

**BRITISH  
AIRWAYS**



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03 November, 2019





**Tackling  
global  
aviation  
emissions**



# Why sustainable fuels? Tackling global aviation emissions

**3** GLOBAL GOALS

**4** PILLARS OF CLIMATE ACTION



# Setting the global strategic direction

**GOAL 01**  
PRE-2020 AMBITION

1.5% annual average fuel efficiency improvement from 2009 to 2020.

T O I

**GOAL 02**  
IN LINE WITH THE NEXT UNFCCC COMMITMENT PERIOD

Stabilise net aviation CO<sub>2</sub> emissions at 2020 levels with carbon-neutral growth.

T O I + M

**GOAL 03**  
ON THE 2°C PATHWAY

Reduce aviation's net CO<sub>2</sub> emissions to 50% of the 2005 level, by 2050.

T O I



# Four pillars making improvements across the whole system

Technology & sustainable fuels

T

Operations

O

Infrastructure

I

Market-based measures

M



IAG has committed to reduce its carbon footprint, with a long-term goal of reaching **net zero CO2 emissions by 2050**.

The aviation industry is currently reliant on fossil fuels, and low-carbon solutions for aviation are more complex than for other sectors—but IAG believe the ambitious goal is achievable.

With Flightpath net zero, IAG is putting **environmental sustainability** at the heart of its business, ready to meet the task ahead.



# Flightpath net zero



IAG climate targets:

By 2050: **net zero** CO<sub>2</sub>

By 2030: 20% reduction net CO<sub>2</sub>

By 2025: 80gCO<sub>2</sub>/pkm



British Airways to offset carbon emissions for all its UK domestic flights from 2020



Investing \$400M in development and offtake of sustainable aviation fuels



# Sustainable aviation fuel deployment

**5**  
pathways  
certified so far

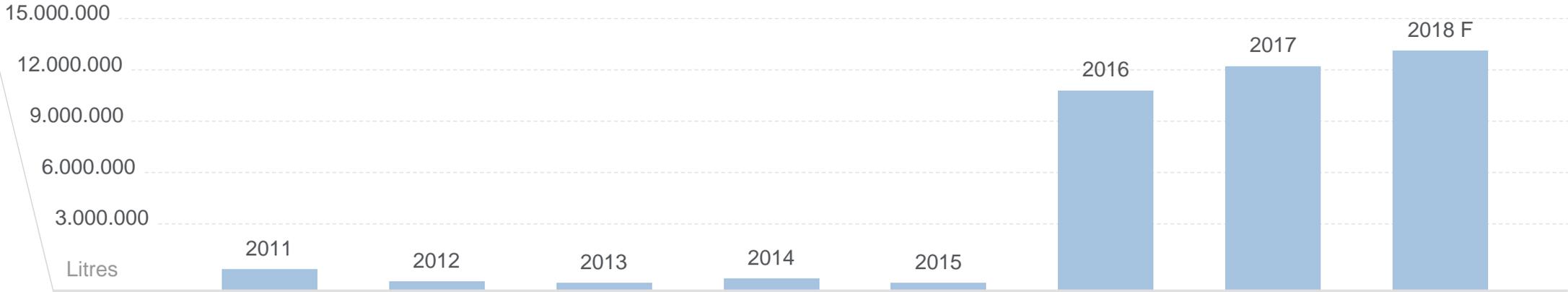
**6**  
billion  
litres of SAF in  
forward purchase  
agreements

