



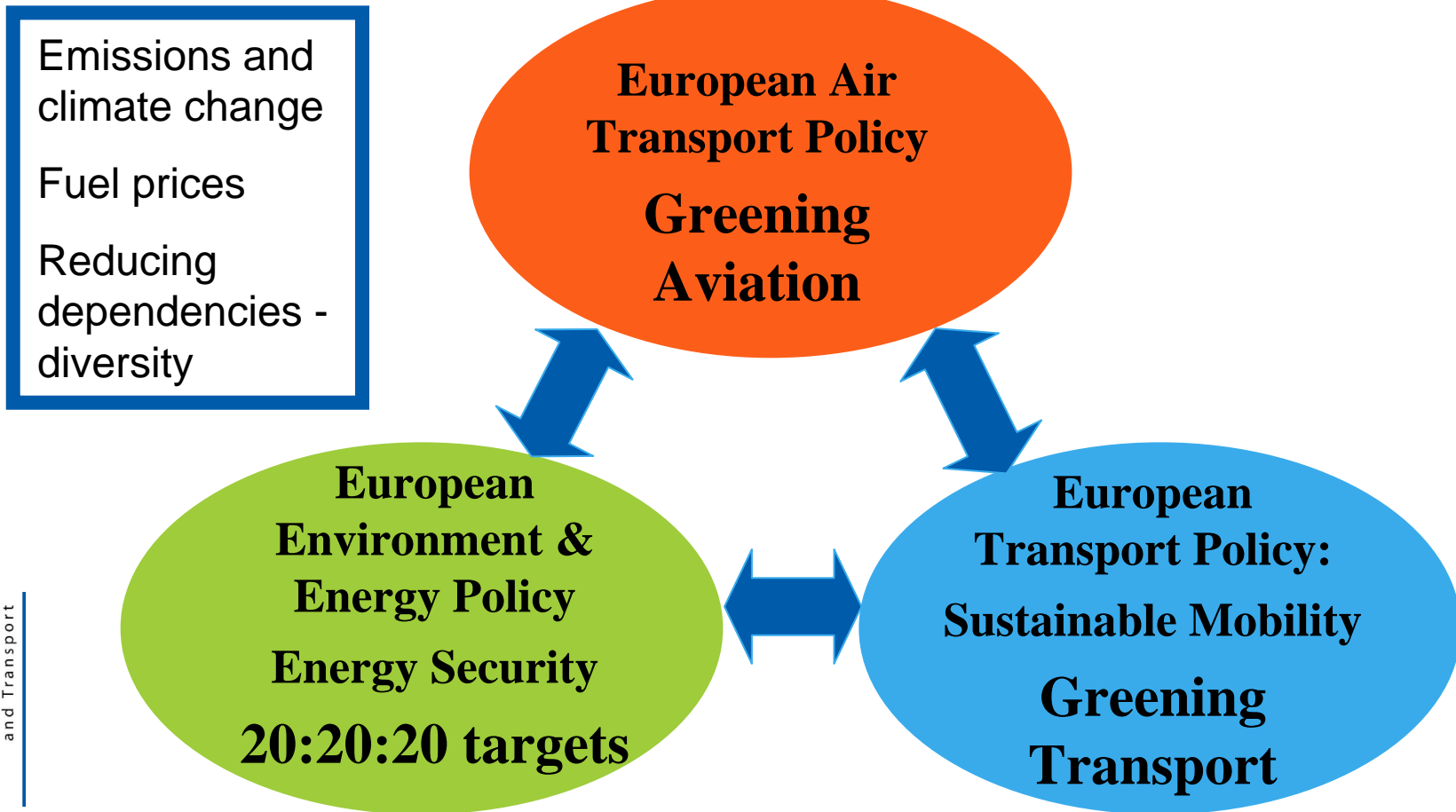
- Cooperation from the policy perspective

