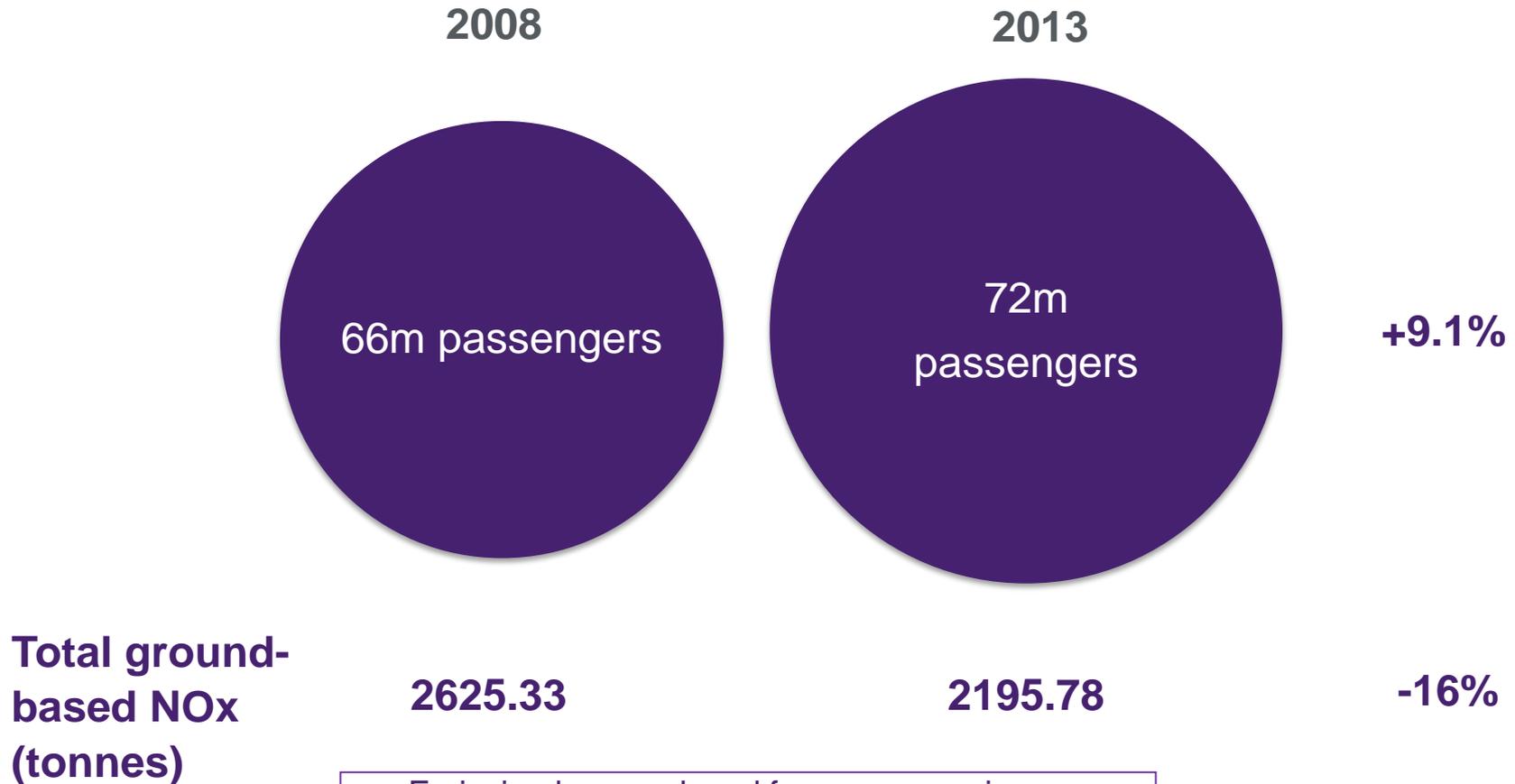
On our local stretch of the M4, 13% of vehicle-generated NOx comes from airport-related traffic. To tackle the whole problem, we have to work with local authorities, TfL, GLA, Highways England and other stakeholders.

