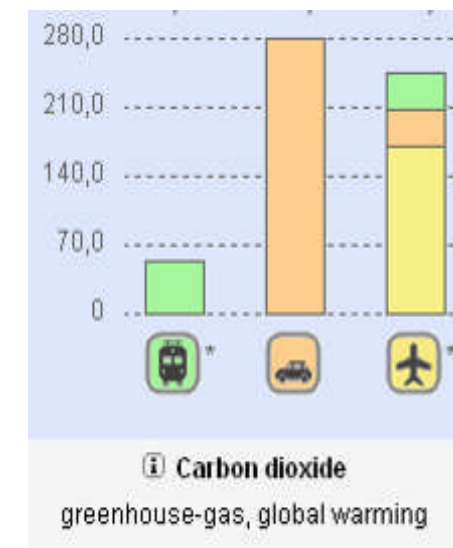




# UIC Energy data: a solid base for eco-tools and communication

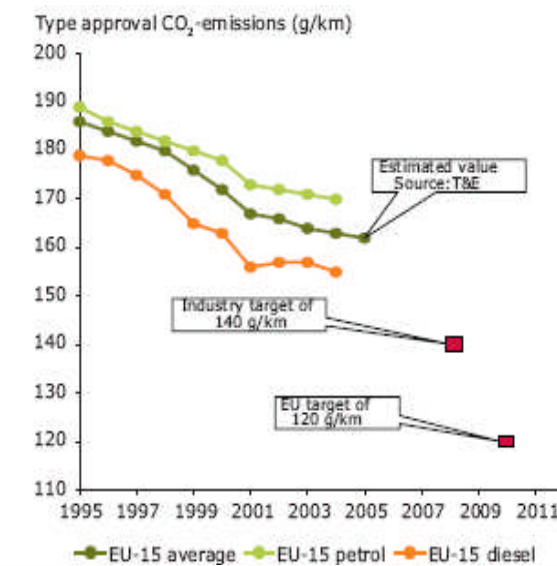
***Raimondo Orsini***  
*Sustainable Development Foundation*

..... Sleeping on the laurels ????



## The need of a centralized Energy and Co2 Database

- Are railways keeping the pace of competitors?
- Do they have credible and verified data?
- Are we sure railways are improving?
- Can railways aim at a specific target?

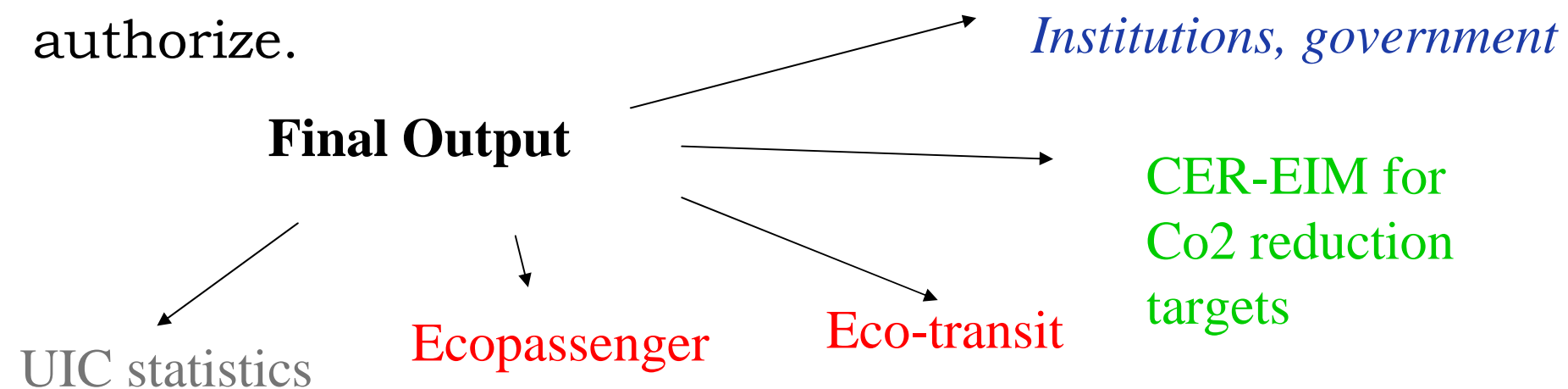


Year	g CO <sub>2</sub> /km			
	ACEA	JAMA	KAMA	Total
1995	185	196	197	186
2000	169	183	191	172
2004	161	170	168	162
2005	160	166	167	161
2006	160	161	164	160
<b>Target</b>	140 g/km by 2008 and 2009			

Source: T&E, 2007; EC, 2002.