ICAO Workshop on Aviation and Alternative Fuels, 10-12 February 2009

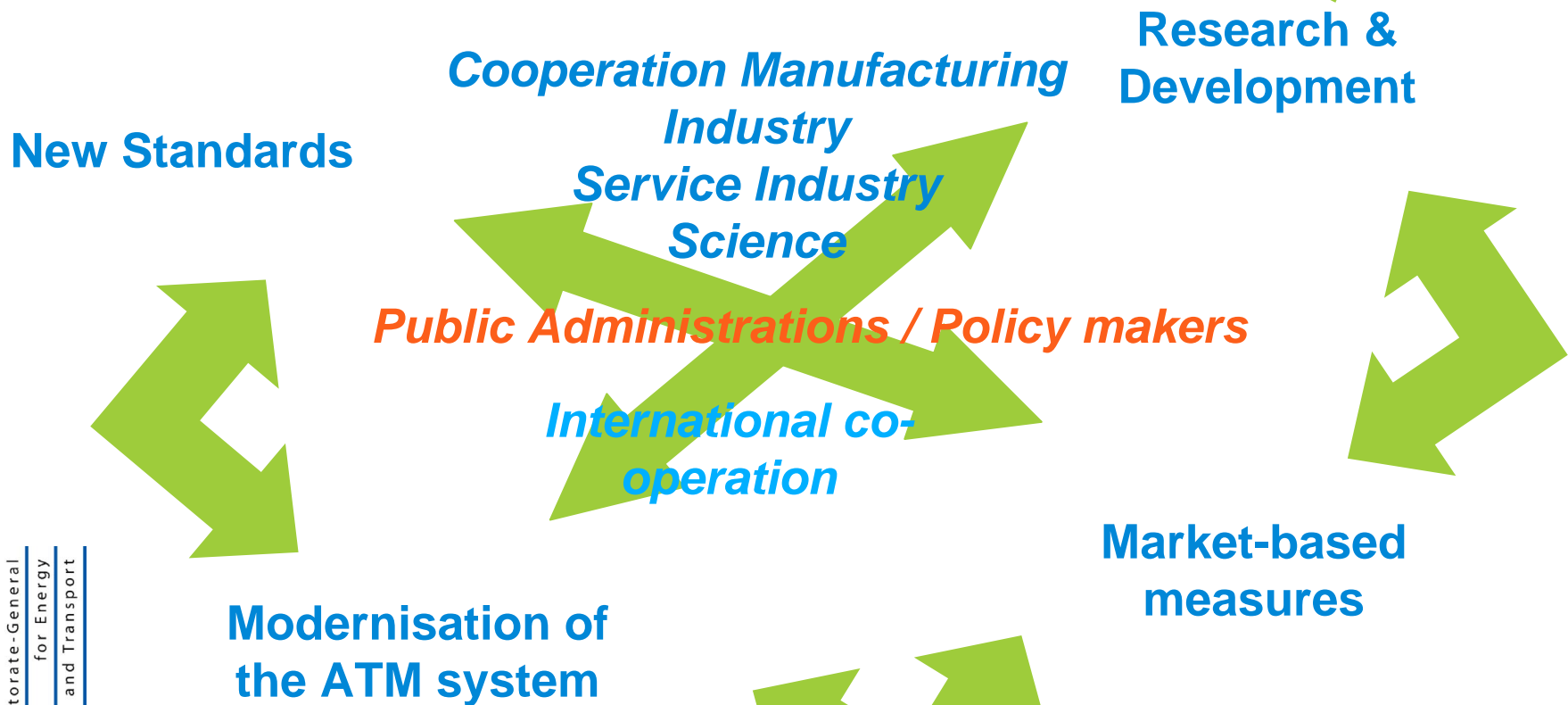
European Commission, Directorate General for Energy and Transport – Unit for the Single Sky and Modernisation of Air Traffic Control
Doris Schröcker

