



CLIMATE CHANGE :

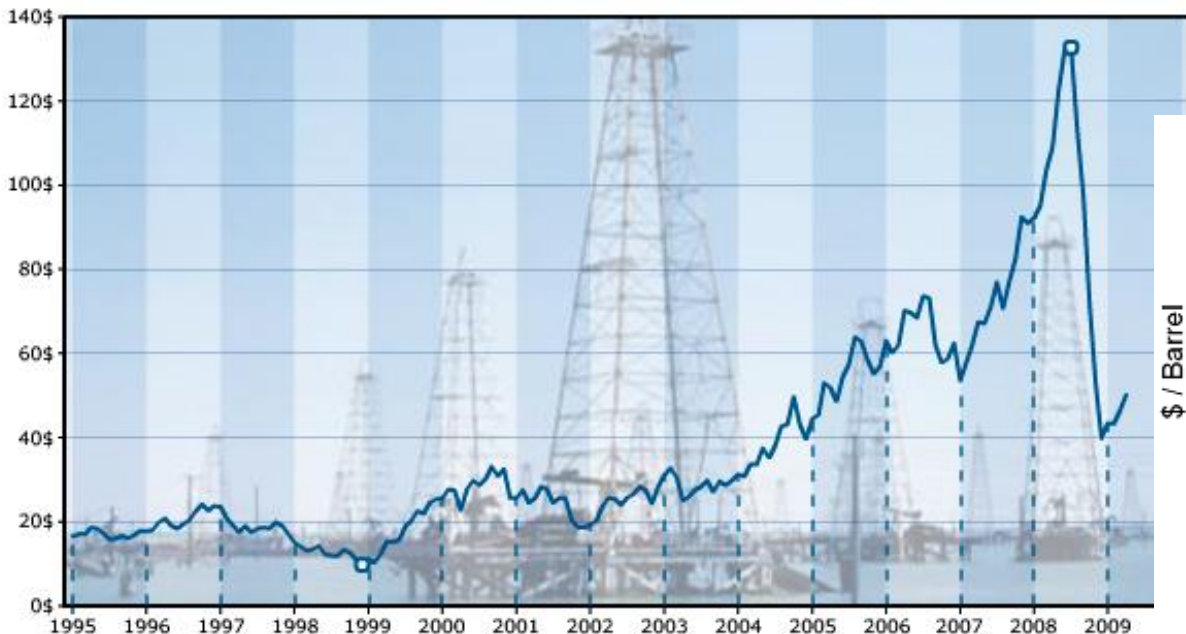
NEW JOBS AND NEW SKILLS

BUT A HUGE CHALLENGE INTO THE CONTEXT OF THE ECONOMIC CRISIS

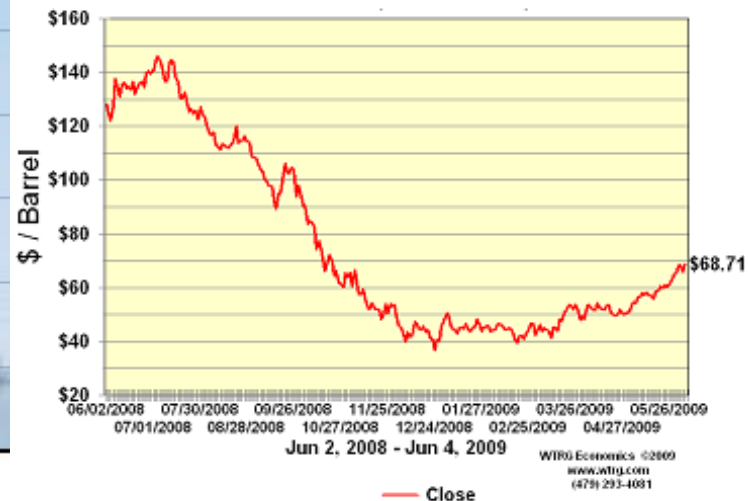
THE AIR TRANSPORT CASE

THE FINANCIAL CRISIS HAS SHARPLY INCREASED CHANGE FOR ENTERPRISES BUT THE MOVE HAD STARTED BEFORE

Brent Oil Price



Brent Crude Oil



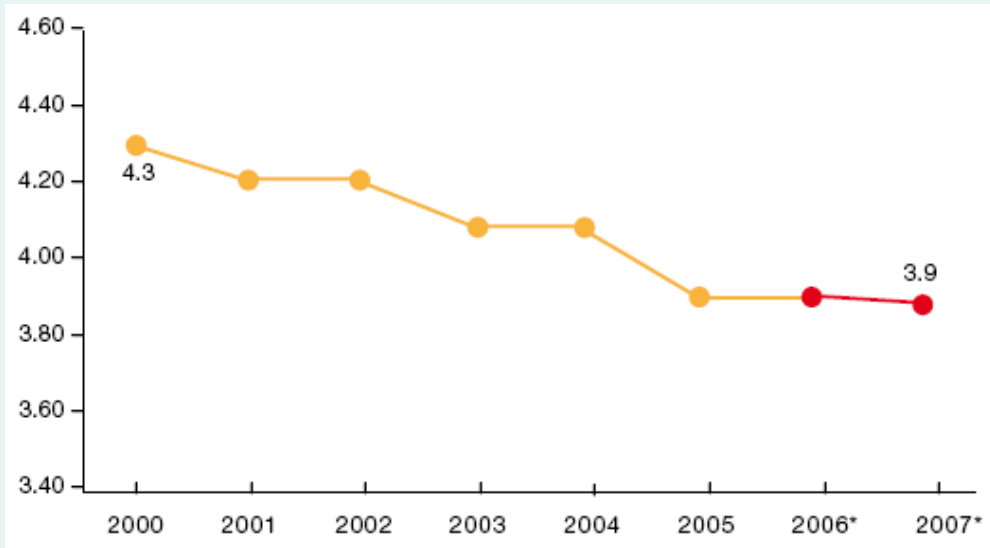
FUEL EXPENSES FOR AIR TRANSPORT

System-wide global commercial aviation	2000	2001	2002	2003	2004	2005	2006	2007	2008E	2009F
EXPENSES, \$ billion	318	319	311	323	376	409	450	488	527	464