## The UIC Railway and Co2 database

- Each year UIC members send their detailed energy and Co2 data.
- UIC elaborates data.
- Members validate and authorize.

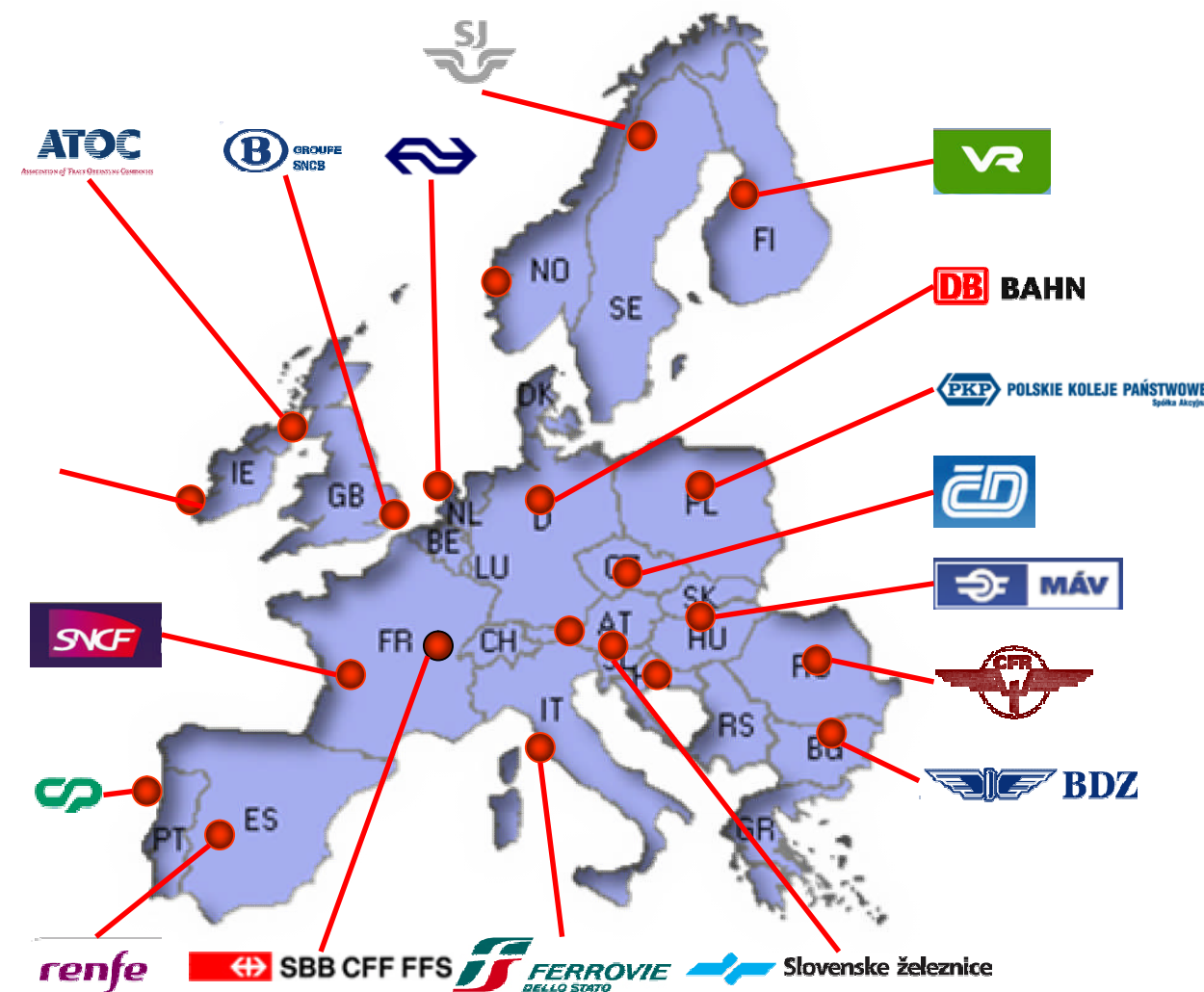




**2005, 2006, 2007**  
*data per each  
company.*

*...2008 coming  
soon.....*

Passenger transport services	Company 1	Company 2	Company 3
<b>Total</b>			
Passenger-km (millions) (= tab 51 col. 13)			
of which by Electric traction (millions)			
of which by Diesel traction (millions)			
Load factor (%)			
Final electricity consumption at substation (GWh) (including shunting)			
Diesel consumption (including shunting) (tonnes)			
<b>Local and regional train operation</b>			
Passenger-km (millions) (= tab 51 col. 14)			
of which by Electric traction (millions)			
of which by Diesel traction (millions)			
Load factor (%) (=tab 52 col. 5)			
Average distance between stops (km)			
Average commercial speed (km/h)			
Final electricity consumption at substation (GWh) (including shunting)			