12/02/2009

● Where to place alternative aviation fuels?
EU Energy and Transport policy background



● European Air Transport Policy





- **The international dimension of environment and energy policy**

- Market based measures - Emission Trading System
- Renewable Energies / Biofuels in transport
- Post-Kyoto – Copenhagen conference

● Energy efficient aviation: Single Sky – SESAR

- **Performance oriented airspace design**
 - » **Functional Airspace Blocks FABs**
 - Cross-border cooperation of air navigation service providers
 - Business oriented airspace design
 - » **Flexible use of airspace**
 - Civil – military cooperation
 - » **Network design and management**
 - European network approach - 27 Member States
- **Objectives**
 - » Capacity x3, same safety level, costs -50%, emissions: -10% per flight
 - » Time based operations
 - » Business / mission trajectories
 - » Airport integration

● Energy efficient aviation – Single Sky

● **SESAR – Single European Sky ATM Research**

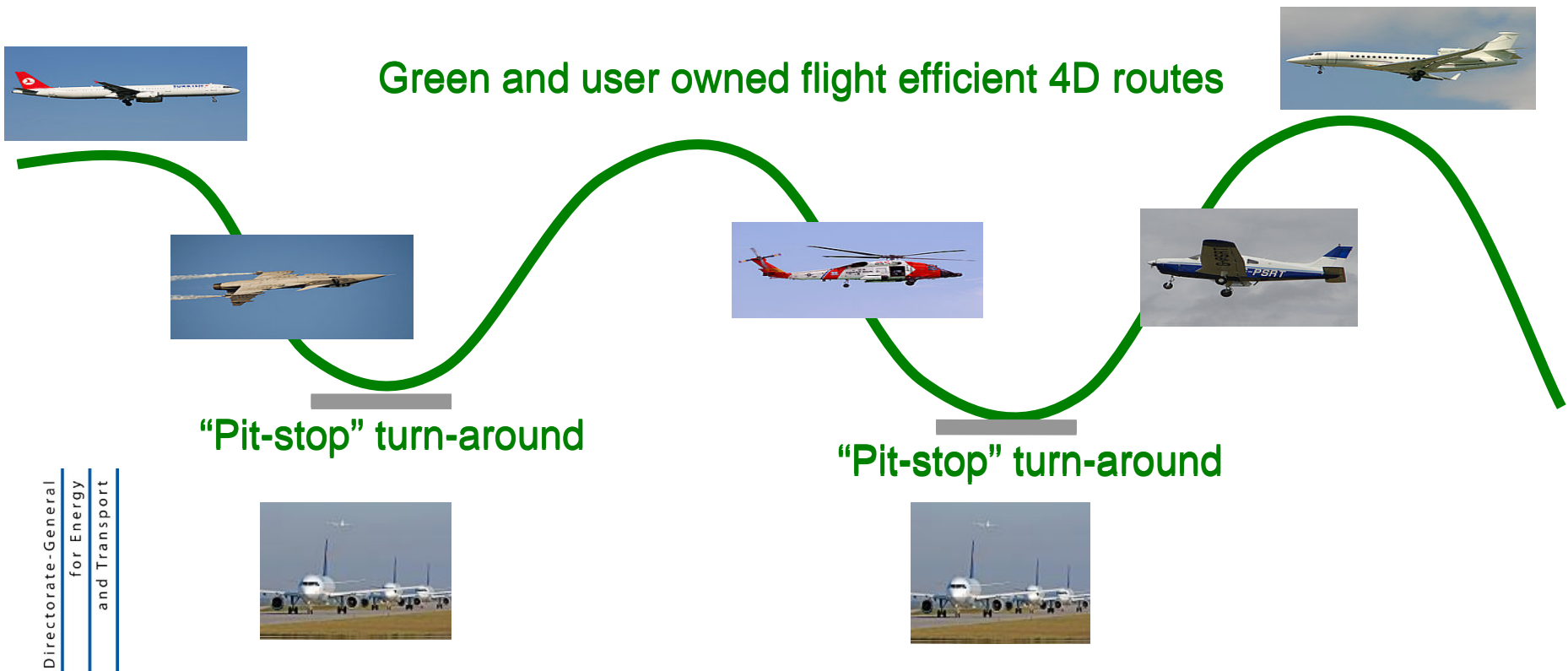
- A comprehensive approach to traffic management, innovation and technology
- Public Private Partnership
 - EC - industry – Eurocontrol
 - SESAR Joint Undertaking
- Manufacturing industry, air navigation service providers, airports; in addition airlines and staff representations; Eurocontrol;