Fuel	46	43	40	44	65	91	107	136	168	116
% of expenses	14	13	13	14	17	22	24	28	32	25

Source: ICAO data to 2007. IATA 2008-9 forecasts

THE CONTEXT OF AIR TRANSPORT : FUEL CONSUPTION IS AN ONGOING STRATEGIC ISSUE FOR THE LAST 10 YEARS

Air France-KLM fuel efficiency (litre per passenger-kilometre)

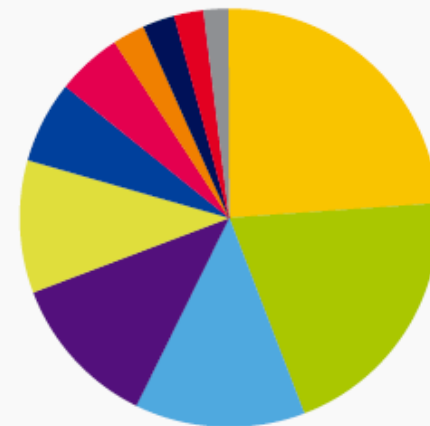


**REDUCING FUEL CONSUPTION IS A KEY GOAL
 IN A SKYROCKETING FUEL PRICE TREND**

LESS FUEL CONSUPTION DECREASES CO2 EMISSIONS

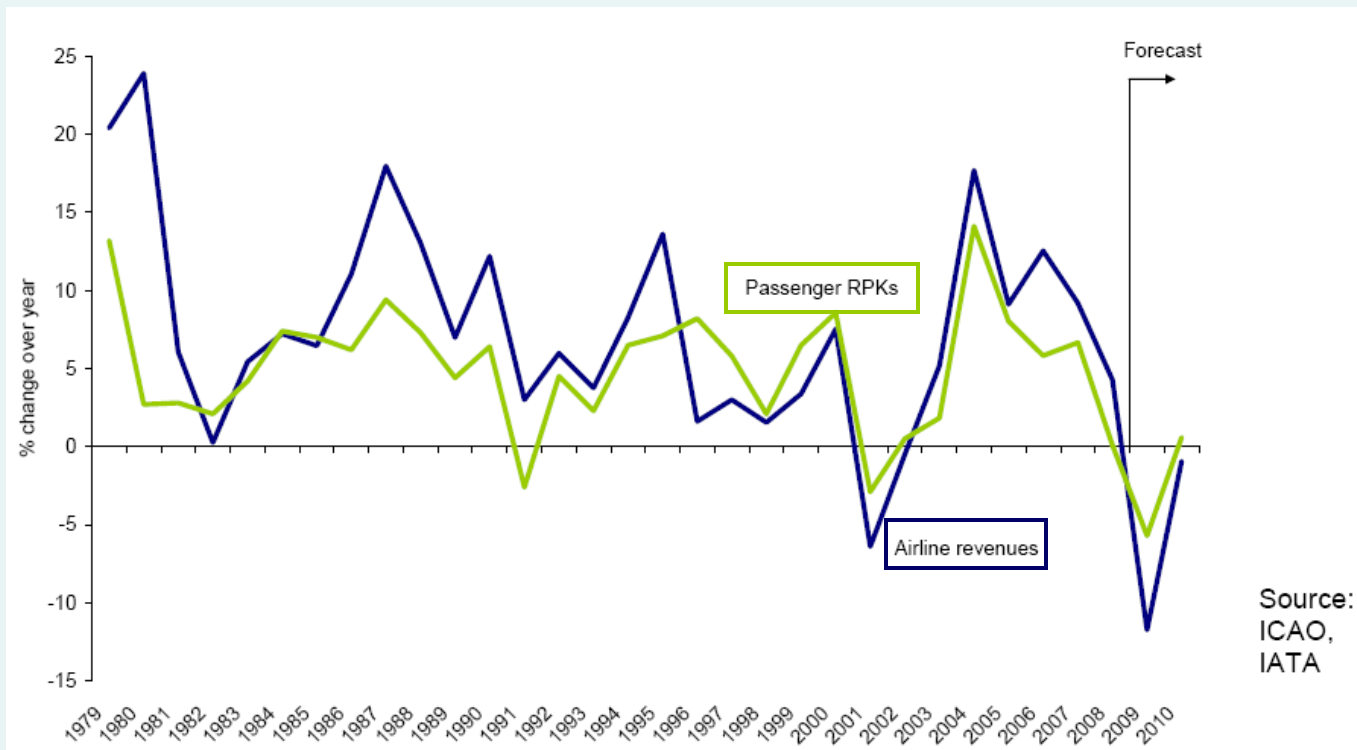
**HOWEVER, AIR TRANSPORT HAS TO IMPROVE ITSELF
 EVEN IF THE CO2 EMISSIONS LEVEL IS 2%**

