



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



ICAO CAPACITY BUILDING SEMINAR ON LOW EMISSIONS AVIATION MEASURES

## Financing Aviation Emissions Reductions

Neil Dickson, Chief, Environmental Standards Section, ICAO





# Presentation Outline

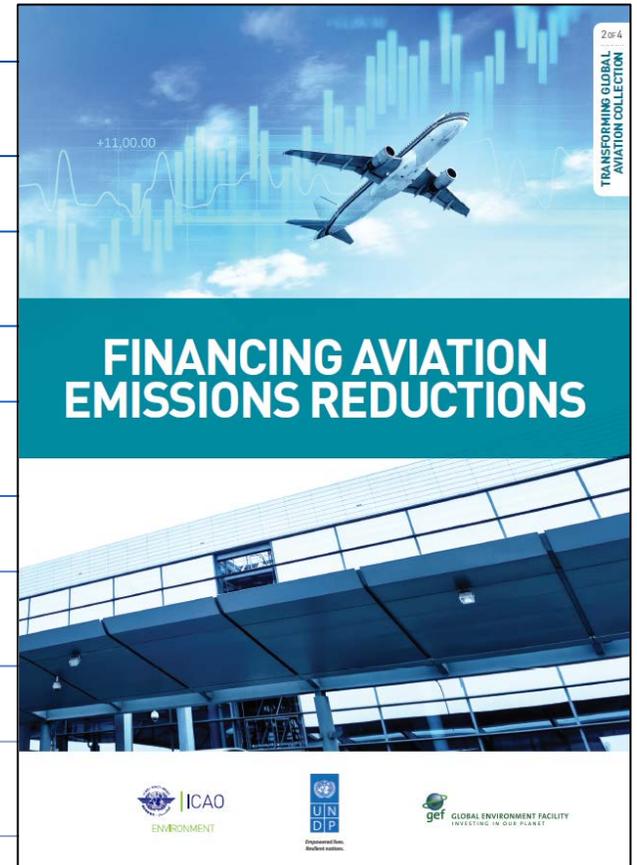
Basics of Financing

Financial Instruments

Organizations and Programmes

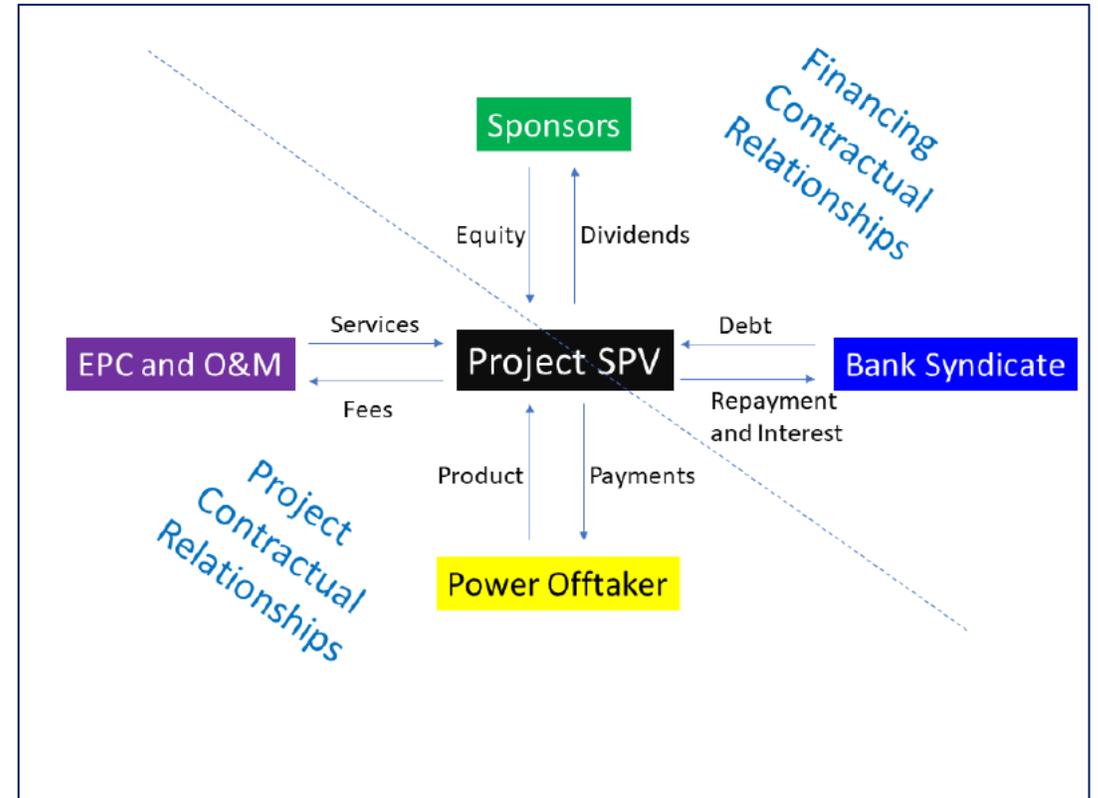
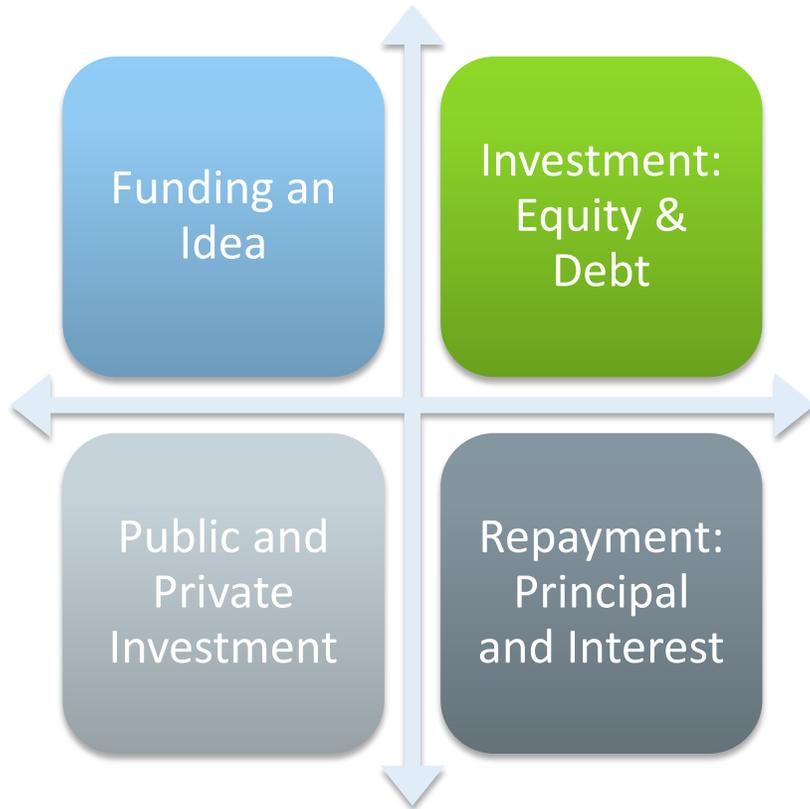