● **ATM Master Plan: roadmap for RTD and deployment**

- » Cooperation of stakeholders
- » Need for coordinated/synchronised infrastructure development – SESAR deployment

● Flight efficient ATM services

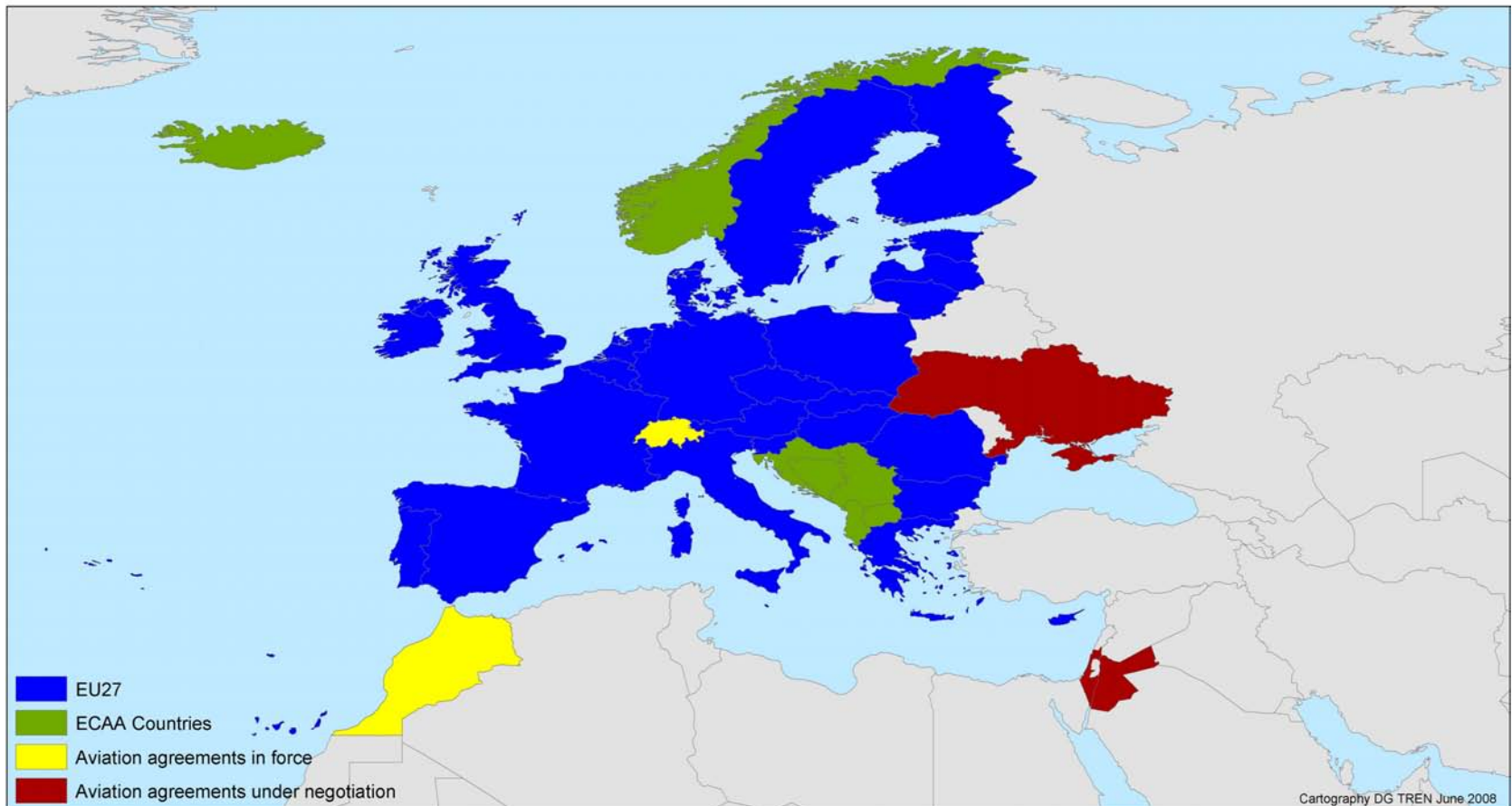
Business and Mission 4-D Trajectories
EnRoute-to-EnRoute