Diesel consumption (including shunting) (tonnes)			
<b>Intercity train operation</b>			
Passenger-km (millions) (= tab 51 col. 15 - tab 50 col. 8)			
of which by Electric traction (millions)			
of which by Diesel traction (millions)			
Load factor (%) (=tab 52 col. 8)			
Average distance between stops (km)			
Average commercial speed (km/h)			
Final electricity consumption at substation (GWh) (including shunting)			
Diesel consumption (including shunting) (tonnes)			
<b>High Speed train operation</b>			
Passenger-km (millions) (= tab 50 col. 8)			
of which by Electric traction (millions)			
of which by Diesel traction (millions)			
Load factor (%) (=tab 52 col. 11)			
Average distance between stops (km)			
Average commercial speed (km/h)			
Final electricity consumption at substation (GWh) (including shunting)			
Diesel consumption (including shunting) (tonnes)			



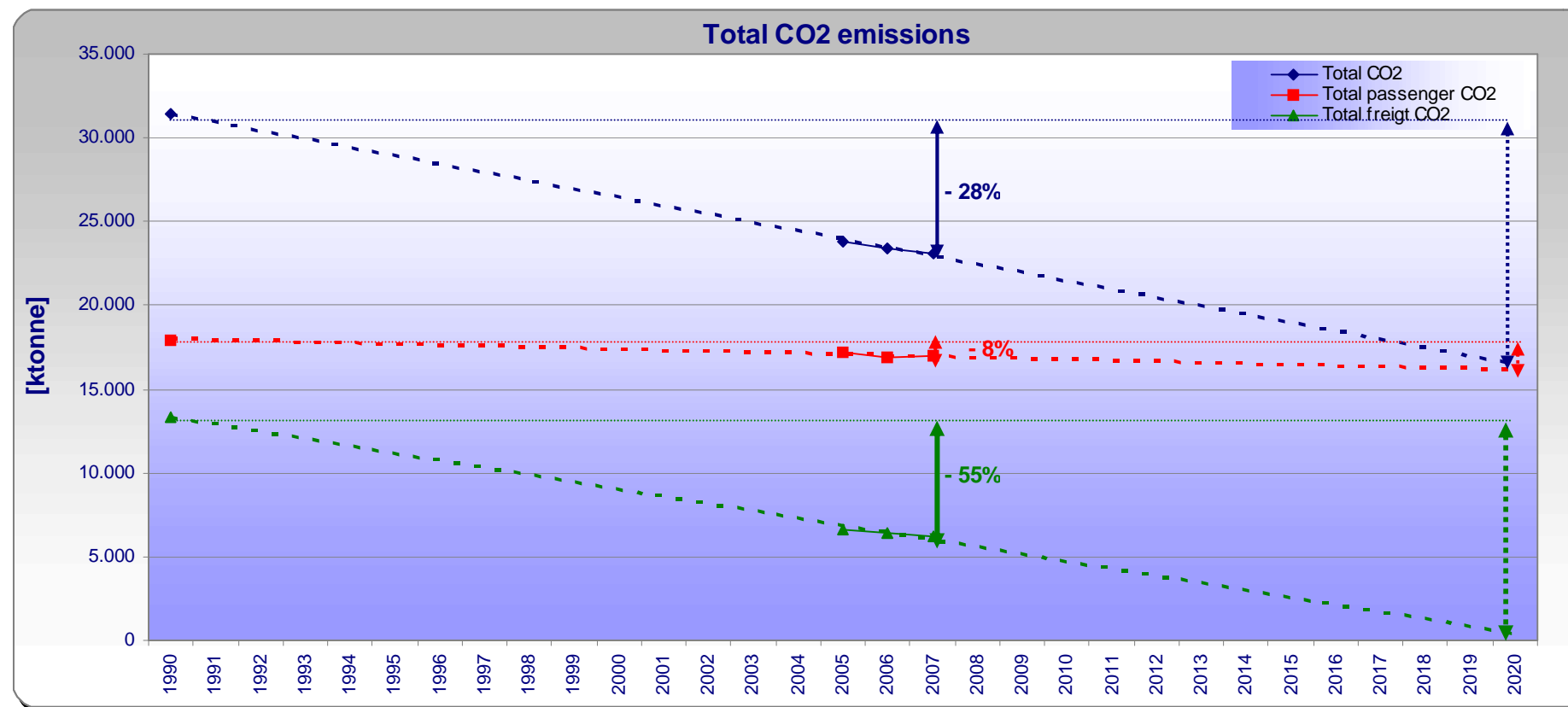
**26** railway companies.