Steps to Identify and Access Financing

Financing Specific Measures





# Financing Basics





## Barriers to Private Investment

### Financial

- Lack of credit
- Lack of experience

### Political

- Unstable Political Climate
- Unstable Regulatory Climate



# Solutions

## Financial

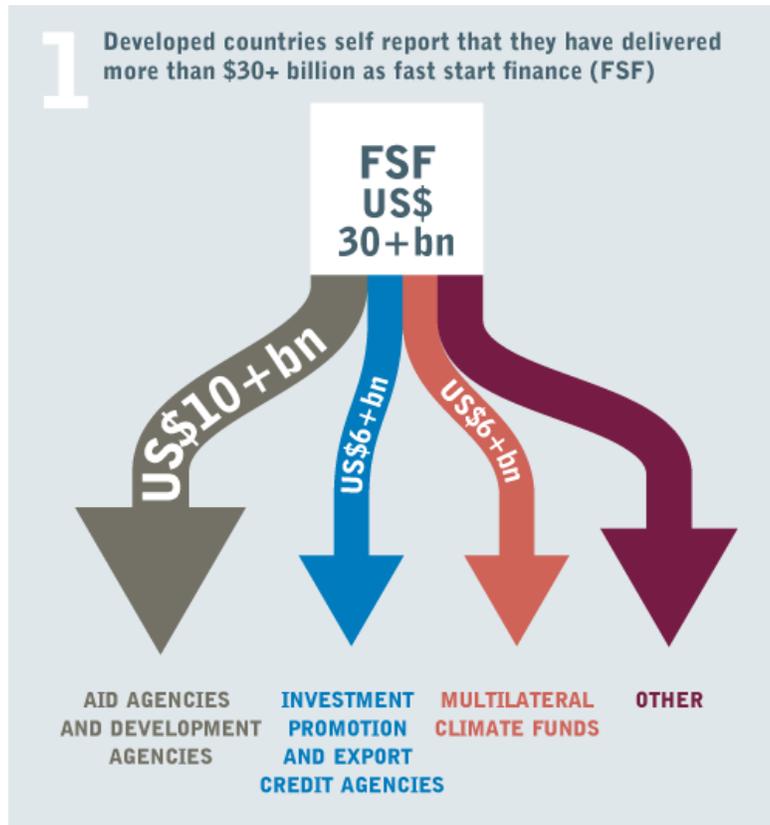
- Grants to decrease early stage investment risk
- Low interest loans to attract investment
- Long-term financial commitment (e.g., contract)

