



ICAO

ENVIRONMENT

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ICAO CAPACITY BUILDING SEMINAR ON LOW EMISSIONS AVIATION MEASURES

Regulatory and Organizational Framework to Address Aviation Emissions

Stephen Barrett, Technical Advisor, Consultant, ICAO





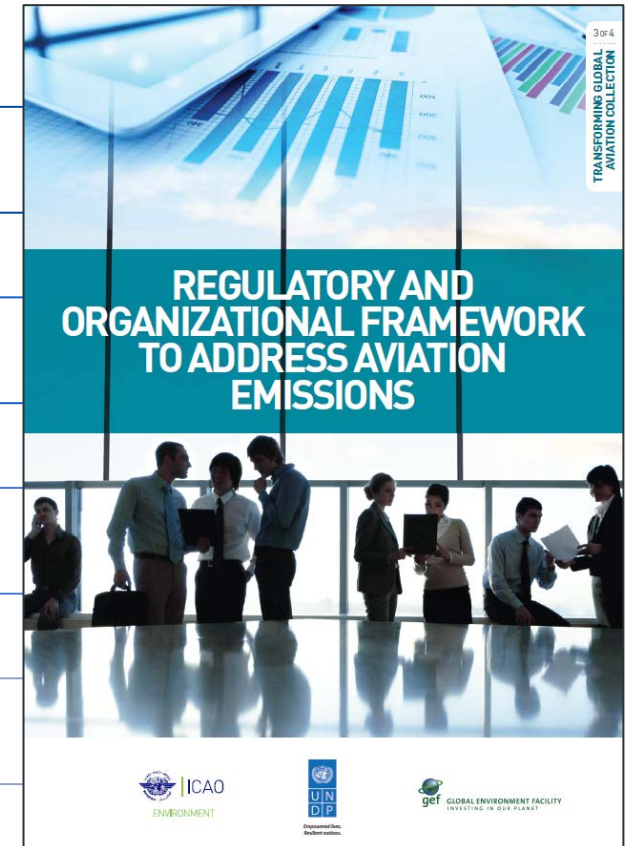
Presentation Outline