Global CO₂ emissions



- Land use change & forestry: **25%**
- Building light and heat: **20%**
- Road transport: **13%**
- Other electricity and heat: **12%**
- Other energy: **10%**
- Chemicals: **6%**
- Cement: **5%**
- Industrial processes: **3%**
- **Air transport: 2%**
- Other industry: **2%**
- Other transport: **2%**

THE CRISIS FOR AIR TRANSPORT



Source:
ICAO,
IATA

CLIMAT CHANGE AND EMISSION TRADE SCHEME (ETS)

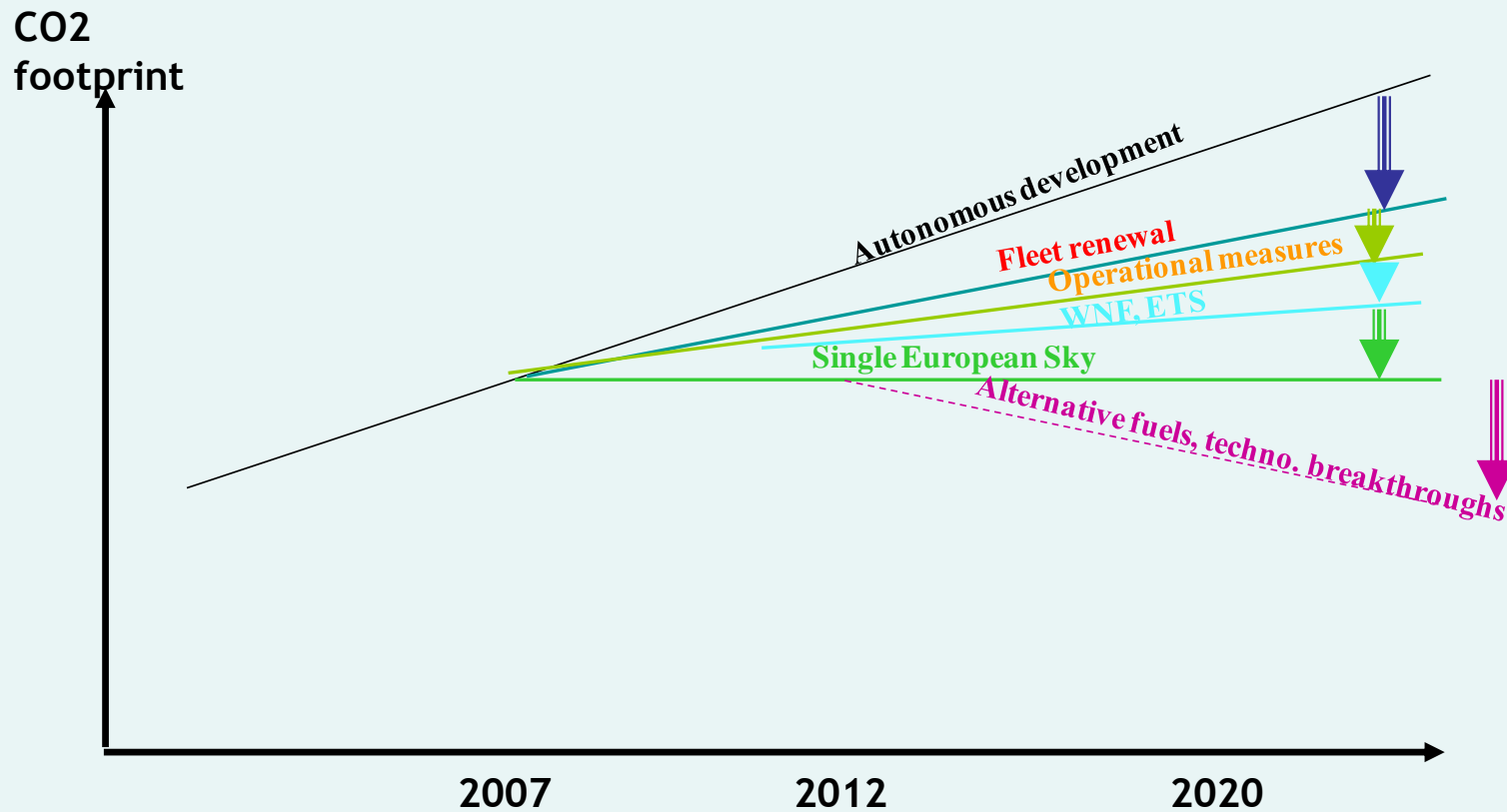
Cost for the European Airlines for two different scenarios with two different carbon prices (source AEA)

Period	Scenario 1, 30 Euros/t CO ₂ , 15% auctioning 2012-2020	Scenario 2, 50 Euros/t CO ₂ , 15% auctioning 2012-2020
2012-2020		
Cost- Purchasing	31,4 Bill. Euros	51 Bill. Euros
Cost- Auctioning	8,4 Bill. Euros	14 Bill. Euros
Total costs	39,8 Bill. Euros	65 Bill. Euros

