ECA
European Cockpit Association

Operational Complexity & Human Factors

The Pilots' Perspective

ECA
European Cockpit Association

01

Make environmental measures operationally credible

- Every environmental measure has an operational footprint: cockpit, ATC, airport, network.
- Our role as pilots: identify where a measure works, where it needs adaptation, and where unintended consequences arise.
- Manage complexity properly through planning, system design, reliable information, standardised procedures and training, not by adding last-minute tactical decisions.

02

Safety is the foundation for scaling up

Environmental measures can and should be implemented without compromising safety.

- A procedure that works in one situation may not work in another because of weather, traffic, aircraft performance, workload or other safety considerations.
  - e.g. single-engine taxi, reduced flap settings, continuous descent operations
- Where conditions are right, pilots should be enabled — and encouraged — to use these measures.
- Where conditions change, the flight crew must retain the authority to prioritise safety without negative consequences.

ECA
European Cockpit Association

03

Ensure a net environmental benefit

- We need reliable prediction and robust methods for assessing the full climate effect of an operational decision, including extra fuel burn across the network.
- Verification must cover both the forecast and the execution: was the avoidance flown as planned, or constrained by traffic or airspace capacity?
- Pilots and controllers need an agreed, shared and trusted information source, built into flight-planning tools, procedures and training.

ECA
European Cockpit Association

04

Prefer planned solutions where possible

- Pre-tactical avoidance allows to consider environmental objectives together with fuel, traffic, capacity, weather and other operational constraints.
- It is visible to ATC and the network in advance: no ad-hoc re-clearances, no extra workload in cruise, plannable fuel penalty.
- Tactical avoidance is more demanding and restricted by the operational setting, and should therefore be the exception, not the default.

ECA
European Cockpit Association

Be ambitious. Be evidence-based.
Involve the people who operate the system.