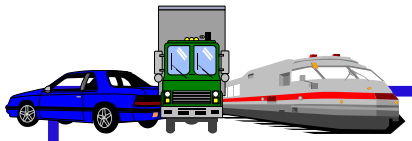


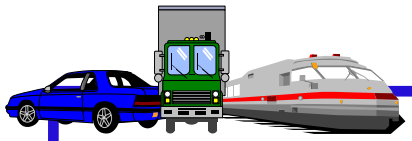
GHG, ENERGY & TRANSPORTATION:

THE FRENCH GENERAL FRAMEWORK

EU-Twinning Project TR03-EY-01

« Improvement of Energy Efficiency in Turkey"

Jérôme CICILE
ADEME
Délégation Régionale
Provence Alpes Côte d'Azur



ADEME

Environment and Energy Management Agency

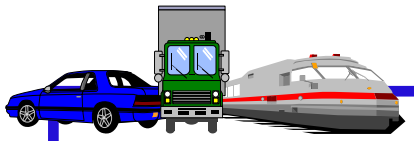
STATUS: Industrial and commercial public institution placed under the joint supervision of the ministers of the Environment, Energy and Research.

AREAS OF INTERVENTION: Air, Noise, Waste, Energy, Environmental Management, Polluted Sites and soils, Transport.

MISSION: Within the frame of public policies defined by the government, the Agency's mission is to stimulate, animate, coordinate, facilitate and perform operations aiming at the environment protection and energy management.

STAFF: 850 employees in 3 central offices (Angers, Paris and Valbonne), 26 regional branches, 3 representations in the French overseas territories and 1 office in Brussels.

2004 budget : 331 M€
Action budget : 262 M€
Operating budget : 69 M€

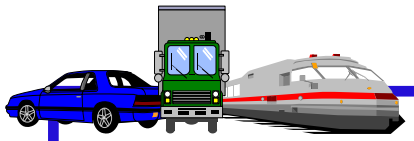


ADEME
Environment and Energy Management Agency

Background: 30 years of sustainable development

Key dates

1974	**Establishment of the *Agence pour les Economies d'Energies* (AEE) (Energy Savings Agency)**
1975	**Establishment of the *Agence Nationale pour la Récupération et l'Elimination des Déchets* (ANRED) (National Waste Recovery and Disposal Agency)**
1978	**Establishment of the *COMmissariat à l'Energie Solaire* (COMES) (Solar Energy Commission)**
1980	**Establishment of the *Agence pour la Qualité de l'Air* (AQA) (Air Quality Agency)**
1982	**Establishment of the *Agence Française de la Maîtrise de l'Énergie* (AFME) (French Energy Management Agency) by merging AEE and COMES**
1991	**Establishment of the *Agence De l'Environnement et de la Maîtrise de l'Energie* (ADEME) (Environment and Energy Management Agency) by merging ANRED, AQA and AFME.**



ADEME

Environment and Energy Management Agency

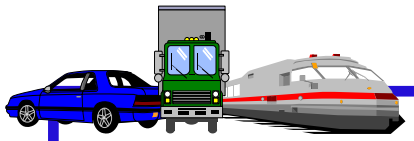
Helping society to protect the environment and manage energy

ADEME has **many competencies** to accomplish its mission:
• scientific and technical competencies to encourage more environmentally-friendly solutions,
• expert assessment and consultancy competencies to guide decision-makers in their projects and facilitate their choices,
• “resource centre” competency capitalizing the results of local experience to encourage the dissemination of best practices to all members of society.

These competencies enable **ADEME** to **work in highly diverse ways** which constitute the specific aspects of its role:
• guidance, organisation and funding of research programmes,
• consultancy and expert assessments,
• development of methodological tools and dissemination of best practices,
• funding of decision-making aids, exemplary operations and projects,
• training, information, communication and awareness-raising actions.

All sectors of society are concerned: businesses, local authorities, government departments, non-governmental organizations (NGOs), the general public, international partners.

To implement its policies and its actions, **ADEME** develops many **partnerships** with federations of professionals, major companies, local authorities or NGOs and with equivalent structures in other countries.



KYOTO INTERNATIONAL COMMITMENTS

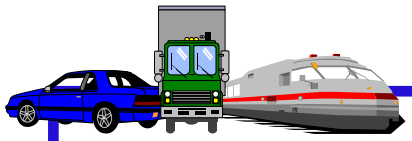
ADEME

Kyoto (1997) First Real Commitment. Launched FEBRUARY 2005
Average Emissions Reduction of 5,2% of GHG within 2008-2012 (Base 1990)

Les engagements du Protocole

Bulgarie	-8%
Canada	-6%
Croatie	-5%
Estonie	-8%
Etats Unis	*-7%*
Hongrie	-6%
Islande	+10%
Japon	-6%
Lettonie	-8%
Union Européenne	*-8%*
Liechtentein	-8%
Lituanie	-8%
Monaco	-8%
Nouvelle-Zélande	0%
Pologne	-6%
République tchèque	-8%
Roumanie	-8%
Russie	*0%*
Slovaquie	-8%
Slovénie	-8%
Suisse	-8%
Ukraine	0%

Allemagne	-21%
Autriche	-13%
Belgique	-7,5%
Danemark	-2,1%
Espagne	+15%
France	*0%*
Finlande	0%
Grèce	+25%
Irlande	+13%
Italie	-6,5%
Luxembourg	-28%
Pays-Bas	-6%
Portugal	+27%
Royaume Uni	-12,5%
Suède	+4%