In 2015, we will champion a joint approach to reducing emissions from road traffic in the Heathrow area and work with TfL, GLA, and local key stakeholders to help formulate a Regional Strategy for Air Quality to include a roadmap for compliance with NO<sub>2</sub> limit values by 2020.

Measures we'll investigate include:

- Establishing emissions standards for Heathrow buses and coaches aligned with London's Ultra Low Emission Zone
- Working with bus and coach operators to increase the number of hybrid buses
- Seeing whether we can set up a geofence around Heathrow that forces hybrid vehicles to operate in electric-only mode.

# A successful track record of growth with lower emissions



Emission have reduced from every major source at the airport i.e. aircraft on the ground, airside vehicles, road network, & heating plant

# SUSTAINABLE AVIATION

Cleaner. Quieter. Smarter.



**THE SA NOISE ROAD-MAP**  
A BLUEPRINT FOR MANAGING  
NOISE FROM AVIATION  
SOURCES TO 2050

**SUSTAINABLE AVIATION**  
Cleaner. Quieter. Smarter.

[www.sustainableaviation.co.uk](http://www.sustainableaviation.co.uk)

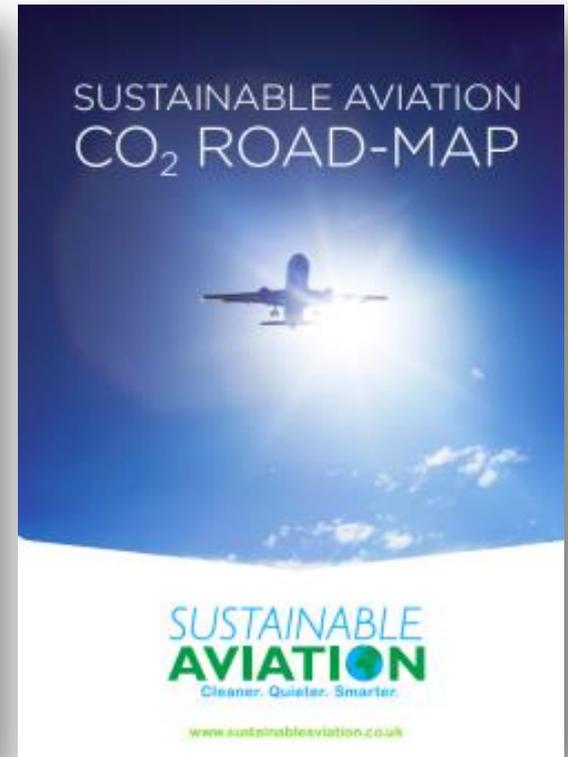


**SUSTAINABLE AVIATION**  
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**Sustainable Fuels  
UK Road-Map**

[www.sustainableaviation.co.uk](http://www.sustainableaviation.co.uk)

Powered by  
**Sustainable  
Aviation  
Fuels**



**SUSTAINABLE AVIATION  
CO<sub>2</sub> ROAD-MAP**

**SUSTAINABLE AVIATION**  
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[www.sustainableaviation.co.uk](http://www.sustainableaviation.co.uk)

# Our approach to responsible business is being recognised



Our commitment to doing business responsibly was recognised in Business in the Community's annual benchmark, the Corporate Responsibility Index. We achieved 4 out of 5 stars



We retained the biodiversity benchmark award for nine of our biodiversity sites and completed the initial assessments to add a further site, Princes Lakes



Heathrow won the Skytrax 2014 award for World's Best Airport for Shopping. Terminal 5 was named 2014's 'Best Terminal in the World' by Skytrax voters for the third year in a row



We won Green Business of the Year at the West London Business Awards for our Responsible Heathrow 2020 strategy including our goal to reduce ground-based NOx emissions by 5% by 2020



We won Best Airport for Tax Free Shopping



Our Heathrow Commuter Team won Transport Team of the Year recognising the improvements in our transport services or facilities



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# Further information

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Responsible Heathrow 2020 – our strategy

<http://www.heathrow.com/company/community-and-environment/responsible-heathrow>

<http://www.heathrow.com/company/community-and-environment/responsible-heathrow/heathrow-sustainability-partnership>

<http://www.sustainableaviation.co.uk/>

# Heathrow

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# Heathrow - Partners multiplying environmentally sustainable aviation action

