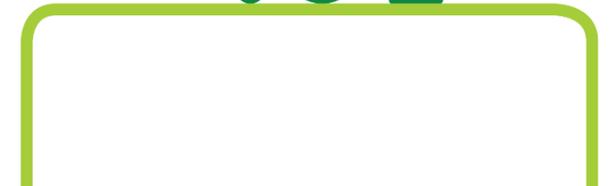


AVIATION CO₂ REDUCTIONS



STOCKTAKING SEMINAR

TECHNOLOGY · OPERATIONS · SUSTAINABLE AVIATION FUELS



Ground Operations



Vincent Metz,
Executive Vice President, Business
Development – Smart Airport Systems





OLUTIONS FOR SUSTAINABLE AVIATION

Vincent Metz

EVP Business Development
Smart Airport Systems



In the aviation industry's battle against CO₂ pollution

— GroundOps offers huge potential, addressable today

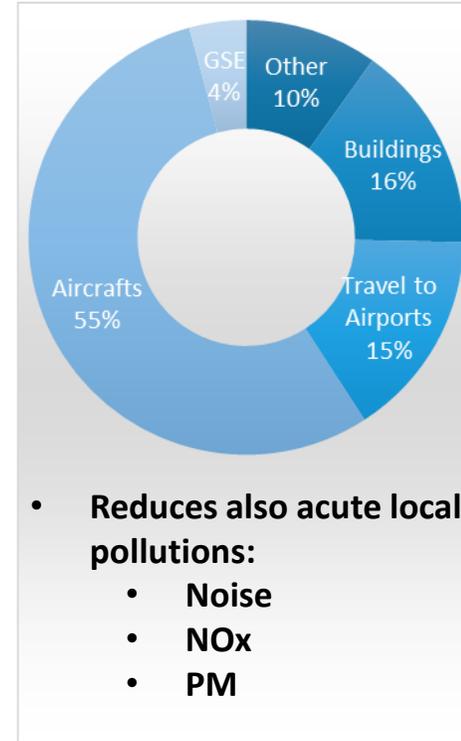
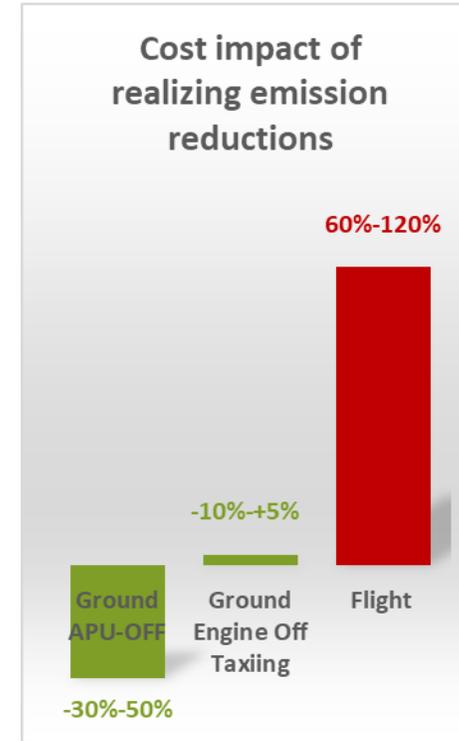
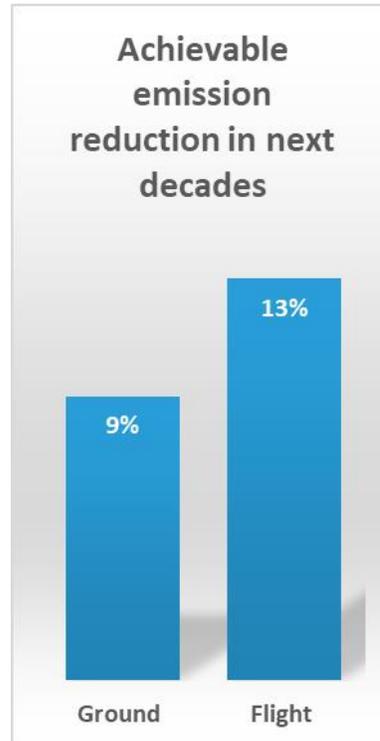
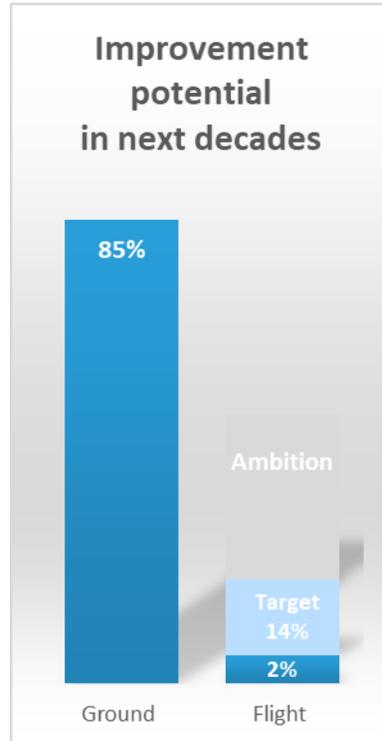
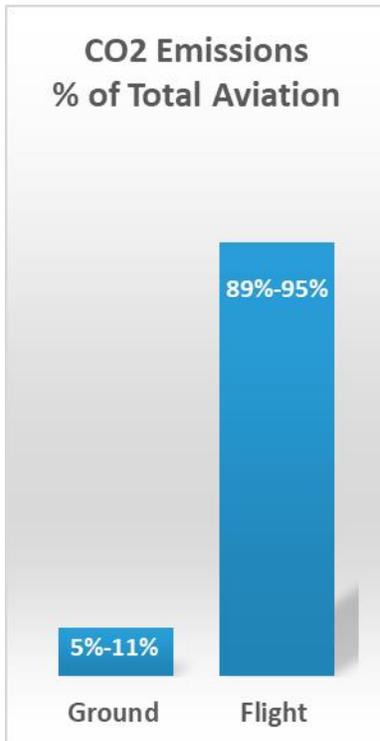
GroundOps is small but significant portion of the total aviation CO₂ pollution...

But addressability of GroundOps pollution today is much higher than Inflight ..

.. means 30% to 40% of mid term improvement potential is on the ground..

Big advantage is that the technologies are available today and have very low-cost per Kg CO₂

From an Airport perspective Aircraft GroundOps is the dominant source of CO₂ and other emissions



Aircraft engines are main source of GroundOps CO₂ emissions

TaxiBot[®] allows minimizing them while saving fuel cost



Technology

- Pilot controlled
- High Speed: 23 Knts
- Engines Off
- Boeing & Airbus Certified
- Reducing Emissions & Fuel Cost
- Improving Airport Efficiency



	CO₂ reductions per flight	4% to 8%
	Level of finance required	CAPEX: 0 OPEX: +-0%*
	Timeframe	Available Today
	Main challenges	<ul style="list-style-type: none"> - Stakeholder alignment - Change inertia

APU OFF[®]: Service to support Airlines in strongly reducing their APU utilization

Technology

- High performance equipment
- On-site supervision
- On line real time monitoring platform
- Innovative business model
- Cost and emission reduction
- No investment



	CO₂ reductions per flight	1%
	Level of finance required	CAPEX: 0 OPEX: -30%
	Timeframe	Available Today
	Main challenges	- Change inertia

Thank You