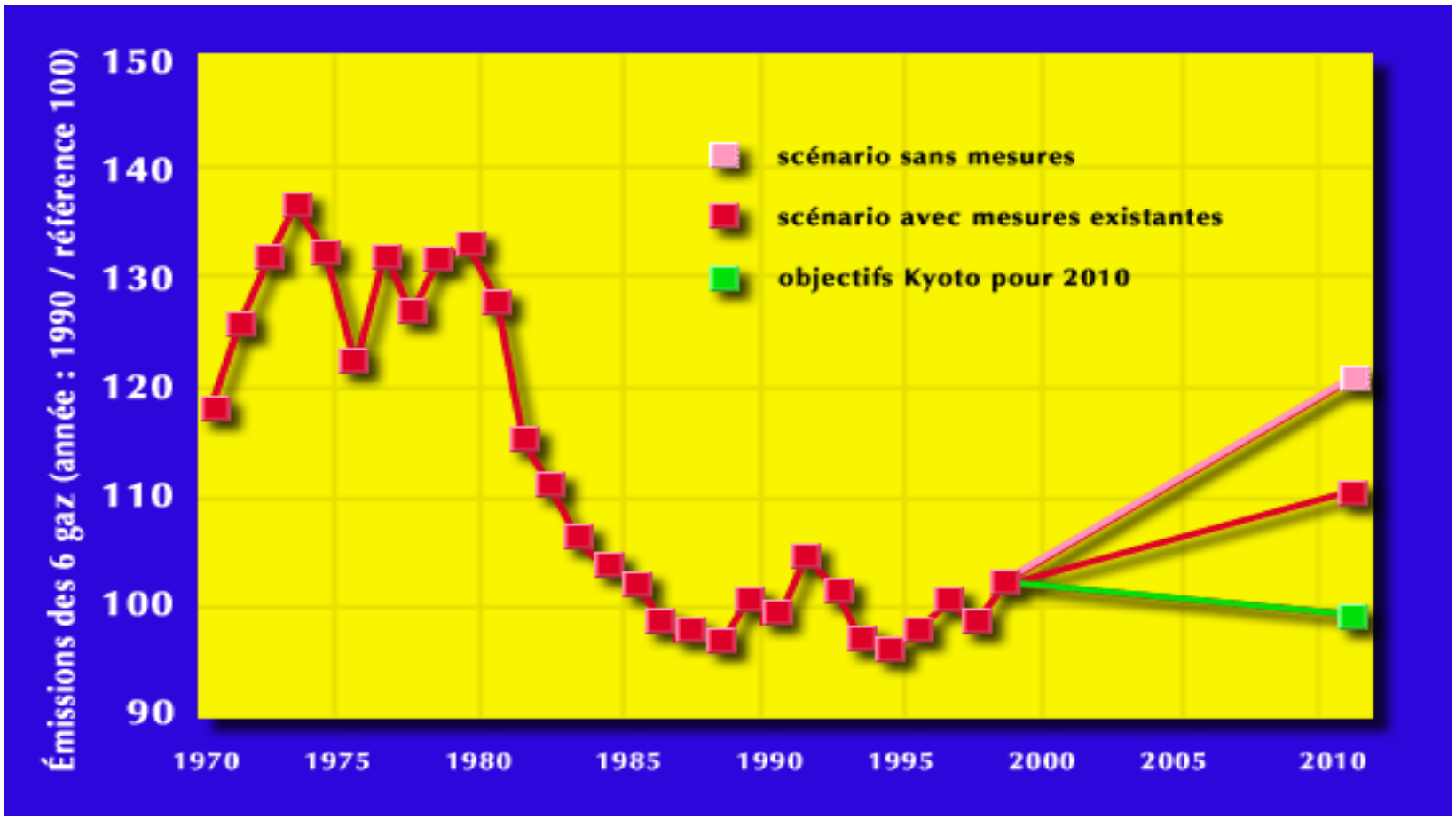


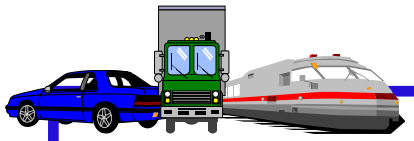
KYOTO: THE FRENCH COMMITMENT

in 2010: emissions equal to 1990
in 2050, divide them by 4 / 2000

ADEME

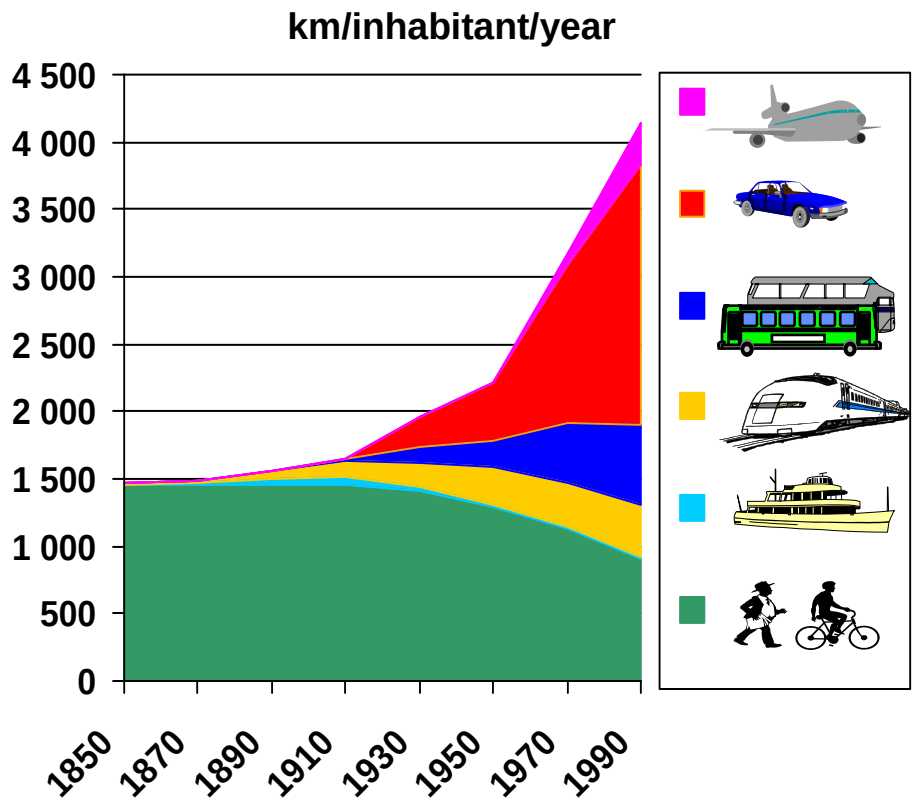
Kyoto : 6 major GHG : CO2, CH4, N20 + 3 HFC
Montreal: 4 indirect GHG: SO2, NOX, COVNM, CFC