## Political

- Support for economic development
- Support for incentive policy development
- Certainty in approval process



# Financial Instruments



## Grants

- Development, Capacity Building

## Loans

- Contingent, Concessionary

## Bonds

- Green, Infrastructure

## Guarantees/Insurance

- Contracts

## Direct Investment

- Government, Private Equity



## Organizations and Programmes: Multilateral Climate Funds

### Green Climate Fund

Overseen by NGOs including the United Nations

- Open and transparent allocation process

Name	Recipient	Class	Type / Amount
Building the Resilience of Wetlands	Peruvian Trust Fund for National Parks	Mitigation & Adaptation	Grant, USD 6.2m
Scaling Up of Modernized Climate Information and Early Warning System	Disaster Management Authority, Malawi	Adaptation	Grant, USD 12.3m
KawiSafi Ventures Fund, East Africa	Acumen Fund to 10-15 solar companies for off-grid solar in Kenya and Rwanda	Mitigation & Adaptation	Equity, USD 20m Grant, USD 5m



# Organizations and Programmes: Bilateral Funds

## Donor and Recipient

- Gives donor more control

### UAE Pacific Partnership Fund

State Recipient	Project Description
Fiji	525 kW Solar on three remote islands of Kadavu, Lakeba, and Rotuma
Kiribati	500 kW solar for remote communities and water supply protection
Nauru	500 kW solar to improve energy resiliency
Samoa	550 kW wind project designed to be manually lowered to the ground in advance of a cyclone
Tonga	512 kW solar with battery bank used to supply peak energy loads and avoid increasing diesel
Tuvalu	500 kW solar canopy constructed over a public recreation space provided shade
Vanuatu	767 kW in Port Vila, a population of 44,000 including solar car ports providing shade



# Organizations and Programmes: Multilateral Development Banks

## Concessional Loans

- Act like other banks, but with more charitable terms

### Operate on regional basis

African Development Bank (AfDB)

Asian Development Bank (ADB)

European Bank for Reconstruction and Development (EBRD)

European Investment Bank (EIB)

Inter-American Development Bank (IDB)

The World Bank Group

\*Goal is to attract private capital from green investor funds, corporations, and commercial banks.



# Steps to Identify and Access Financing

## Prepare a Project Concept

- Review Action Plans
- Define Objectives
- Identify Benefits
- Prepare Concept Plan

## Build In-Country Support

- Identify Project Partners
- Prepare Communication Tools
- Specify Partner Roles

## Public policy incentives

- Review funding Opportunities
- Coordinate with Partners
- Prepare an application



## Financing Specific Measures

## Renewable Energy

- Phase I has a capacity of 160 MW
- offsets approximately 250,000 tonnes of CO<sub>2</sub> emissions annually.
- The project was supported by loan guarantees and below market financing through the World Bank and African Development Bank, which significantly decreased the cost of the facility.