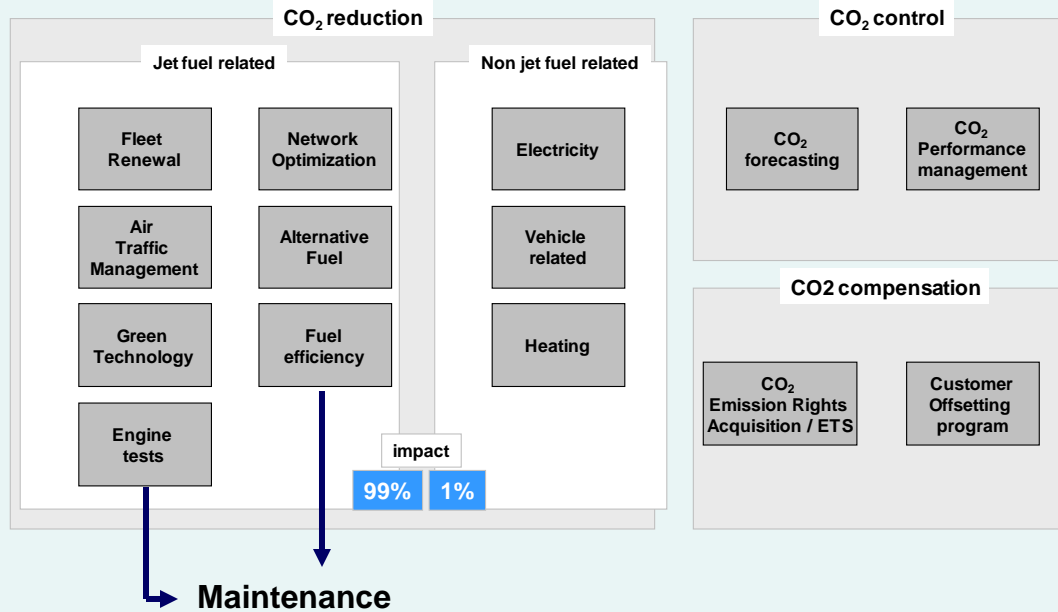
Cost if the free allowances have to be paid
 Cost to be paid following the European agreement 4
 Cost if all allowances have to be paid

THE FIGHT AGAINST CLIMATE CHANGE AND THE CRISIS HAVE UPSET CERTAINTY OF THE BUSINESS MODEL AND MOVED ENTERPRISES TOWARDS NEW SKILLS OR JOBS