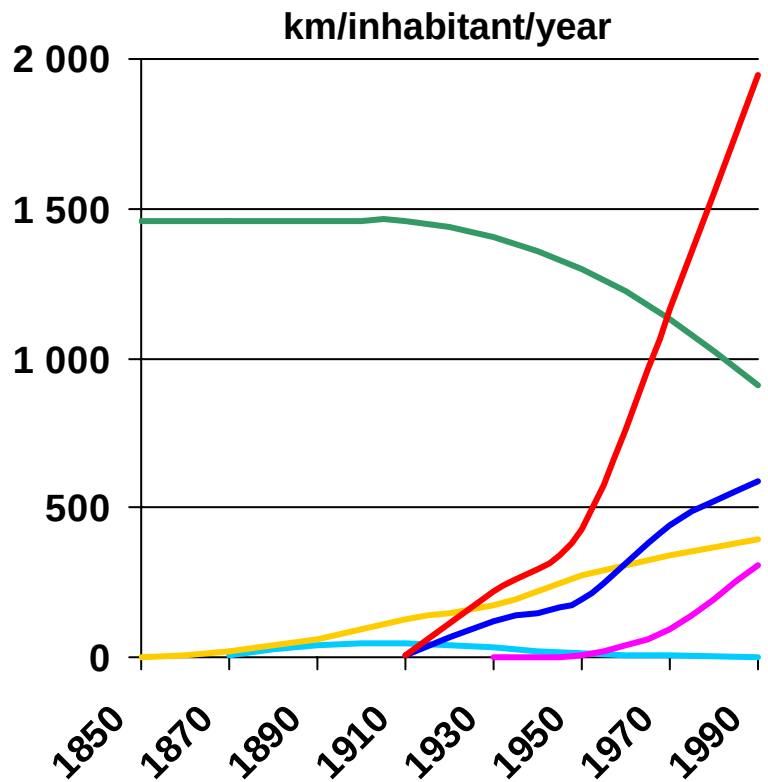




WORLD PASSENGER TRAFFIC
… AN INTENSITY X 3

ADEME

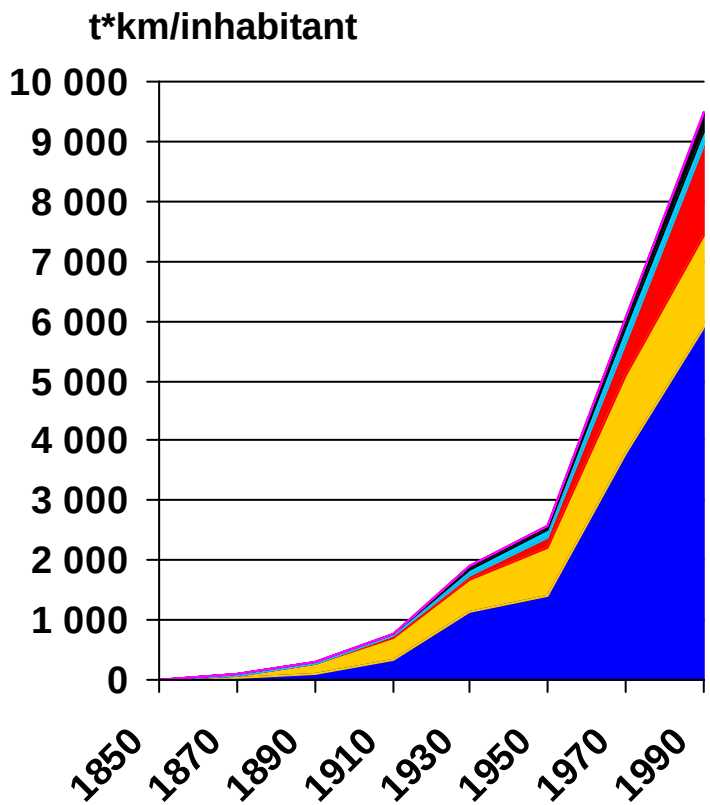


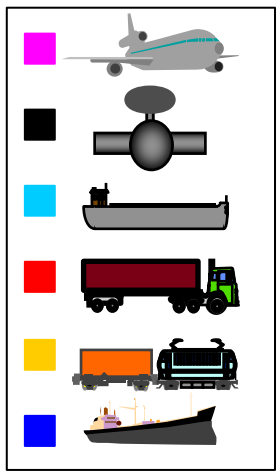


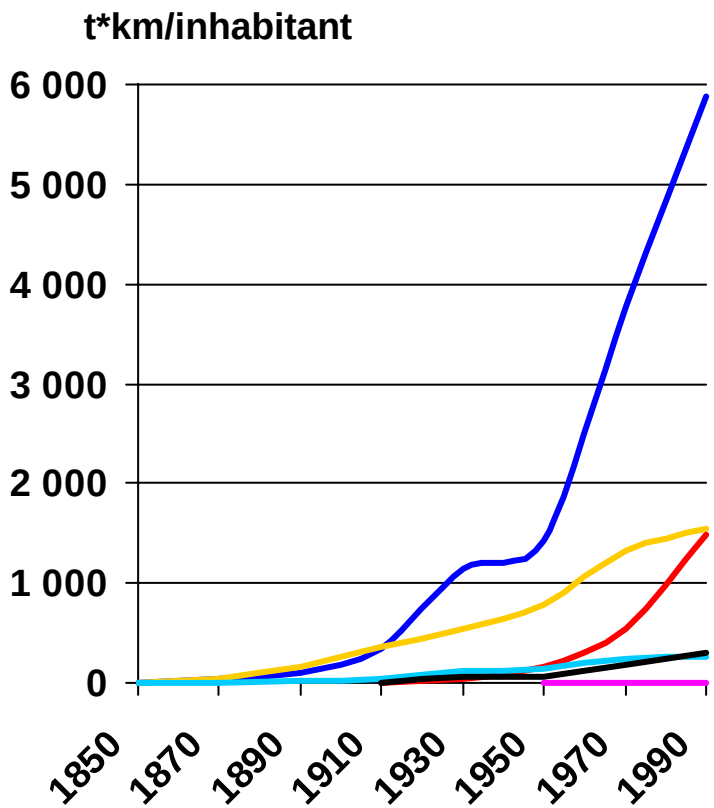
From 1 500 km/year à 4 500 km/year par inhabitant within 1,5 century !