International cooperation 1: A genuine European aviation area



Single European Sky Pan-European Dimension



● International cooperation 2: Interoperability

● **SESAR – NextGen**

- » ICAO Seminar September 2008
- » EC – FAA cooperation

● **SESAR Membership for non-EU partners**

- » Possible with international aviation agreement

● **AIRE (trans-)Atlantic Interoperability Initiative to Reduce Emissions**

- » co-operation EU – USA, Commission – industry – FAA
- » Environmental “quick wins” – validation of “green flight”,
Launched in June 2007;
- » Airlines, ANSPs, aircraft manufacturers ...
- » 2008: Joint Oceanic trials with Air Europa and Nav Portugal,
Joint Terminal trials (Tailored Arrivals) with Air France in
Miami
- » 2009: new demonstration projects in Europe, intensified
coordination with US



● Research & Development:

- **EU Framework Programme for RTD**
 - » Industry – research cooperation
 - » Cross-border cooperation
 - » Involve users
- **Transport/Aeronautics – “Greening”**
 - » ALFA-BIRD, DREAM, ECATS
 - » Work Programme 2010 under preparation
- **“Clean Sky”**
 - » Partnership EU-Industry
 - » 6 Integrated Technology demonstrators, including
 - Green engines
 - Systems for green operation
- **Energy research:**
 - » 2nd/3rd generation biofuels
 - » CCS
 - » Hydrogen/fuel cells Technology Initiative
 - » Poly-generation

- International industry cooperation
 - **Industry cooperation - participation in CAAFI**
 - **Airlines work together**
 - **New EC initiative SWAFEA**
 - **Energy research:**
 - » Open for joint initiatives

● Cooperation on Alternative Fuels

- Progress achieved
- Challenges ahead
 - » Technological
 - » Environmental impact - assessment
 - » Economic and business aspects
 - » From RTD to the market
- Questions of policy makers
 - » Where are we with this issue?
 - » Contribution to reducing aviation environmental footprint - emission reduction objectives
 - » Economic implications
 - » Time horizon
 - » Need for action



EC new initiative: SWAFEA

Sustainable Ways for Alternative Fuels and Energy in Aviation

- 20 partners from research (coordinator ONERA), aeronautics and energy industry, airlines
- Information – input to policy making
- Comparative analysis of options
- State of the art
- Contribution to emission reduction objectives?
Environmental assessment
- Business case?
- Stakeholder platform
- International dimension
- Roadmap



● Conclusions

- Alternative fuels have potential to be considered
- How to best exploit their potential
- Objective: Reduce aviation environmental footprint – contribute to overall emission reduction objectives
- Combination of different instruments necessary
- Interdisciplinary
- Global dimension – international cooperation



THANK YOU!

For more information :

http://ec.europa.eu/environment/climat/aviation_en.htm
http://ec.europa.eu/transport/air_portal/environment/index_en.htm