



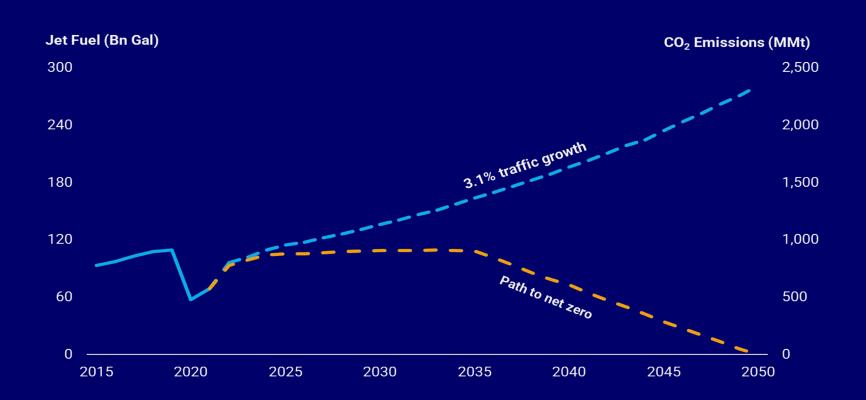
## The Innovation

Hydrogen-electric propulsion – the most environmentally friendly and economically attractive solution to aviation's growing climate change impact



### **Rising Sector Emissions in Line with Demand Growth**





### H<sub>2</sub>-Electric is the Only Scalable Zero Emission Solution



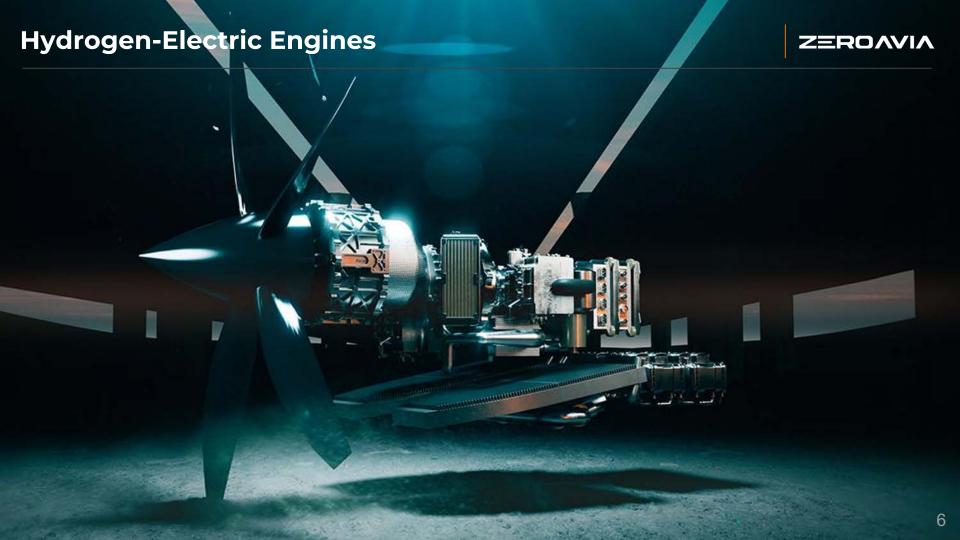
	•				
	Direct CO <sub>2</sub>	Non-CO <sub>2</sub>	Technology scalability	Net impact	Key challenges
H <sub>2</sub> -Electric		•		•	Weight of the powertrain     High volume fuel tanks     required
H <sub>2</sub> Combustion		•			High non-CO2 climate impact Even higher volume fuel tanks required (efficiency)
Sustainable Aviation Fuels (SAF)					Feedstock sustainability     High cost of synthetic fuels     Same in-flight emissions
Hybrid-Electric					Small incremental impact (10-20% max) on both economics and climate
•	• ca	omplete	Limited		

Source: Market research; analyst reports.



## A Hydrogen Electric Engine in Every Aircraft











### **Commercial Agreements and Partnerships**



~2,000 engines under agreement, 100 production slots sold, pipeline of 3,000+ engines



















CAHANA





Airframe OEM partners









**Airports** 





Strategic technology partners









Logistics / refueling

























H<sub>2</sub> producers









### **Hydrogen Airport Infrastructure**



Deliver low cost, low carbon reliable H2 to decarbonize airport ecosystems and provision hydrogen electric powertrains. Gaseous Mobile Storage and Dispensing Liquid Mobile Storage and H2 production Dispensing - renewable generation or PPA + electrolysis **Fixed Gaseous** Storage Fixed Liquid Storage



## The Skills Gap

Combining skills shortages in aerospace and hydrogen technologies creates headwinds

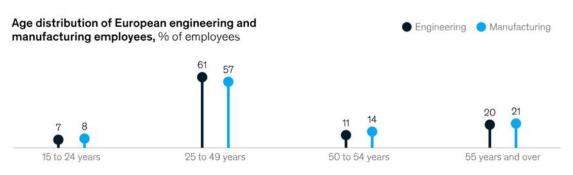


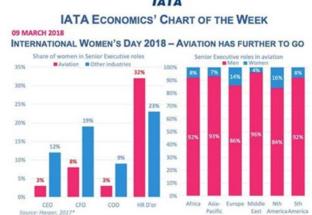


## Green skills shortage threatens Europe's climate ambitions

Creating low carbon jobs that pay as well as high carbon alternatives will not be easy

The transition from 'gray' to 'green' employees in Europe creates significant headwinds.







# Reasons to believe in the green aerospace jobs of the future





In Europe, as many as onethird of employees are thinking about changing jobs in the next three to six months.



#### MEANINGFUL WORK

People retraining and taking jobs in clean energy or manufacturing/engineering roles express pride in their work.



### **JUST TRANSITION**

Aerospace engineering and manufacturing jobs tend to be be higher than average pay; transition can lead to net jobs and income gains (ILO).

### **Solutions**



Funding, new training programmes and awareness raising campaigns from governments and industry













Hydrogen Capability Network





# Thank you for your time

## **Dominic Weeks**

**Head of External Affairs** 

dominic.weeks@zeroavia.com



www.zeroavia.com



twitter.com/ZeroAvia



facebook.com/ZeroAvia



linkedin.com/ZeroAvia



<u>youtube.com/ZeroAvia</u>



instagram.com/ZeroAvia