Source: Centre for Sustainable Transportation (Canada).

WORLD FREIGHT TRAFFIC
… AN INTENSITY X 1000

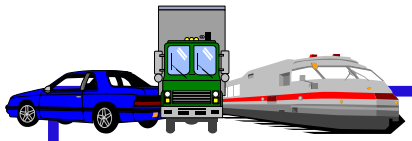






From 10 t0km/year to 10 000 t0km/year per inhabitant within 1,5 century!

Source: Centre for Sustainable Transportation (Canada).

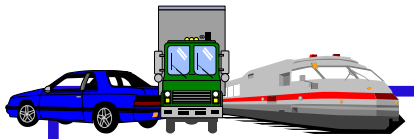


SOURCES OF GHG IN FRANCE
Evolution 1990-2001

ADEME

Area	Part in GHG in 2001	Trend since 1990
Transportation	26%	+21%
Buildings	18.59%	+17%
Industry	21.28%	-14%
Energy	11.97%	-17%
Agriculture	19.35%	-6%
Waste	2.53%	-4%

Source : MIES



GHG Emissions (Mt equivalent CO2) TRANSPORTATION '90-2003: an increasing responsability

ADEME

	1990	2003	Evolution
TRANSPORTS **France 2003 = 27%** **Europe = 21%**	**121,5**	**149,1**	**+23%**
Air Domestic only	4,6	5,2	+
Road	113,8	137	+++
Rail	1,1	0,7	-
Sea Domestic only	1,9	2,6	+
Other	0,2	0,7	+
Air Conditioning Gases	0,0	2,9	+

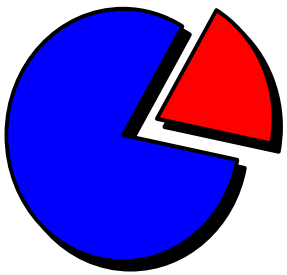
Source : MIES

ENERGY CONSUMPTION & TRANSPORTATION
AN INCREASING SHARE

ADEME

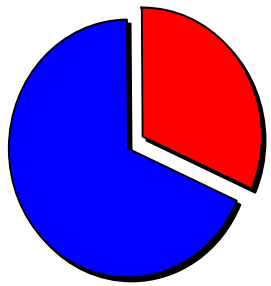
FINAL ENERGY CONSUMPTION

1973



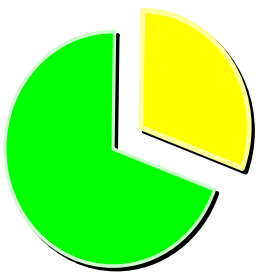
133 Mtep

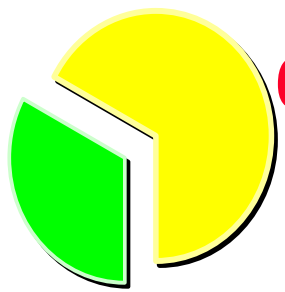
2004



161 Mtep

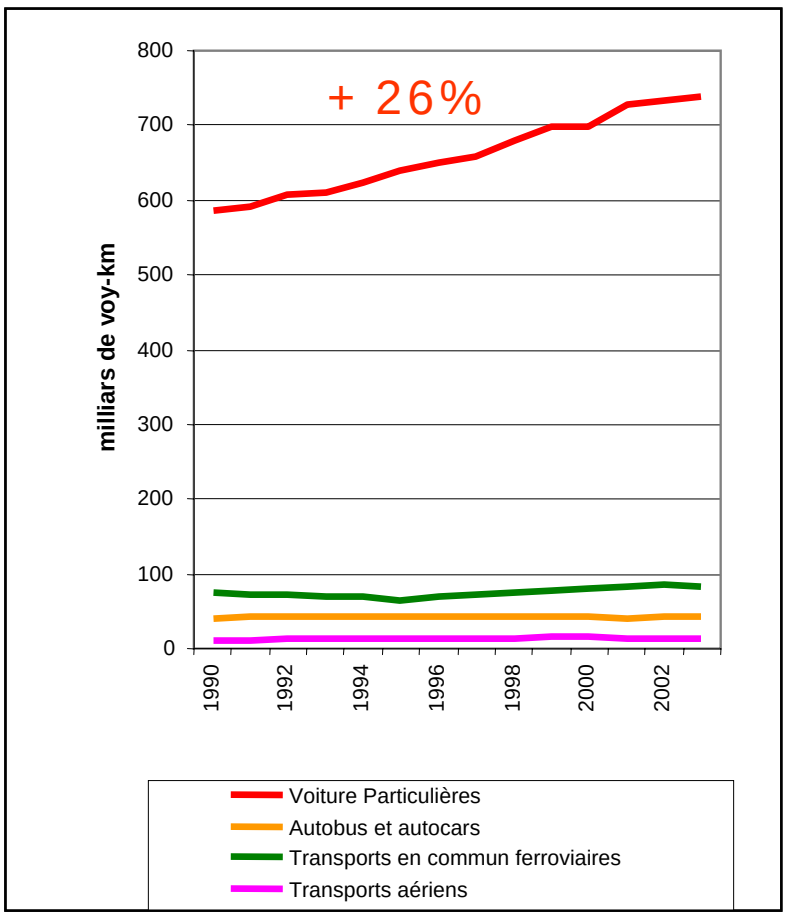
FINAL ENERGY CONSUMPTION OF FOSSIL FUELS





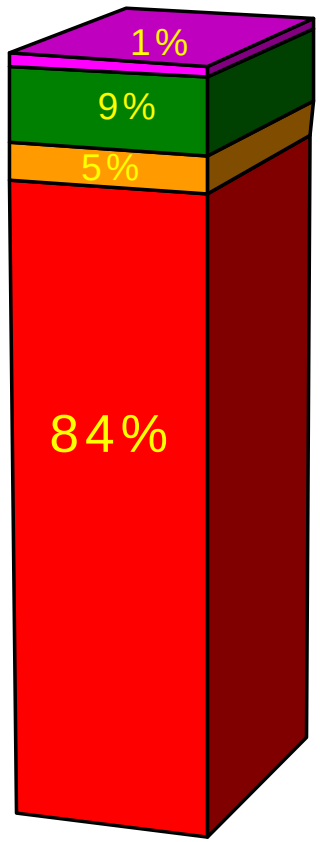
Source: 2005, DGEMP - OE, L'énergie en France Repères