More than **95%** of European passenger traffic.

More than **76%** of European freight traffic.

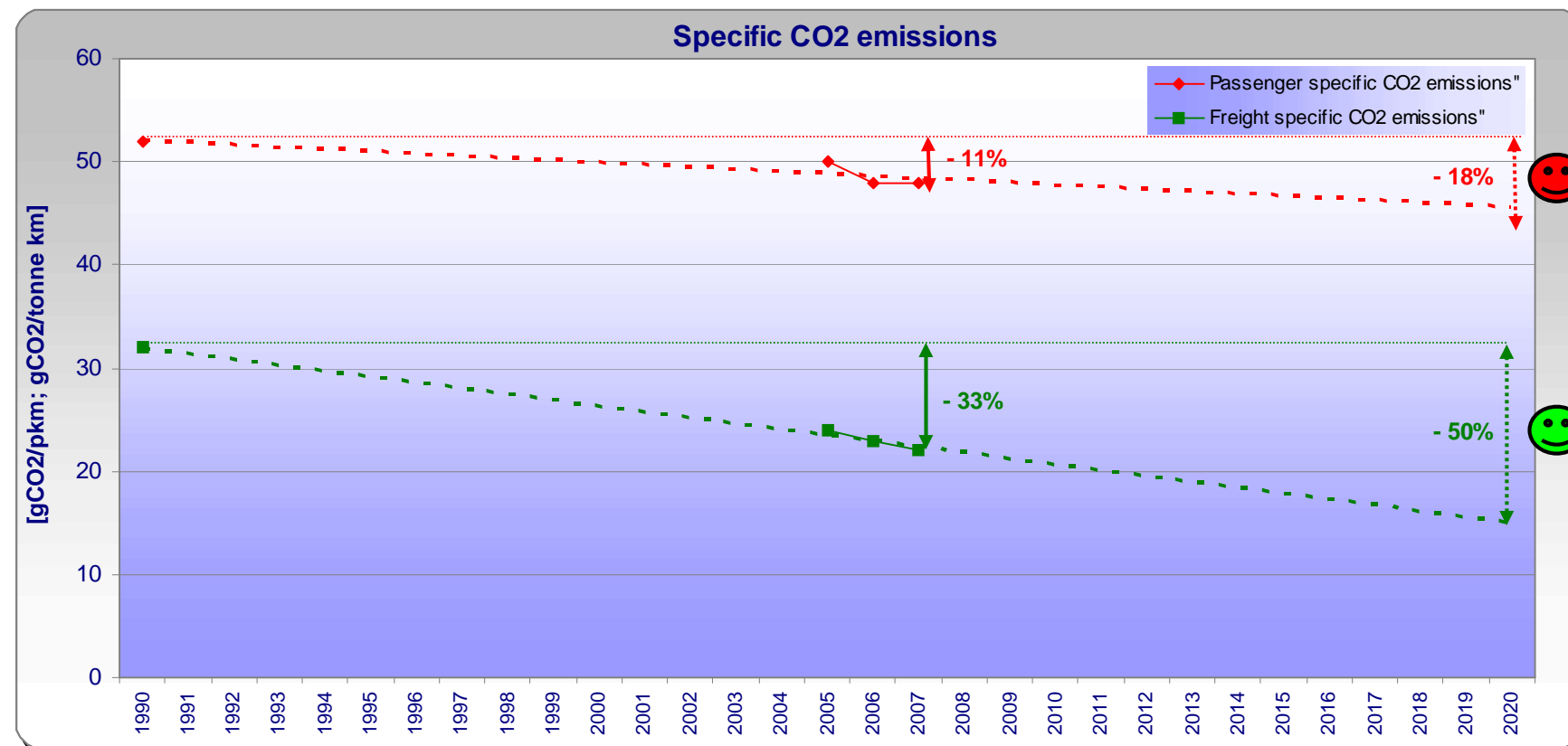