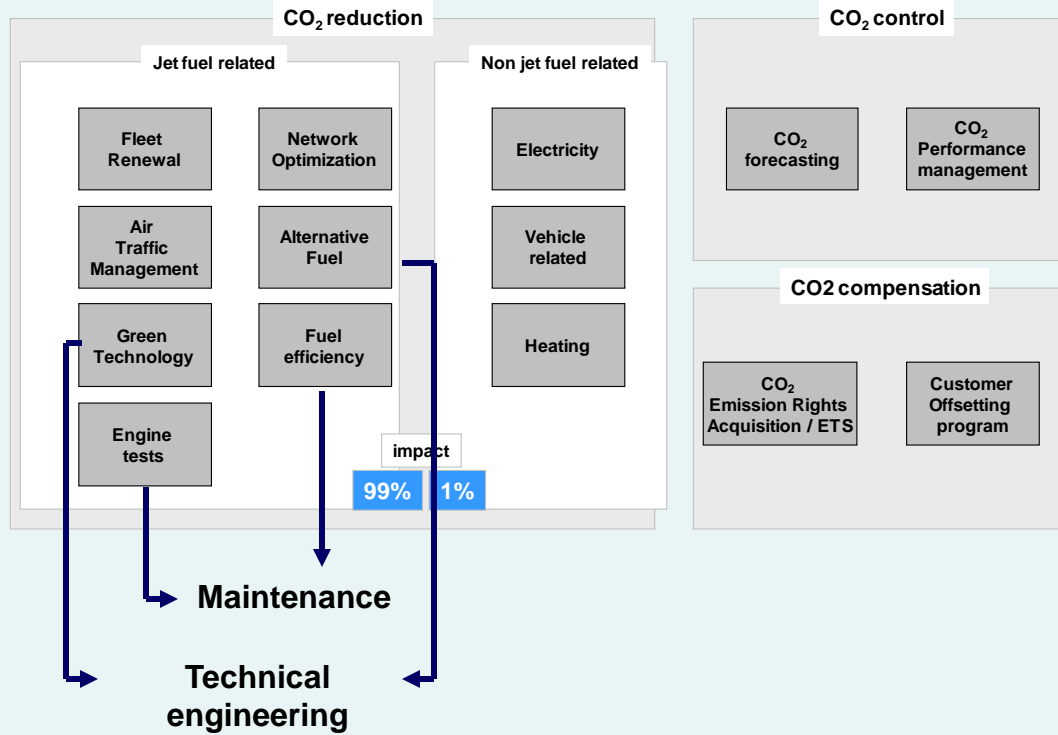
DIFFERENT TRACKS TO REDUCE CO2 INVOLVES DIFFERENT SKILLS AND JOBS



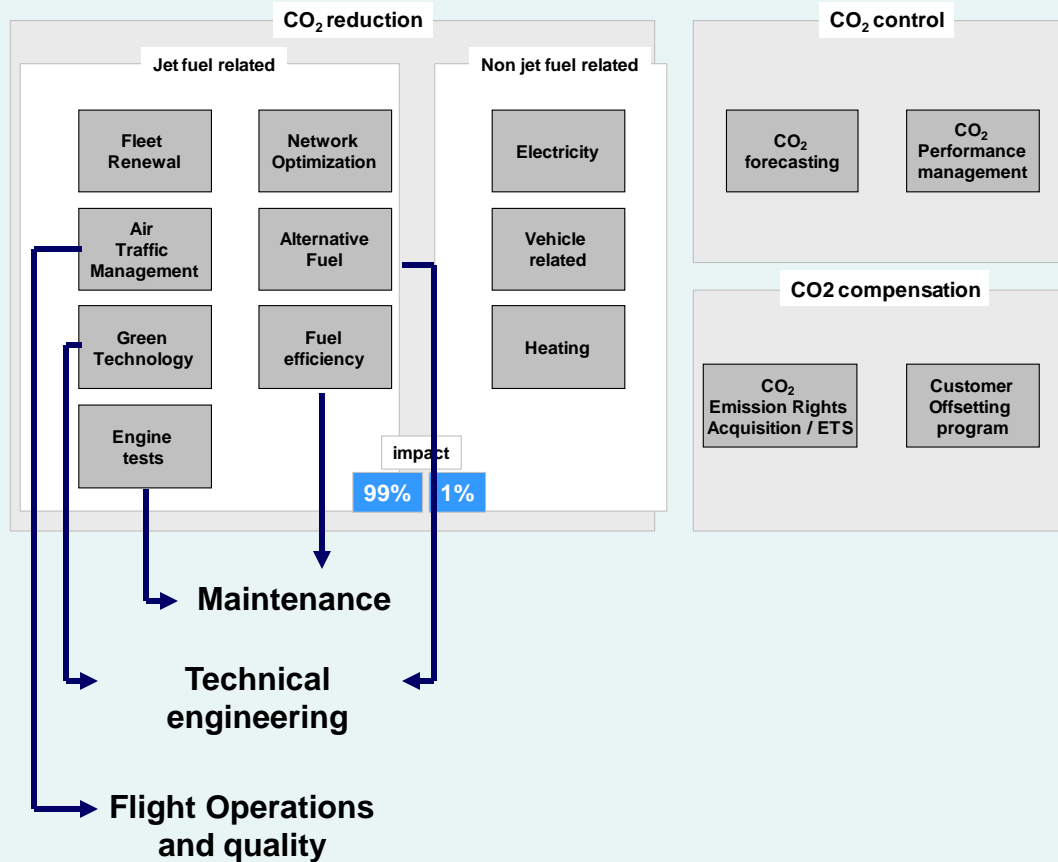
**CO₂ Diagnostic action
(carbon risk assessment and management)**