TRIP REPARTITION PAR MODES France
… Heavy Growth of Private Cars

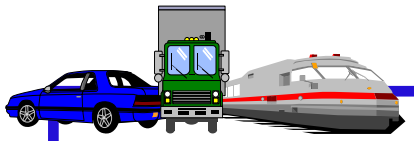


2003

877 Billions of pass-km

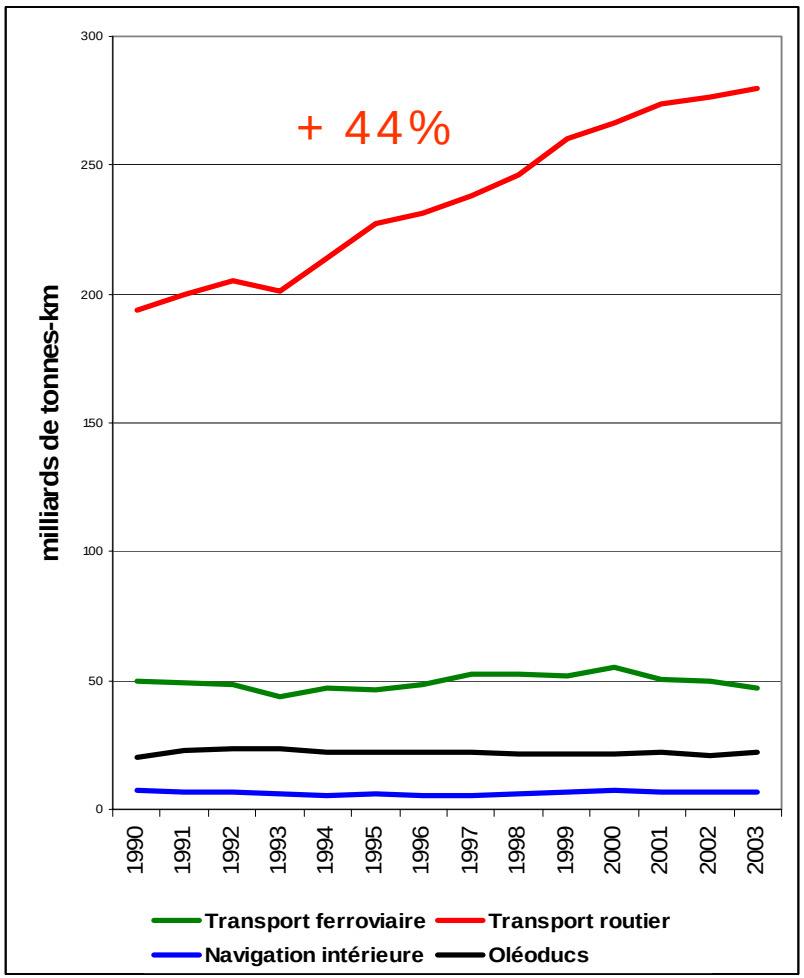


Source: 2004, DAEI-SES-Insee, Les transports en 2003, 41ème rapport de la CCTN



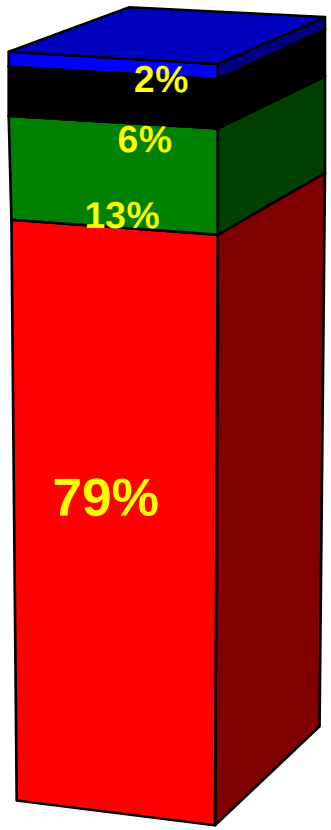
FREIGHT TRAFFIC France
… Heavy Growth of Road Transport