**9**  
airlines  
with significant  
forward purchase  
agreements

**200,000**  
commercial SAF  
flights since 2011

**13**  
airports

Production ramp-up in sustainable aviation fuel will continue, annual estimates

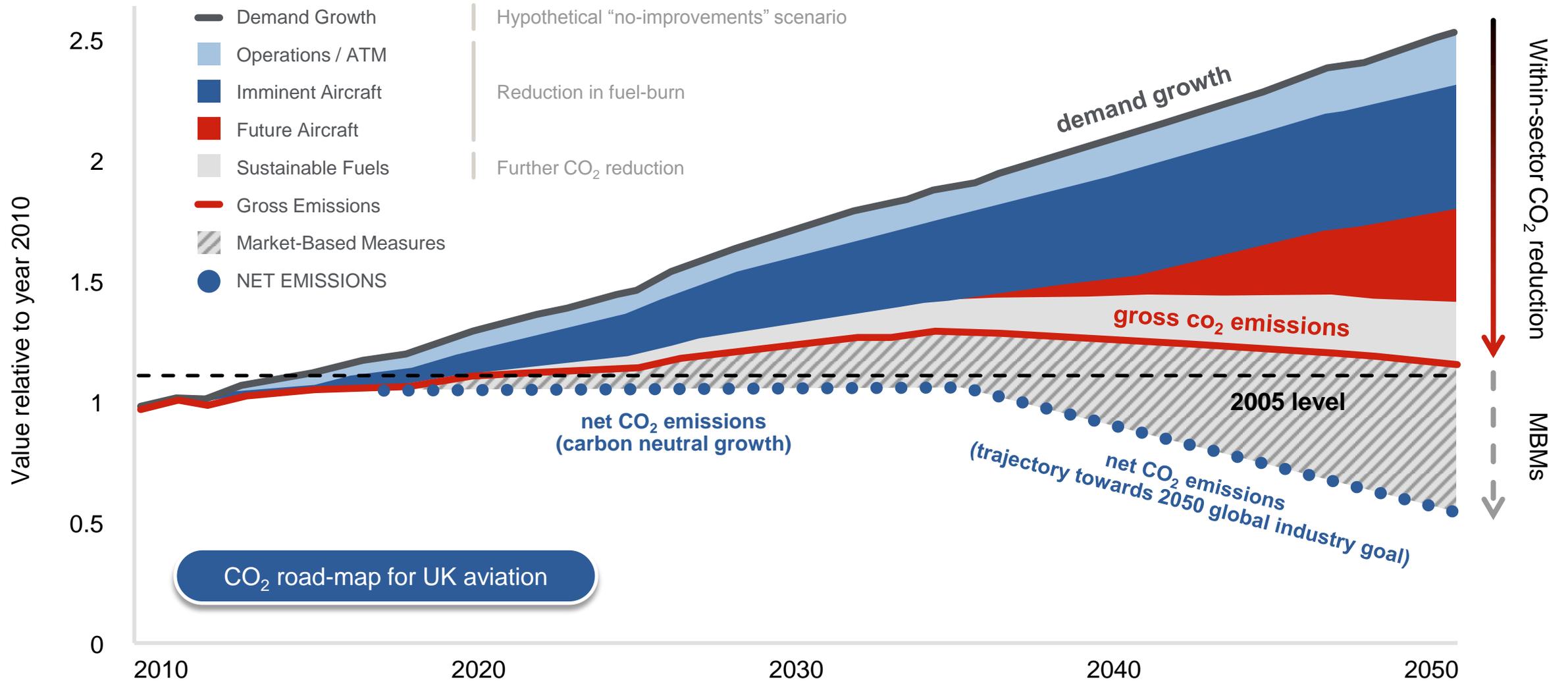




# The UK picture



# UK carbon roadmap to 2050



# Sustainable aviation fuel road map (UK)

By 2030



**£265m**  
Gross added value



Up to 12  
operational plants



**£220m**  
export value



**4,400**  
Jobs



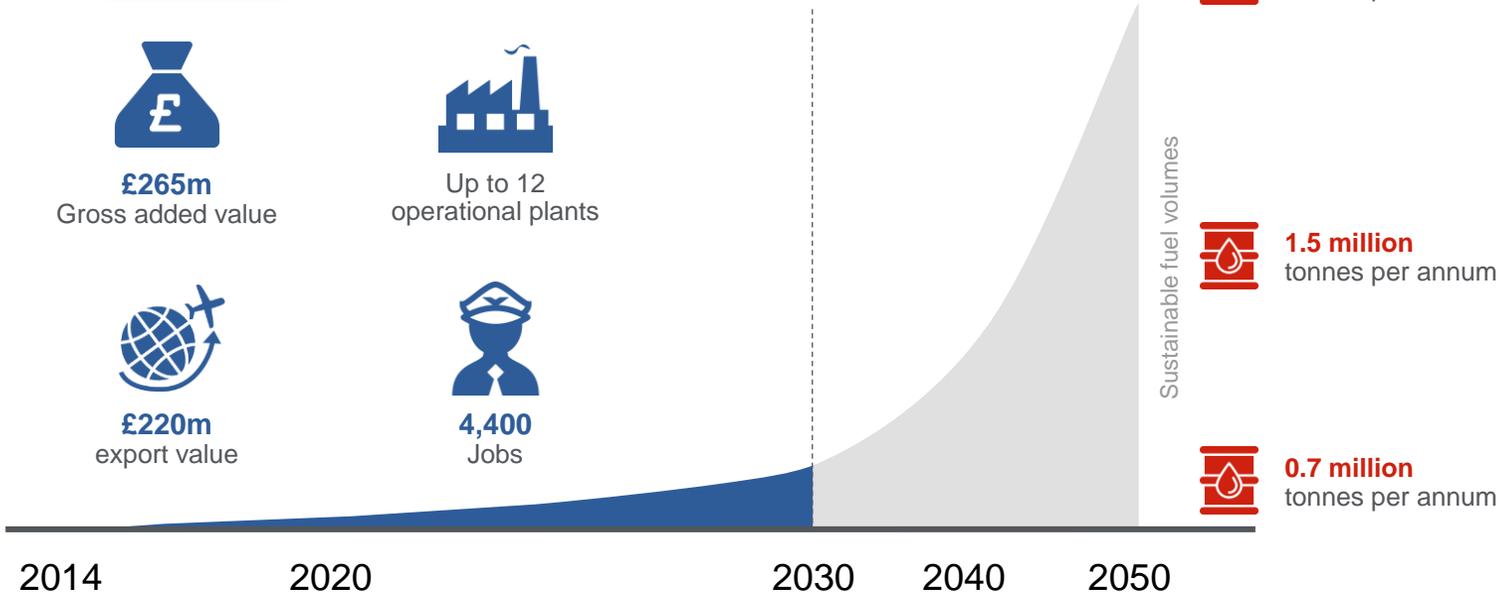
**4.5 million**  
tonnes per annum



**1.5 million**  
tonnes per annum



**0.7 million**  
tonnes per annum



**18-24%**  
reduction in CO<sub>2</sub> from UK aviation potential by supporting use of sustainable aviation fuels in the UK. UK airlines currently supporting landfill waste and waste gas to jet fuel innovations.