**CO2 Diagnostic action
 (carbon risk assessment and management)**

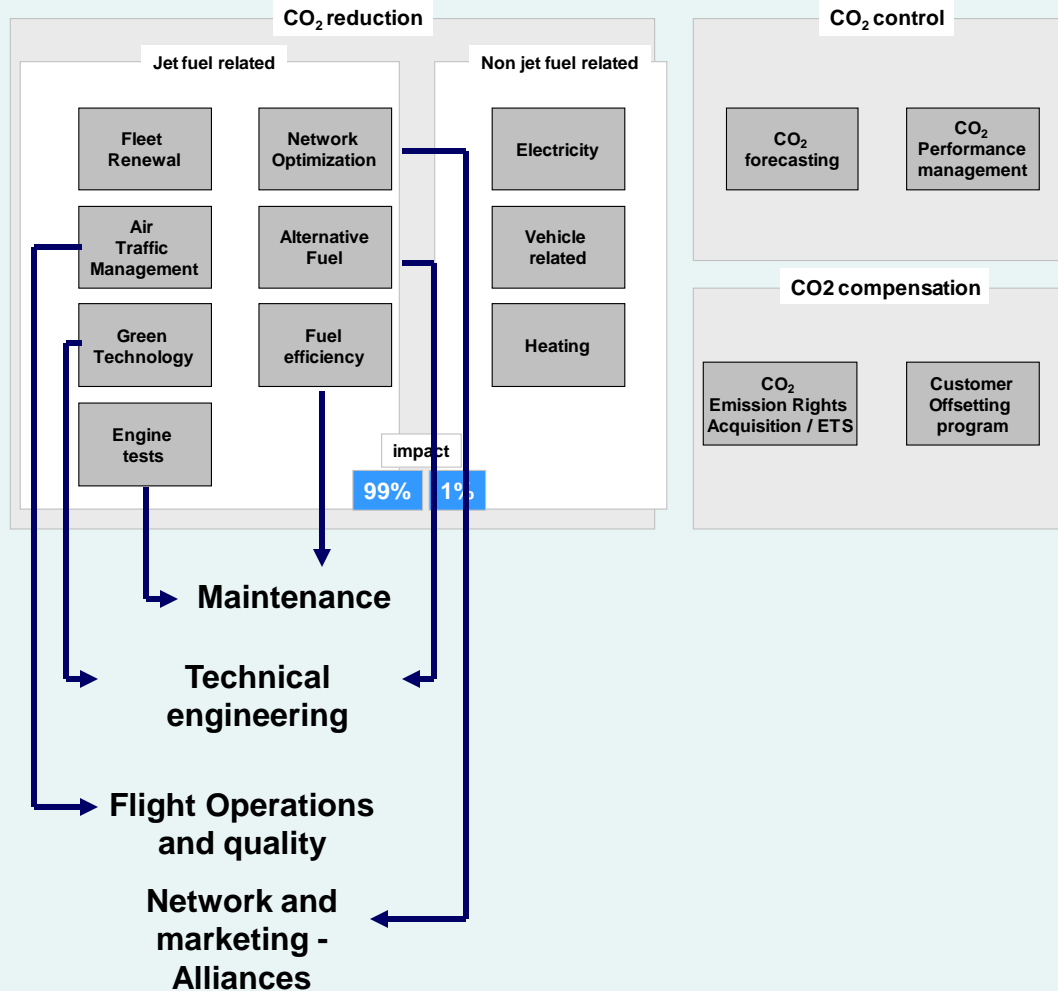


**CO2 Diagnostic action
 (carbon risk assessment and management)**