ADEME



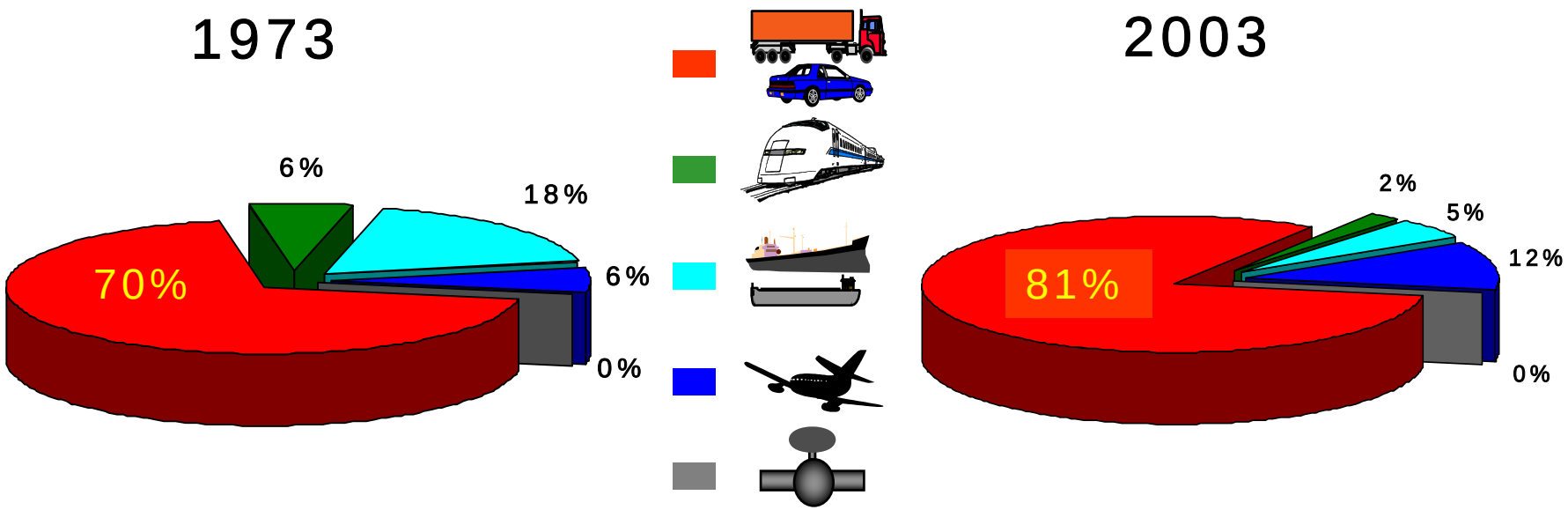
2003

356 Billion t-km



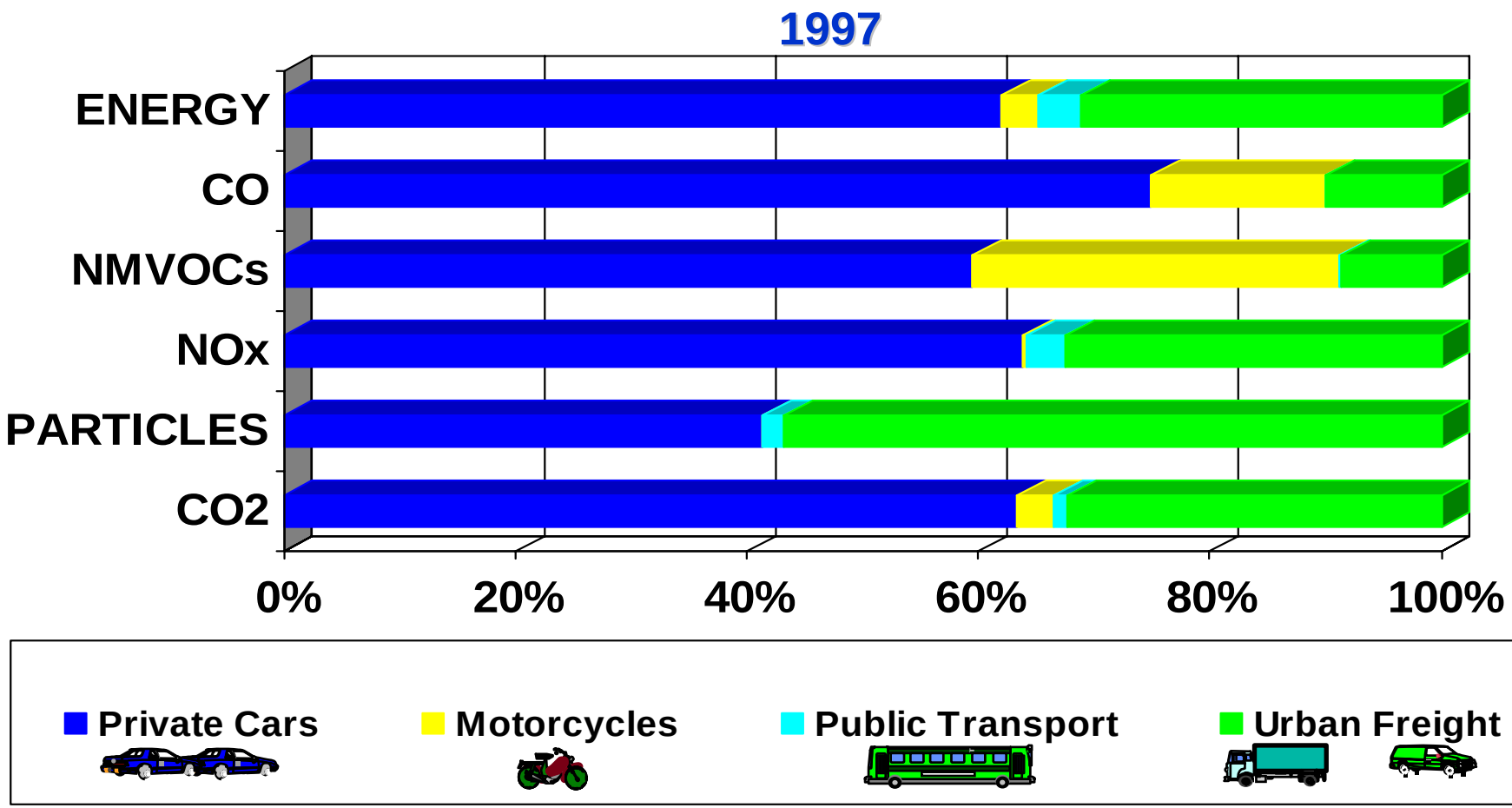
Source: 2004, DAEI-SES-Insee, Les transports en 2003, 41ème rapport de la CCTN

ENERGY&TRANSPORTATION IN FRANCE :
ROAD TRANSPORT REMAINS THE MOST PROMINENT

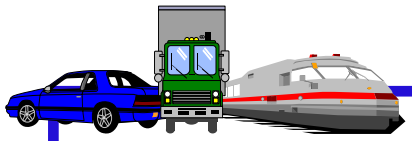


Source : 2005, DAEI-SES, Mémento de statistiques des transports.

URBAN TRANSPORTATION :
WHO IS RESPONSIBLE FOR WHAT ?