## CO2 emissions

**1990-2007: -28%**



## CO2 specific emissions

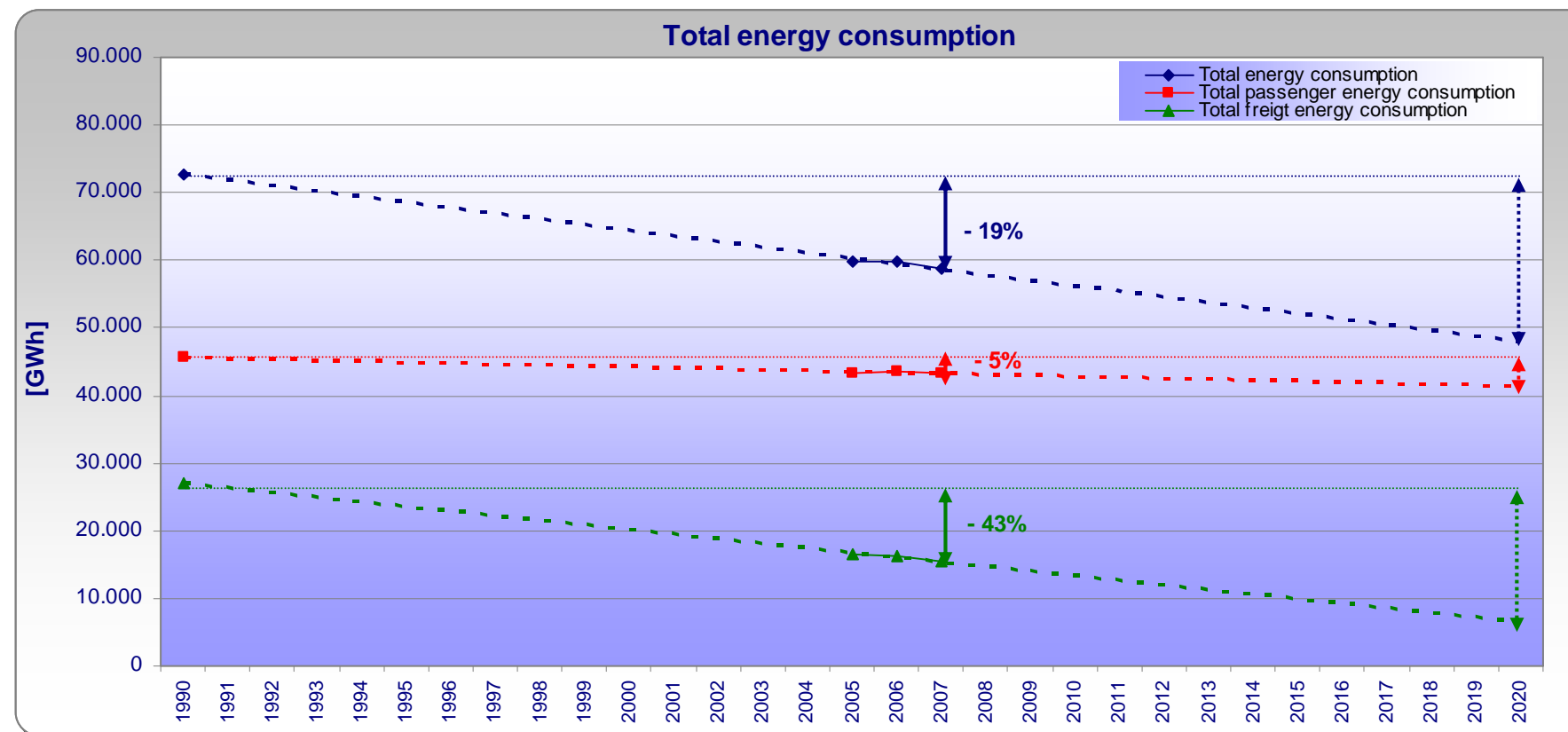
**1990-2007: -11% passengers; -33% freight**