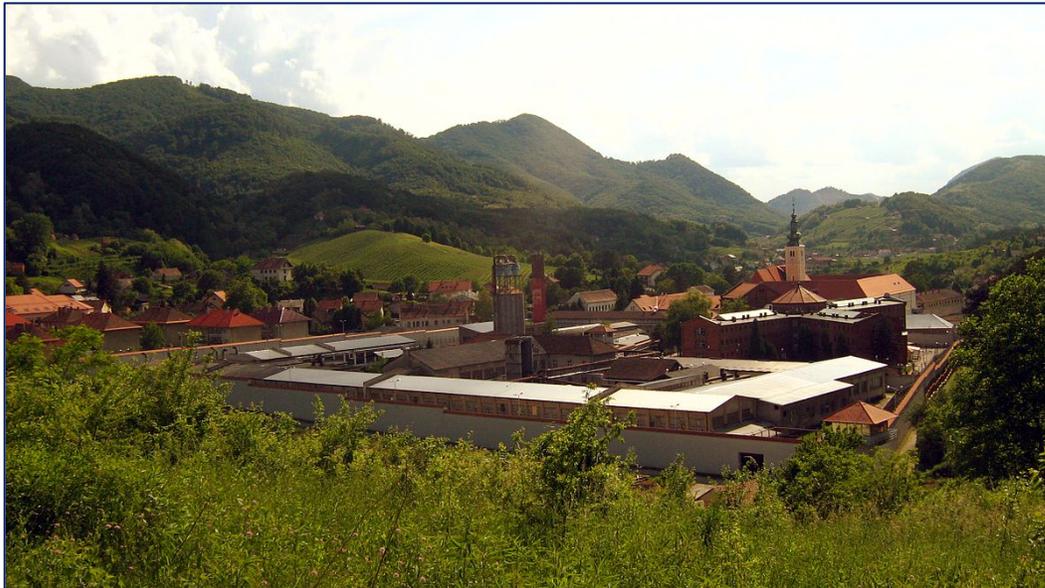
## Noor Concentrating Solar Power Plant Morocco





## Financing Specific Measures

### Energy Efficiency



#### Public Buildings in the City of Sisak, Croatia

Project: energy efficiency programme to reduce energy consumption in public buildings.

Partners: UNDP and GEF

Over two years, 24 projects cut energy consumption by 13% and saved the city budget USD 220,000 per year. CO<sub>2</sub> emissions were reduced by 780 tonnes.



## Financing Specific Measures

### Electrification



## Seattle-Tacoma International Airport, USA

Alaska Airlines and Seattle-Tacoma International Airport (Sea-Tac) partnered to replace fossil-fuel-powered ground support equipment (GSE), including belt loaders and baggage tugs, with electric vehicles.

- the Port of Seattle constructed 296 charging stations with grant funding from the US Government.
- Alaska Airlines purchased 204 electrically-powered GSEs
- Result: a reduction of 2,000 metric tonnes of CO<sub>2</sub> annually.
- Funding provided by US Federal Aviation Administration



## Financing Specific Measures

### Drop-In Biofuels



#### Oslo International Airport, Norway

In January 2016, Oslo Airport started regular supply of a sustainable aviation fuel (SAF) blend through its existing common fuel distribution system.

This is the first time an airport has made SAF available to all refueling aircraft relying on existing infrastructure.

The fuel is produced under the Initiative Towards sustainable Kerosene for Aviation (ITAKA) framework – a collaborative project for the development and use of sustainable biofuel in Europe funded by the EU's Seventh Framework Programme, a research and development initiative.



## Funding Example: Global Environment Facility



- Cook Island Project
- 3 MW PV
- Battery Storage
- 1 MW Rarotonga Airport



# In Summary

---

Investment risks in new markets limits participation by private sector players

---

Publicly supported financial instruments can be deployed to decrease risk and build markets

---

Instruments include grants, low interest loans, insurance/guarantees, and new policies to improve investment

---

Support provided by multinational climate programmes, bilateral agreements, and multilateral development banks

---

Funds could be deployed by airports for renewable energy, energy efficiency, electrification, and drop-in biofuels



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



For more information on this project, please visit  
ICAO's website:

**[https://www.icao.int/environmental-protection/Pages/ICAO\\_UNDP.aspx](https://www.icao.int/environmental-protection/Pages/ICAO_UNDP.aspx)**



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



ICAO

North American  
Central American  
and Caribbean  
(NACC) Office  
Mexico City

South American  
(SAM) Office  
Lima

ICAO  
Headquarters  
Montréal

Western and  
Central African  
(WACAF) Office  
Dakar

European and  
North Atlantic  
(EUR/NAT) Office  
Paris

Middle East  
(MID) Office  
Cairo

Eastern and  
Southern African  
(ESAF) Office  
Nairobi

Asia and Pacific  
(APAC) Sub-office  
Beijing

Asia and Pacific  
(APAC) Office  
Bangkok



THANK YOU