Source DAEI/SESADEME/ impact COPERT 1998

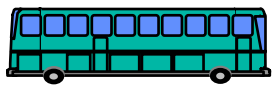


ENVIRONMENTAL EFFICIENCY
INTERURBAN TRANSPORTATION 2000

ADEME

voy.km/Kg CO2

REGIONAL TRAINS 29,4



INTERURBAN 29,1

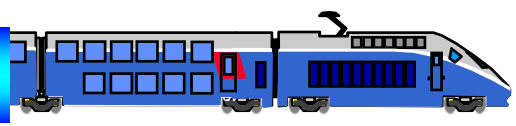
PRIVATE CARS 12,4

Moto < 125 cm3 9,5

Moto > 125 cm3 8,9

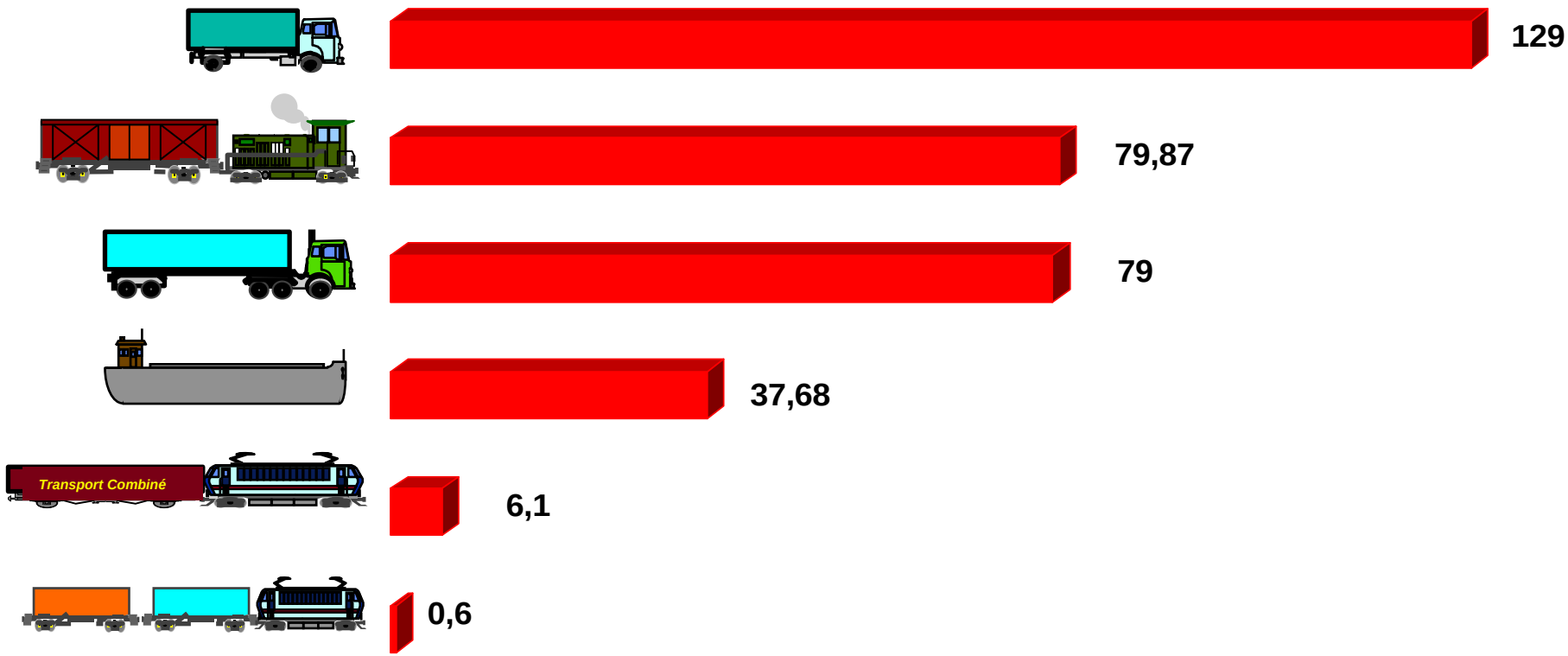
AIR 6,1

TGV : 371 voy.km/Kg CO2



Source : 2002, ADEME / Explicit

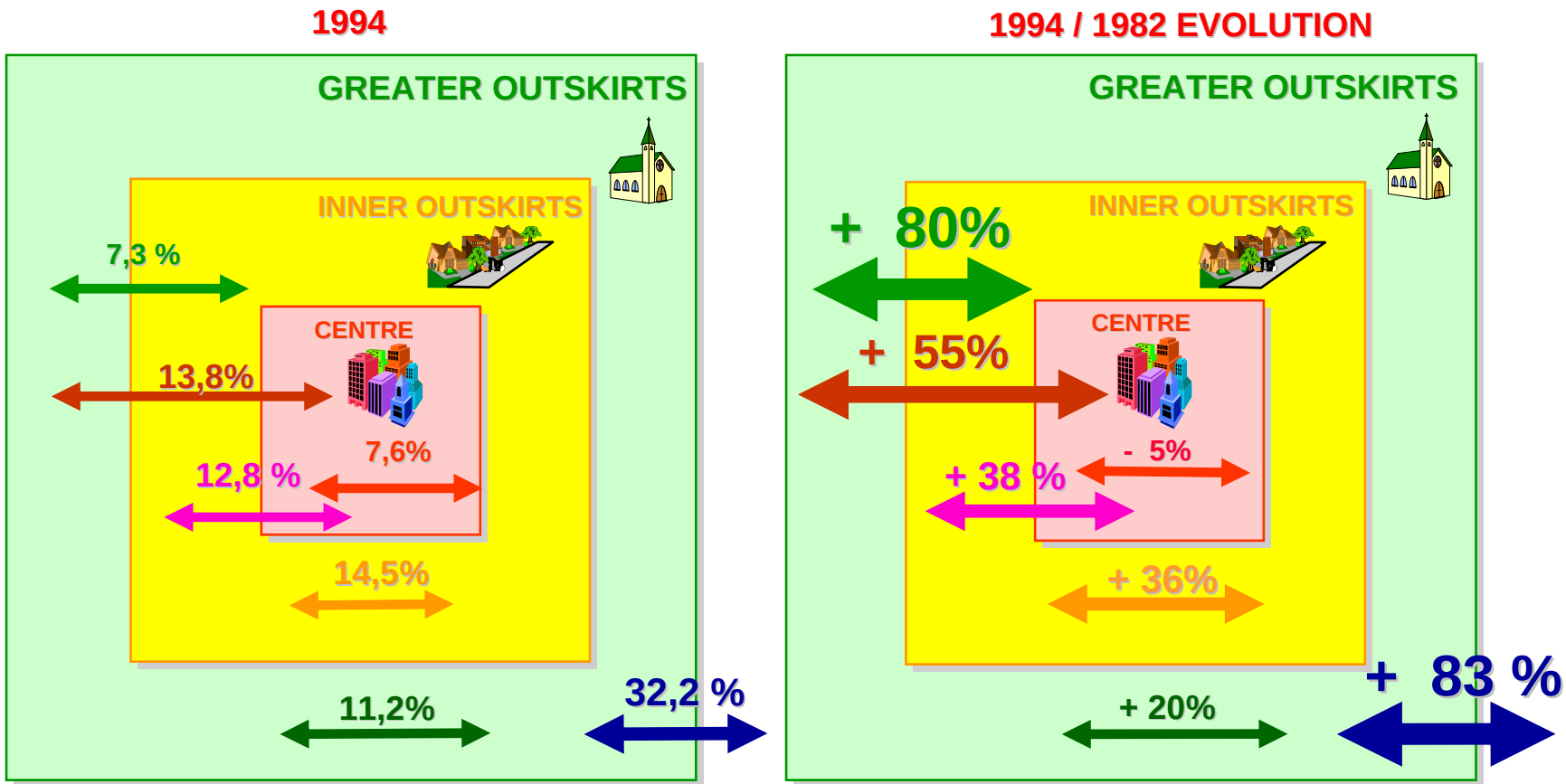
CO_2 EMISSIONS PER UNIT
INTERURBAN FREIGHT TRANSPORTATION 2000