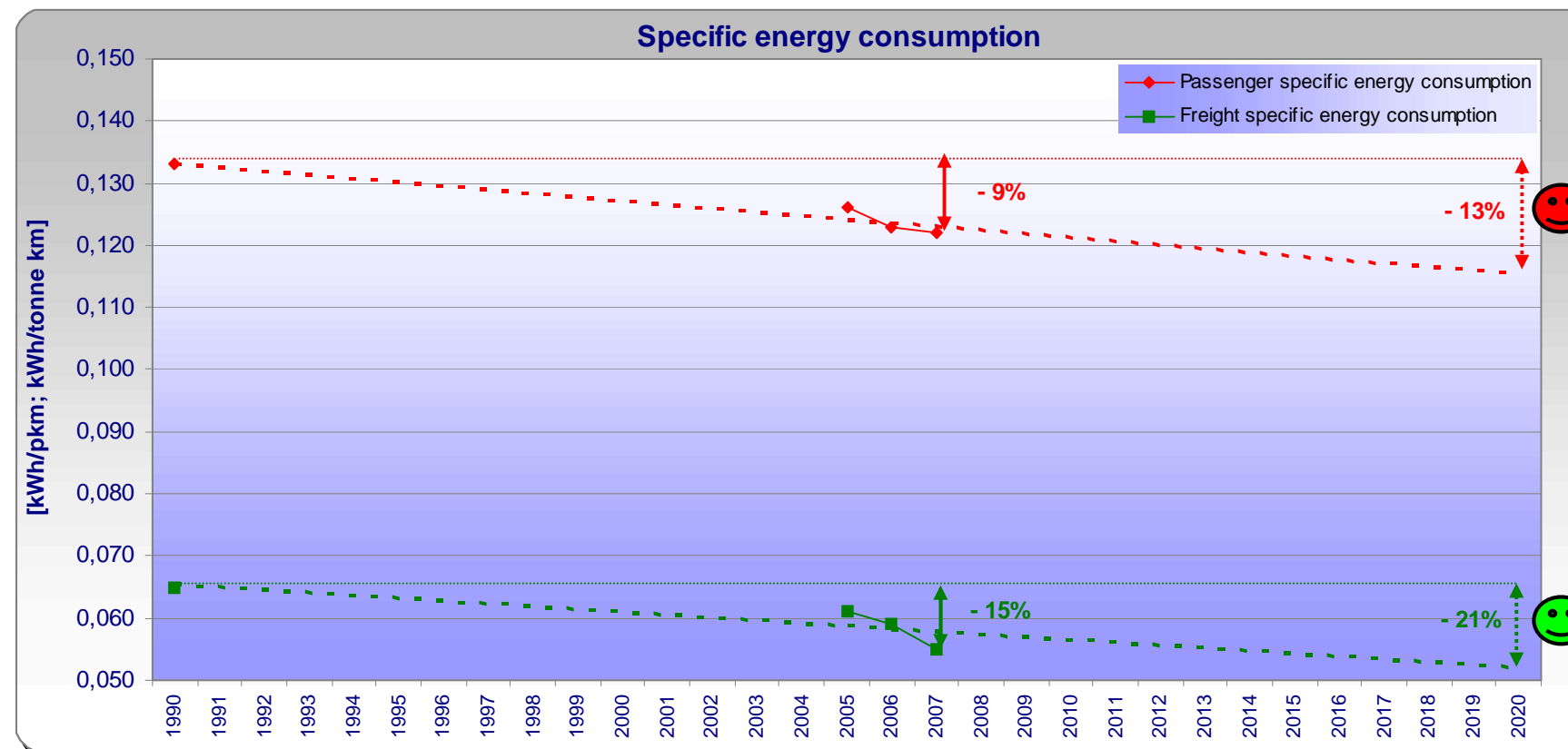
## Energy consumption

**1990-2007: -28%**



## Specific energy consumption

**1990-2007: -9% passengers; -15% freight**



**The battle of communication**



**....True thing with good message**



**.....True thing with “tricky data”**



**.....Completely false thing**

**...Completely false thing....with a "nice" face**



# The battle of communication

## Railway stile: tell the truth and improve!

Mobility Networks Logistics **Zukunft bewegen. DB**

**Wir haben den CO<sub>2</sub>-Ausstoß seit 1990 bereits um mehr als 25 % gesenkt. Und werden ihn bis 2020 um weitere 20 % reduzieren.**  
Mit neuen Schienenfahrzeugen, besserer Auslastung der Züge, hocheffizienter Fahrweise sowie einem wachsenden Anteil an regenerativen Energien.

**Zukunft bewegen. Deutsche Bahn AG.**

Oftwohl die Bahn schon heute das umweltfreundlichste Verkehrsmittel ist, leisten wir mehr zum aktiven Klimaschutz: Wir investieren in neue, effizientere Lokomotiven und Triebwagen, optimieren die Ausstattung unserer Züge sowie die Abzüge im Schienenverkehr. Darüber hinaus steigern wir den Anteil regenerativer Energien. So senken wir konsequent die Emissionen. Und das, obwohl die Schiene im Vergleich zum Straßenverkehr etwa ein Drittel weniger CO<sub>2</sub> produziert. Damit bleibt die Bahn auch in Zukunft das umweltfreundlichste aller Verkehrsmittel. Erfahren Sie mehr über unser Engagement auf [www.db.de/umwelt](http://www.db.de/umwelt)

**Sustainability**  
Company **NS**

CO<sub>2</sub> emissions per passenger kilometre **41** grams