Global Organizational Framework

Environmental Policy

Energy Policy

Case Studies





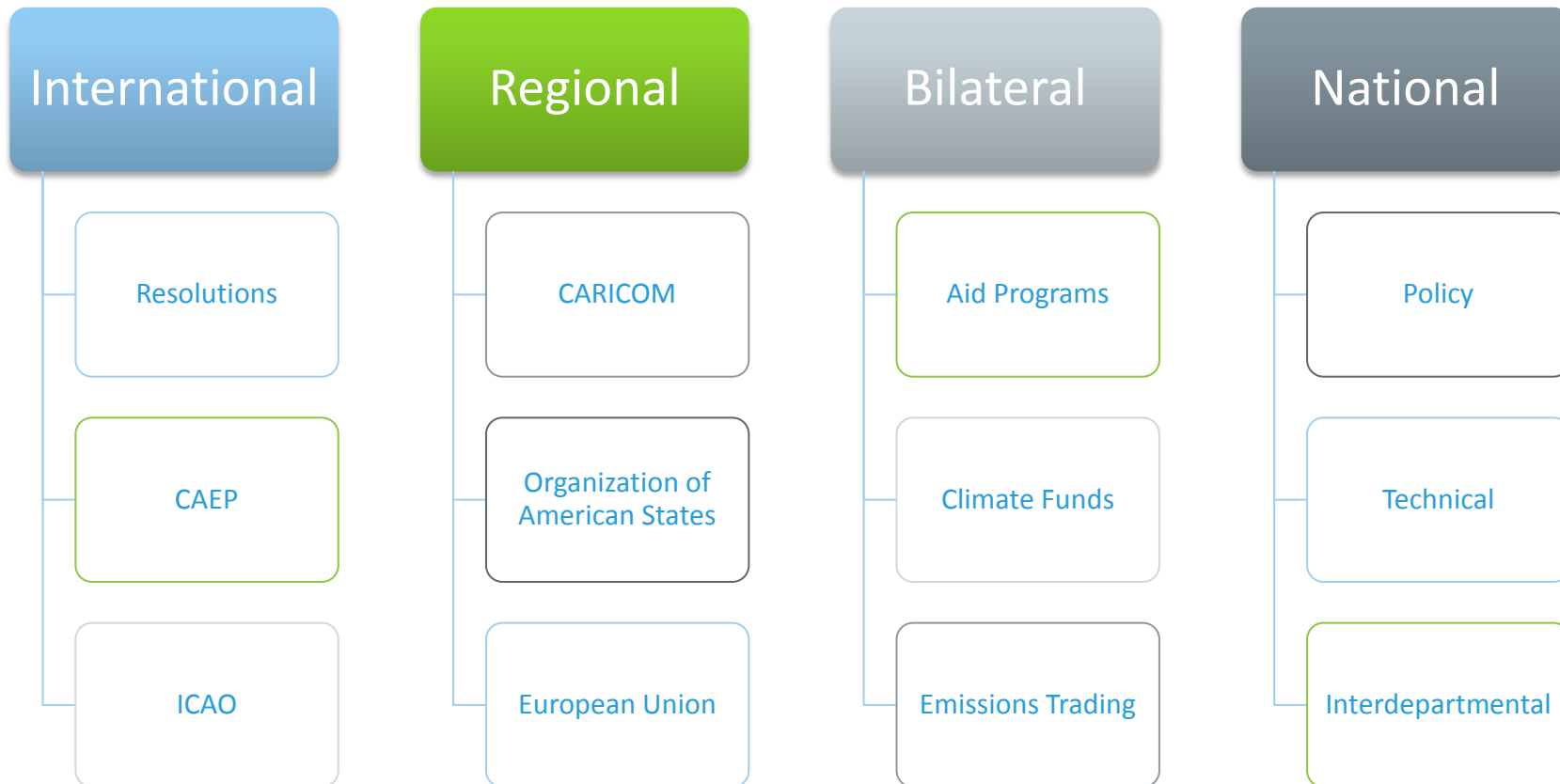
Purpose of Guidance

- Need for sustainable aviation growth requires organizational capacity to develop and implement environmental programs
- Guidance provides information to support that process





