



# Aviation and Wind Turbines – a personal perspective

ANDY KNILL

# So Who am I

- ▶ RAF Fighter Control 1973-1993
  - ▶ Various operational and Training Roles
  - ▶ Operational Sponsor AD Radars and Secure Comms
- ▶ UK CAA 1993-2013
  - ▶ Head Surveillance & Spectrum Management
  - ▶ CNS
  - ▶ Civil – Military
  - ▶ Lead on Wind Turbine issues for CAA
- ▶ Independent Consultant 2013 - Present
- ▶ Member of the Performance Review Body of the Single European Sky June 2017 - Present

# Current Situation

- ▶ Significant improvement compared with 15 years ago
- ▶ Better Engagement
- ▶ Better Understanding
- ▶ Technical mitigation development

BUT

We all know we are not where we need to be!

# Aviation Issues

- ▶ Safety
  - ▶ Paramount
- ▶ Capacity
  - ▶ Increasing Challenge
- ▶ Cost Efficiency
  - ▶ Airlines – Market Competition
  - ▶ ANSPs – Economic Regulation
- ▶ Environment
  - ▶ Free Route Airspace
  - ▶ Technology

# The Future

- ▶ Safety
  - ▶ Ultimate Priority – but should not be seen as an obstacle
- ▶ Ownership of Risk
  - ▶ Aviation has to respond to changing business environment
  - ▶ Cannot continue to place all risk (including cost) on renewable industry
- ▶ Technology
  - ▶ How do we incentivise
  - ▶ Not just about windfarm mitigation but also delivery of future ATM
  - ▶ Must support delivery of performance within operational environment

# Way Forward

- ▶ Choice of continuing as we are:
  - ▶ Slow progress
  - ▶ High cost in resources
  - ▶ Inefficient
- ▶ Or taking a Holistic Approach
  - ▶ Continued Engagement
  - ▶ Better understanding of interdependencies
  - ▶ Government/Institutional Leadership
  - ▶ Technical improvement to meet ATM enhancement and provide mitigation

# To Finish

- ▶ Major challenge ahead
- ▶ What we have done so far is good – but is not sustainable
- ▶ In cooperation, develop an approach to deliver a future outcome which benefits us all
- ▶ Develop a better understanding of the interdependencies across the two sectors
- ▶ A holistic approach

CO-EXISTANCE NOT CONFLICT

Thank you