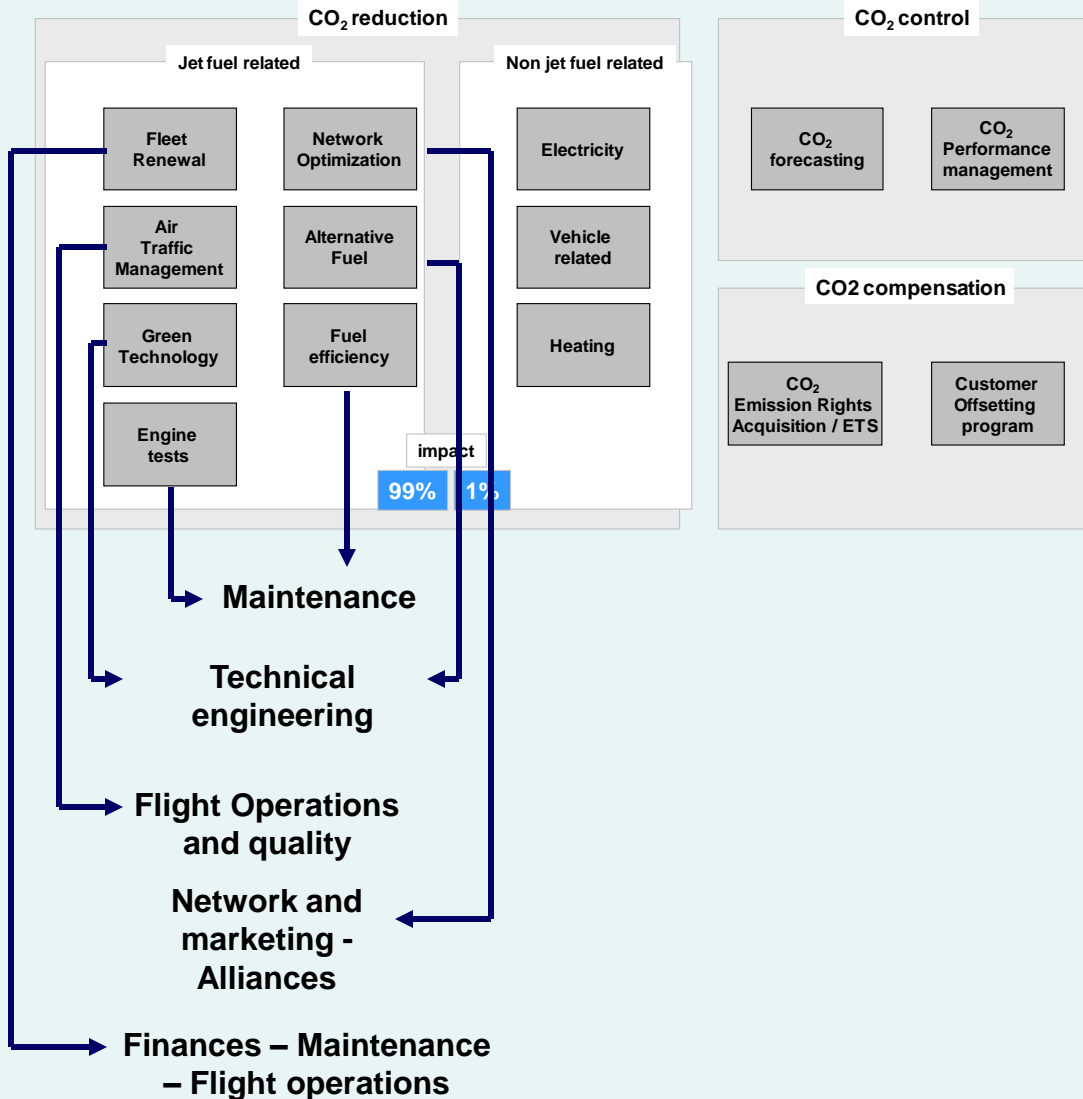


A PROCESS THAT INVOLVES MANY ACTORS

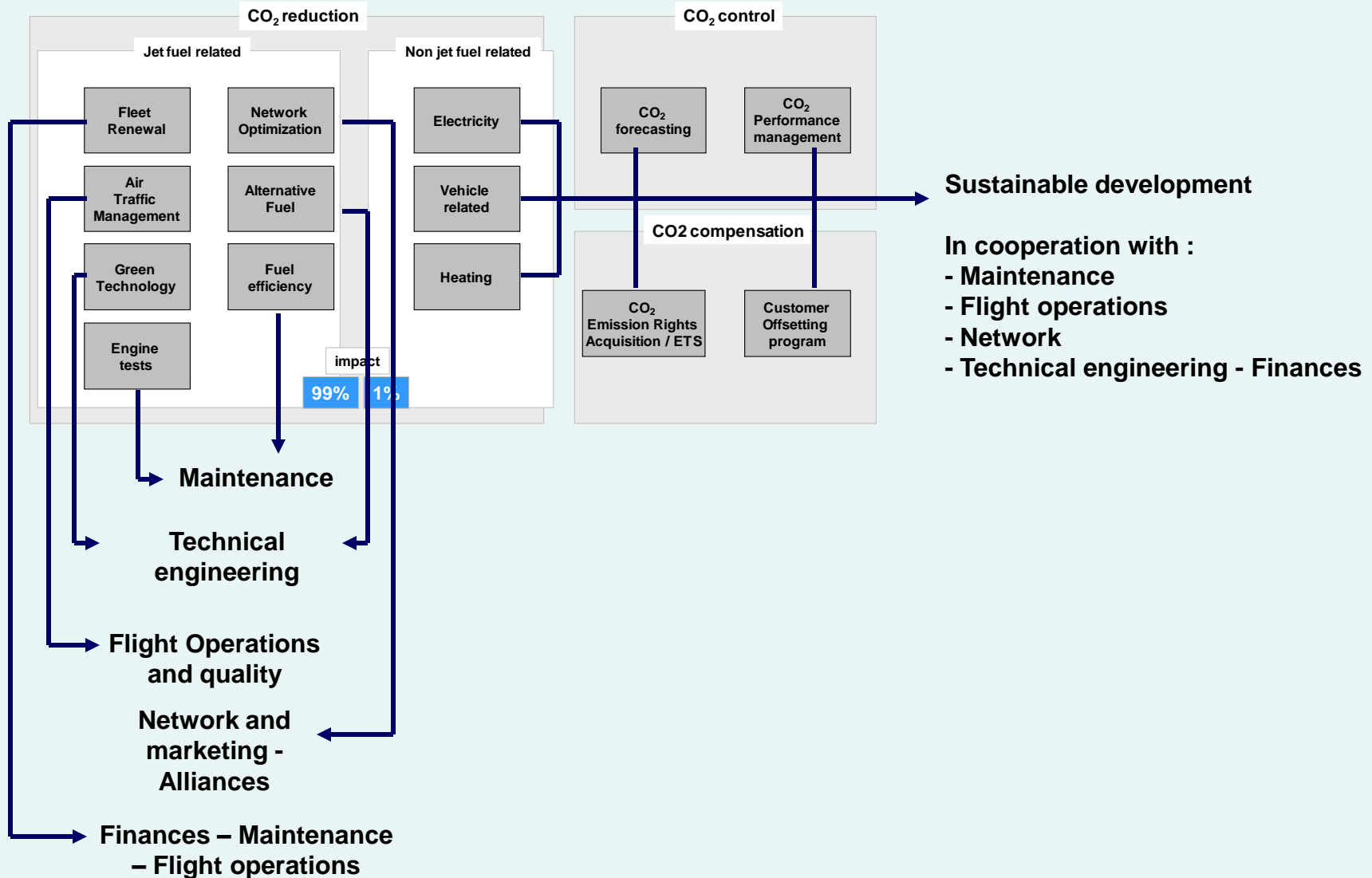
CO2 Diagnostic action (carbon risk assessment and management)