Global Framework for Aviation Emissions Reductions





Environmental Policy: Objectives

Reduce Emissions from International Aviation



Improve Local Air Quality



Build Capacity in the Aviation Sector





Environmental Policy Options: Technology and Standards

Adopted by ICAO

Incorporated by
Member States

- Example: Aircraft Technology

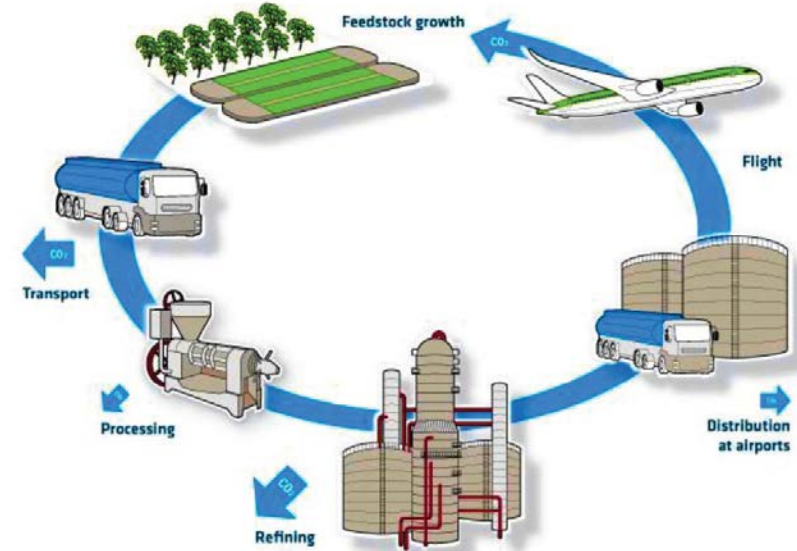




Environmental Policy Options: Sustainable Aviation Fuels

ICAO Facilitates Discussion

Member States Evaluate Opportunity



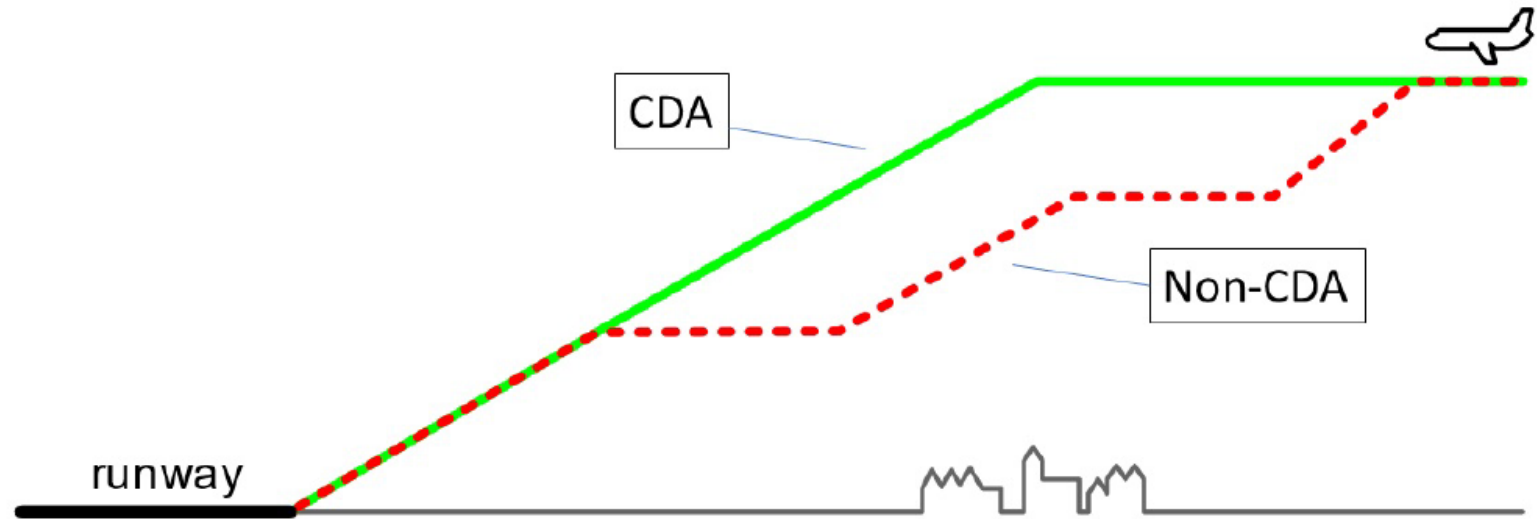
Regularly scheduled flights from four airports using SAF



Environmental Policy Options: Operational Improvements

ICAO Produces
Guidance

Member States
Develop Policy





Environmental Policy Options: Market-Based Measures

ICAO Adopts

Member States
Implement

- Carbon Offsetting and Reduction Scheme for International Aviation (CORSI A)
- offset the increase of emissions beyond the sectoral baseline (the average of total CO₂ emissions between 2019 and 2020)
- Airlines will purchase emission units or carbon credits for increase



Environmental Policy: Stakeholder Involvement

Aviation

- Air Navigation Service Providers (ANSPs)
- Airport Operators
- Aircraft Operators
- Aviation Service Providers
- Manufacturers
- Passengers

Environment

- National government
- Regional government
- Non-governmental Organizations
- Academia, Research Institutes

Community

- Residences
- Businesses
- Schools
- Local government
- Other community organizations