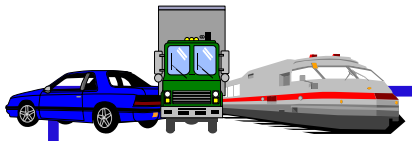
Source : 2002, ADEME / Explicit

AVERAGE TRIP DISTANCE BREAKDOWN
WEEK DAY

ADEME



Source INRETS, d'après les Enquêtes Transport INSEE-INRETS 1982 & 1994



TRIP DISTANCES BREAKDOWN

ADEME

- CAR TRIPS IN FRANCE

➡ DAILY TRIP DISTANCE : 40 km

➡ 50 % OF TRIPS < 3 km

➡ 20 % OF TRIPS < 1 km

➡ 10 % OF TRIPS < 0.5 km

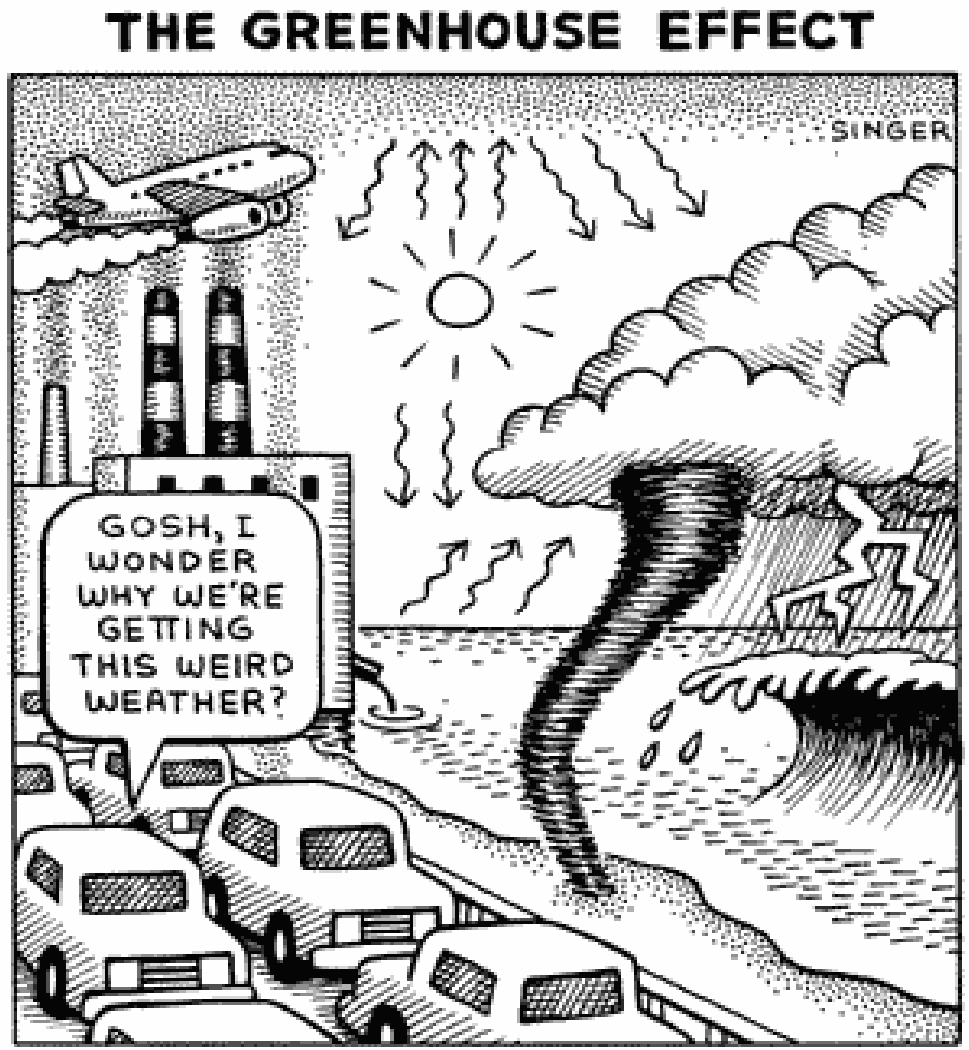
➡ Average speed : 36 km / h

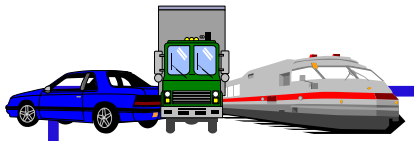
➡ **MUCH ROOM FOR SOFT MODES**

Source INRETS, d'après les Enquêtes Transport INSEE-INRETS 1982 & 1994

CONCLUSION ?

ADEME





CLIMAT CHANGE IS A REAL CONCERN
AND TRANPORTATION HAS A MAJOR RESPONSABILITY

ADEME

Temperatures will increase from 1,4 up to 5,8°C (from now on to 2100)

Most expected consequences are:

- **Sea Levels will increase of 80 cm (from now to 2080), erosion coastal erosion and threats on deltas..**
- **Dry zones relocation, less snow, agricultural and vegetal mutations, extinction of species…**
- **Floods (+20% of rain in winter), drought, heat waves (-15% rain in summer)…**
- **Impacts on Health…**
- **Impacts on Population movements (Environmental Refugees)…**

CONCLUSION ?

CONCLUSION ?