

# SUSTAINABILITY



Cargolux is committed to environmentally sound transport.

We fly the most energy-efficient all cargo aircraft available today and will be the first to fly Boeing's next-generation 747-8F in 2011.

In doing so, we provide the best available air freight service to shippers and forwarders who seek to lower their impact on the environment.

## What Makes Cargolux Stand out?

Cargolux has, since its creation, sought to operate the most energy-efficient and environment friendly aircraft type available.

In 1993, Cargolux became the first airline worldwide to operate the 747-400F, which still today offers among the lowest fuel consumption per tonne-km, and the smallest noise footprint at take-off in its category.

In early 2011, Cargolux will introduce the new-generation 747-8F.

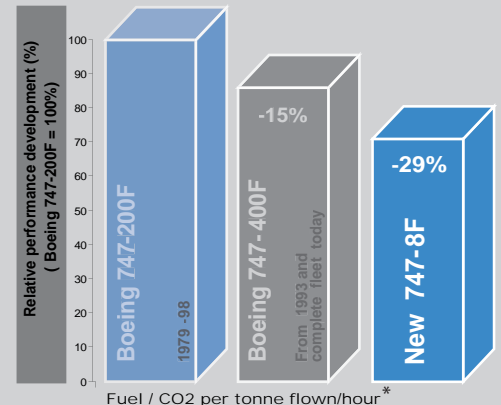
This aircraft will set a new benchmark in sustainable air freight transport.\*

- 1) **Lowest fuel consumption:** The 747-8F uses 17% less fuel per tonne-km than its predecessor, offering highest levels of fuel efficiency.
- 2) **Reduced CO2 emissions:** the lower fuel burn translates into a 17% reduction in CO2 per tonne-km. Applied to Cargolux's operations this represents a saving of up to 400,000 tonnes CO2 per annum.
- 3) **Quietest operations:** Advanced noise-reduction technology substantially reduces the noise footprint of the 747-8F, improving the quality of life of local communities.



\* data provided by Boeing

## Aircraft Technology Improvements



Fuel / CO2 per tonne flown/hour\*  
Typical mission rules – 3,000 nmi trip – max revenue payload – Boeing 747-8F based on design performance data

## A far-reaching commitment

In recent years Cargolux has reached important milestones that confirm its commitment to socially and environmentally responsible management:

- In 2007 Cargolux became member of the UN Global Compact and strives to align its policies and processes to the UNGC's 10 guiding principles. In the same year Cargolux signed Luxembourg's Charter of Social Responsibility.
- Since 2008 Cargolux is an active member of the Sustainable Aviation Fuel User's Group, which seeks to promote the availability of non-fossil based bio-derived kerosene that does not compete with global food production
- In 2009 Cargolux obtained the ISO 14001 certification for its flight operations; the company is currently working on expanding this certification to its other divisions.



## Corporate Social Responsibility

Today up to 34% of all goods are transported by air, measured by value.

Air freight has become an important factor of social and economic development throughout the world, by connecting markets and allowing goods to flow from their most suitable point of production to locations globally.

Thanks to its modern and energy-efficient fleet Cargolux is able to fulfill its business objective responsibly and behave as a good corporate citizen. Cargolux acts as a catalyst for employment, indirectly supporting the creation of thousands of jobs in export and import-related industries.

Cargolux flies high-value goods ranging from electronics to flowers and perishables, industrial equipment to automotive spare parts, fostering the development of new skills and opportunities in many countries throughout the world.

At its home base in Luxembourg, Cargolux is a major employer and strives to follow best practices in terms of working conditions and the health and safety of its workers. This is exemplified by its newly opened maintenance center, which employs over 350 staff.

## Committed Partner

As signatory of the UN Global Compact, Cargolux lays particular importance on raising awareness among its stakeholders and promoting environmentally and socially sound business practices.

This is reflected in the company's Service Level Agreement to General Handling Agents, which are invited to adopt their own environmental and CSR programs.

Cargolux's commitment to its service providers extends for instance to providing training courses which help develop skills and knowledge of our agents' employees worldwide as well as ensuring high levels of service at airports where Cargolux operates.

## Climate Change

Contrary to widespread belief, aviation contributes only a small fraction of man-made CO<sub>2</sub> emissions, around 2-3% according to many different studies, commissioned by the United Nations and various governments. In comparison, energy and heat production are responsible for 41% of all man-made CO<sub>2</sub>.

Air cargo can also help reduce the overall production of man-made CO<sub>2</sub>. The reputed Cranfield University has demonstrated, for instance, that flying flowers, fruit and vegetables grown in equatorial areas to Northern markets produces many times less CO<sub>2</sub> than heating the greenhouses that are required to grow these same crops in Northern Europe or North America, and cooling the warehouses that store the crops in off-season periods.

### Sensible Flying Helps

Many operational measures are implemented by Cargolux today specifically to reduce fuel burn, resulting in a sizeable reduction of the company's overall CO<sub>2</sub> footprint with our existing aircraft fleet. They include:



- Variable Flight Speed: By adapting cruise speeds depending on aircraft weight and weather conditions, Cargolux aircraft save fuel with minimal impact on overall flight time.
- Continuous Descent Approach: Upon arrival at destination, the aircraft descends on a continuous slope from cruise altitude, rather than the traditional "stepped approach". The engines run at idle speed during most of the approach, which saves both time and fuel.

### Policy Incentives

Several government policies are being developed that could lead to substantial reductions in CO<sub>2</sub> emissions from the aviation sector. In particular, the implementation of more efficient air traffic management systems, such as Europe's Single European Sky, would lead to a reduction of up to 12% in CO<sub>2</sub> emissions as a result of optimized aircraft routings.



A suitable management of airport infrastructure will also help to avoid congestion and unnecessary emissions on the ground from queuing aircraft.

The EU Emissions Trading Scheme (EU-ETS), which will be extended to aviation from 2012 onwards, is a market based measure that aims at encouraging fuel efficiency by requiring operators to purchase credits for a portion of the CO<sub>2</sub> they emit.

While it may lead to further efficiency gains, notably by encouraging the replacement of ageing fleets with more efficient aircraft, this measure would need to be applied at global level in order to reach substantial effectiveness.

Building a sustainable air transport system is today a universally recognized necessity. Cargolux firmly believes that achieving this objective will require the collaboration of all partners in the transport chain, including airlines, aircraft and engine manufacturers and government authorities. Cargolux welcomes the positive momentum that has been initiated on all parts and looks forward to a productive collaboration that is already bearing its fruit.

**For additional information please contact:**  
sustainabilityweb@cargolux.com  
or visit: [www.enviro.aero](http://www.enviro.aero)