Energy Policy: Objectives

Decrease Emissions



Minimize Total Cost and Variability in Cost



Diversify Supply Types and Sources





Incentives to Address Alternative Energy

Deregulation

- Limit government and utility monopoly, create markets

Standards

- Establish mandates to create demand for alternatives

Feed-in
Tariffs

- Pay for actual price to develop to benefits private market

Tax Policy

- Reduce taxes required on alternative energy developers

Grants

- Provide funds for higher risk early stage development



Tools to Implement Energy Policy

- **Power Purchase Agreement**
 - Long-term contract to purchase the power
- **Equipment Lease**
 - Reduces upfront cost to owner
- **Land Lease**
 - Allows government to lease land to private partner



Interested Parties

- National Government
 - Implementing emission reduction policies
- Public Utilities
 - Energy is core business
- Fuel Suppliers
 - Change in energy sources will affect their business
- Energy Consumers
 - Interested in cost stability and environmental policy



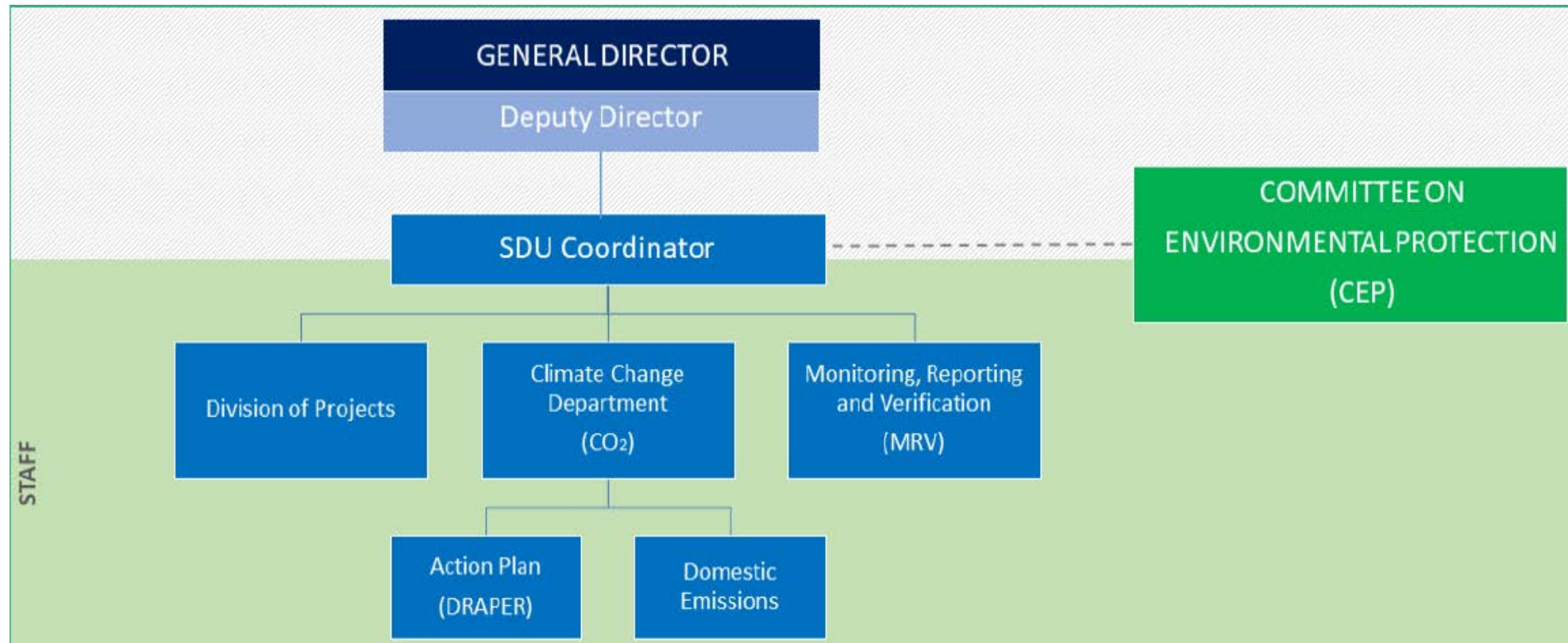
Case Study of Organizational Framework: Generic Model