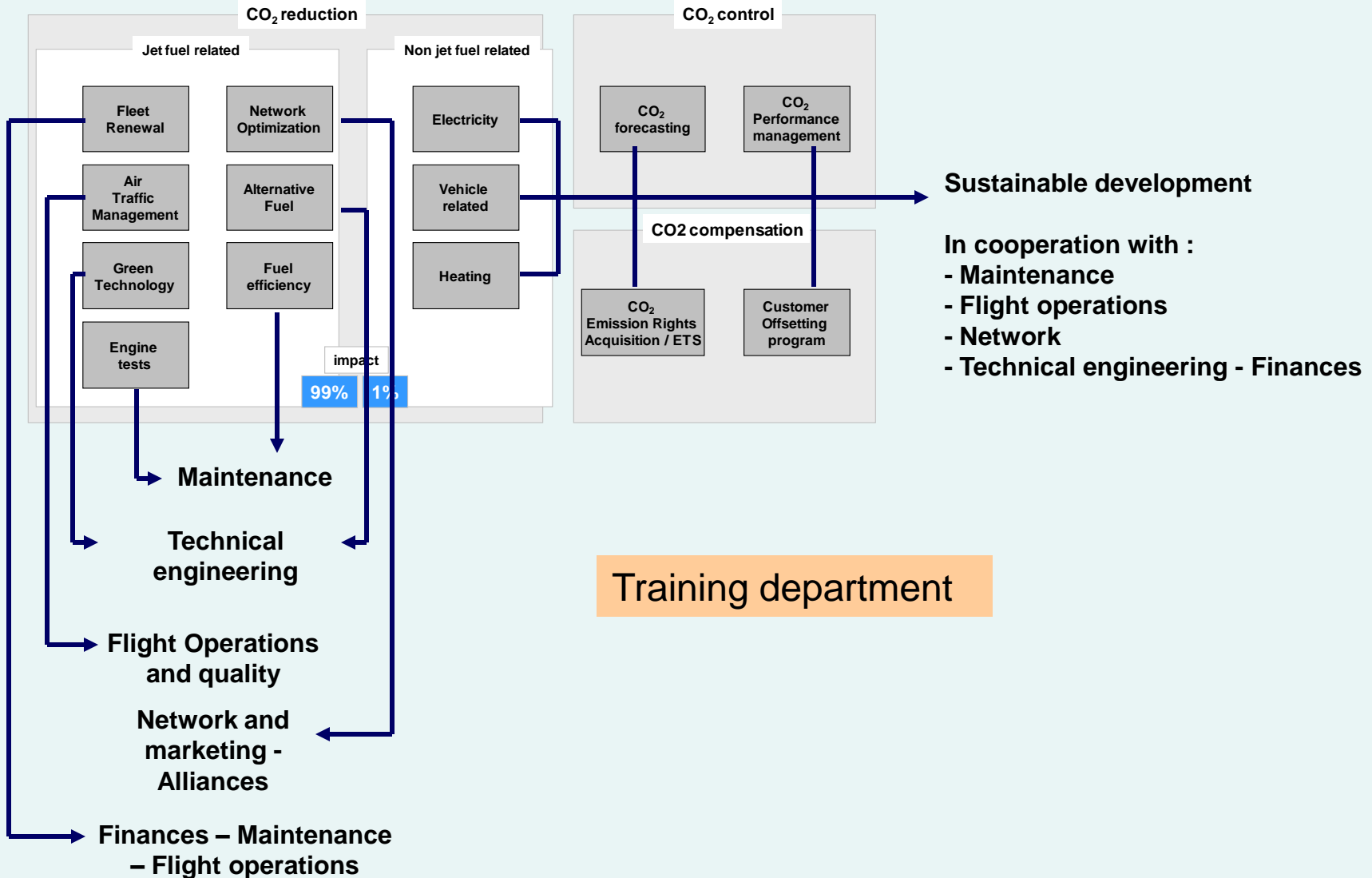
**CO2 Diagnostic action
 (carbon risk assessment and management)**



**CO2 Diagnostic action
 (carbon risk assessment and management)**



**CO2 Diagnostic action
 (carbon risk assessment and management)**



- Fleet renewal
- New standards, new equipments (avionics, mechanics, electric vehicles in the airport areas, pollution checking)
- Premises in accordance with new norms
- New behaviour regarding public / individual transport and commuting
- Optimising route and air traffic management with external partners and adapting flight procedures
- Reducing in-flight emissions
- Reducing weight of on-board equipment
- Carrying the optimum quantity of fuel
- Fuel-efficient engines
- Reducing ground level emissions
- Engaging the company with a wide range Stakeholders by initiatives aimed at customers and NGOs
- Research on bio-fuels

THE CRISIS AND THE NEW CLIMATE ENERGY PACKAGE WILL FORCE A CHANGE OF THE PRIORITIES TO AVOID NEW COSTS

TRAINING TODAY

Air France training represents 3,070,000 hours and €271 million in 2007 (**10.8% of the total gross wages**).
50% of these training hours are spent on technical and regulation.

Ground staff : 6.7 % of the ground staff's gross wages

New aircrafts involve new skills and new technologies for servicing and maintenance. Staff must accommodate to new aircraft like the A380 with a double-deck that needs a special terminal.
'Droit Individuel à la formation (DIF) – individual training rights' (66,970 hours)

Cabin crew : 10.8 % of the cabin air crews' gross wages

Training for in-plane equipment, mobility and safety.

Technical Air crew : 20% of the pilots' gross wages

Pilots are a key process both for optimizing routes to reduce CO2 and basic flying training to use less fuels. Staff who have worked on old aircrafts have to be trained on new technologies, cabin equipments, management of passengers etc.

TRAINING TOMORROW

New schemes for taking into account the new needs will be setup but at constant cost, maybe less due to the crisis. This will involve a change for training not directly linked to air transport skills.

Aviation - employment and GDP¹¹ 2007

	World	Africa	Asia/Pacific	Europe	Latin/ Caribbean	Middle East	North America
Jobs (in millions)							
Direct/indirect/induced	14.7	0.4	3.2	4.2	0.7	0.5	5.7
Catalytic	17.1	2.9	7.3	3.4	2.0	0.7	0.9
Total	31.9	3.3	10.5	7.6	2.7	1.1	6.6
GDP (in billions US\$)							
Direct/indirect/induced	1093.0	9.2	154.1	331.3	22.2	17.6	558.6
Catalytic	2463.7	57.8	653.2	895.4	135.1	54.9	667.3
(of which tourism)	387.6	18.8	70.7	194.6	23.0	10.8	69.8
Total	3556.7	67.1	807.4	1226.6	157.3	72.5	1225.9

11- Oxford Economics updated data for ATAG (2007)

Charles De Gaulle Roissy airport provides 280,000 direct or indirect jobs of which 64,000 are directly for Air France. Schiphol Airport in the Netherlands provides 120,000 direct and indirect jobs of which 30,000 are directly for KLM.

The direct and indirect jobs are dependent on customer numbers: 1 million new customers, on average, are responsible for around 4,000 direct and indirect jobs (1,100 direct jobs, 1,100 indirect jobs by close providers and external services, 1,800 jobs by “catalytic” outlying activities)

BUT THE MOVE IS DONE AND WE MUST SUCCEED

Thank for your attention