Paper of train tickets from ticket machine Sustainable FSC-paper

Weekly cleaning of the train Biodegradable soap

Sustainable energy **Top 10** largest buyer in the Netherlands

**Sustainability: no hype for NS.**  
NS has already been dealing with sustainability for many years. Our trains are getting ever less polluting and ever more energy efficient. Between 1990 and today we have reduced our total CO<sub>2</sub> emissions by 10% while the numbers of passengers has increased substantially. Our trains now emit 41 grams of CO<sub>2</sub> per passenger kilometre (compared to 126 grams for cars). There is still some work to do, but we are on the right track.  
[www.ns.nl/duurzaamheid](http://www.ns.nl/duurzaamheid)

Come along

**ECOPASSENGER**

Home How it works Methodology Transport and climate change Contacts

Calculate the environmental impact of your personal journeys through Europe

Choose your route

From:

To:

Choose your time

Date:   Calendar

Time:  Departure

Search connection

Compare the energy consumption, CO<sub>2</sub>- and exhaust atmospheric emissions for planes, cars, buses and trains for passenger transport in Europe

To calculate the environmental impact of your freight transport through Europe, visit:

Which has been the BEST energy efficient railway in 2007?



Passenger

 SBB CFF FFS

0,084

kWh/pkm

Freight

 BAHN

0,045

kWh/tonne km

**Which has been the WORST energy efficient railway in 2007?**

***Please contact Henning Schwarz at UIC!***

***[schwarz@uic.org](mailto:schwarz@uic.org)***





***orsini@susdef.it***