Goal: integrate environment into civil aviation authority structure

- Option 1: manage environment within each aviation directorate (e.g., ATM, aircraft certification)
- Option 2: create a new directorate on environment

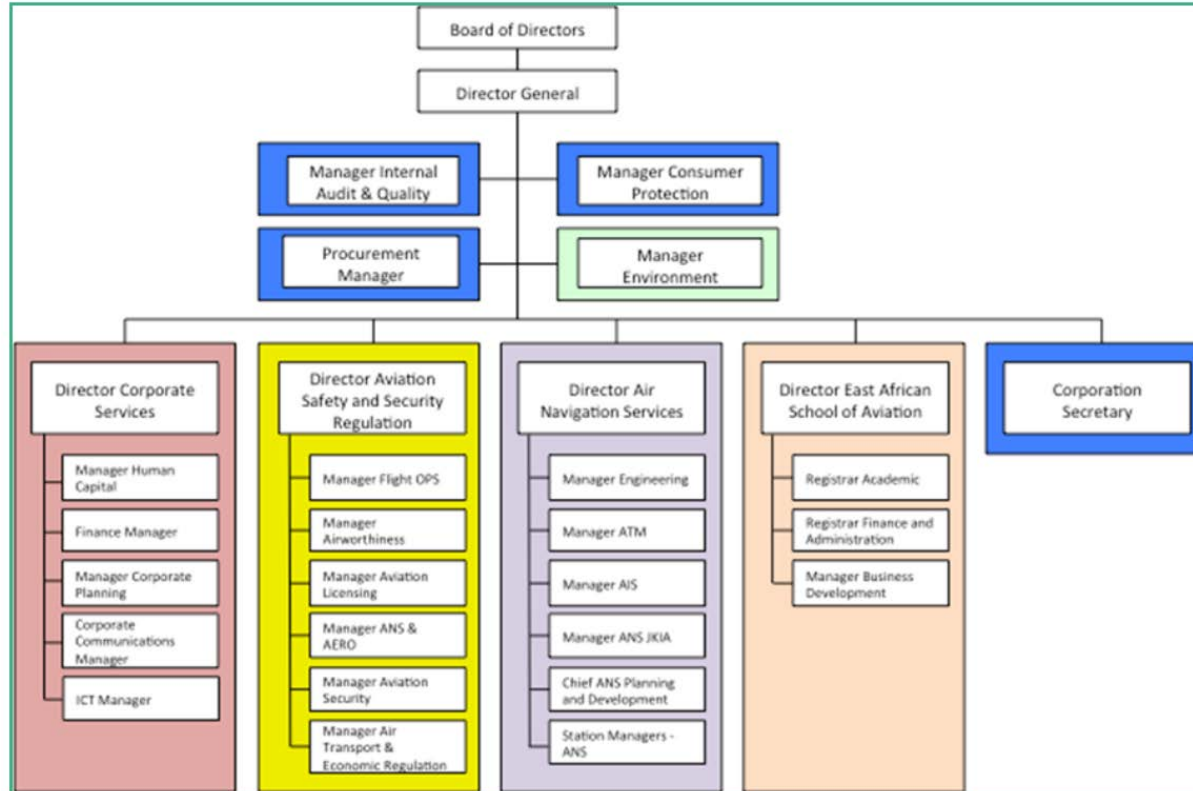


Case Study – Dominican Republic





Case Study – Kenya Republic





Summary

New aviation environmental initiatives require regulatory and organizational changes

Many agreements established through ICAO and implemented by Members States

Knowledge of Environmental and Energy Policy required for effective implementation

Through development of State Action Plans, capacity building and organization changes are being implemented



For more
information

www.icao.int





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North Atlantic
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