2014

2020

2030

2040

2050

Biomass to liquid  
Alcohol to jet green  
diesel

Pyrolysis fuels  
Sugar to jet  
including SIP

Novel  
Hydro  
routes

HEFA from  
algae  
Biotech  
conversion  
routes

Evolution of sustainable fuel technologies →



# UK potential top line facts

## Latest research findings

### By 2035



- Up to **14** sustainable aviation fuel plants producing nearly **8%** of total UK aviation fuel needs
- Gross value added to the UK of **£2.7bn per annum**
- Additional **5,200 UK** jobs (increase of 800 since 2014) or **c. 19,000 new UK** jobs including exports

### By 2050



- Ability to have up to **30%** of UK aviation fuel using sustainable fuels



# Vision



UK can lead the world in the development and production of sustainable aviation fuels



Sustainable aviation fuels will play a key role in decarbonising the industry



We set a challenge to UK universities to develop a proposal for a pathway to achieve global leadership around this critically important opportunity and beyond



From the very high quality entries we believe a number of these projects should be taken forward as they can play a key role in helping the UK lead the world in the development and deployment of sustainable aviation fuels



# Vision – Why the UK?



We have the skills



We have available  
feedstocks



We have many  
potential sites



We have high demand  
for the final product



We have  
Government support



We have world class  
academic institutions



# Vision – Benefits to the UK



Significant role in decarbonising airline travel



Help redevelopment of ex-industrial areas in the UK



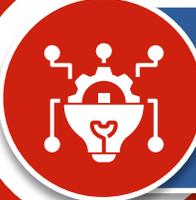
Create high number of high quality renewable jobs



Reduce the UK dependency on imported jet fuel



Reduce the amount of waste that goes to landfill



Significant opportunities for exports as UK leads in the development and deployment of advanced technologies



# British Airways project in the UK



We strongly welcome the UK Government announcement to create a level playing field of incentives for sustainable aviation fuels key to UK projects



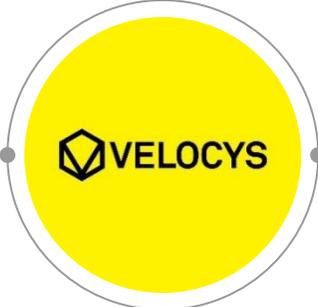
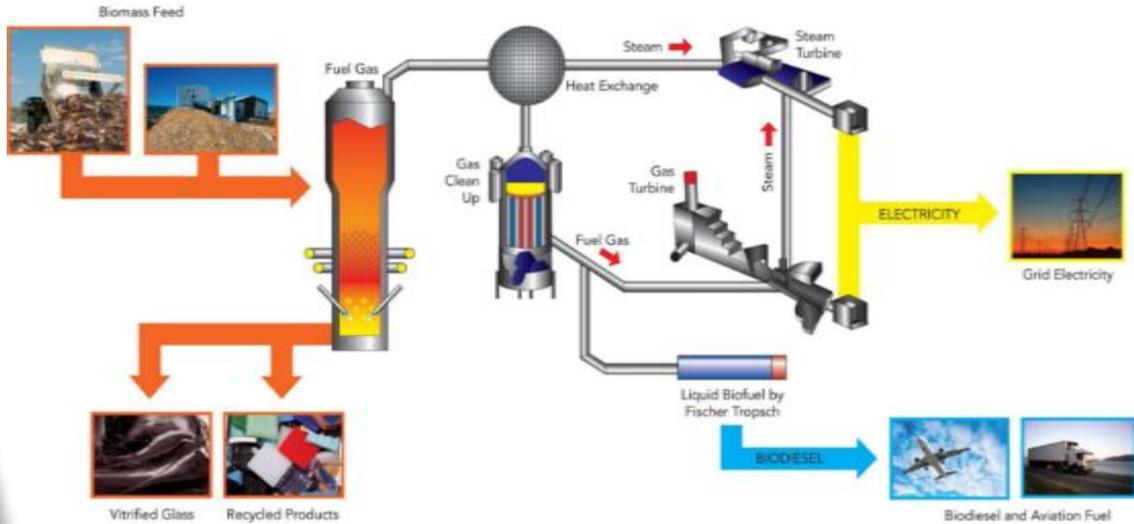
Partnership with technology partner Velocys and Shell to build plant



Uses waste that would otherwise be destined for landfill



We believe there are significant opportunities for further waste to fuels plants in the UK and around the world





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Thank you

