

Vehicle Fuel Economy

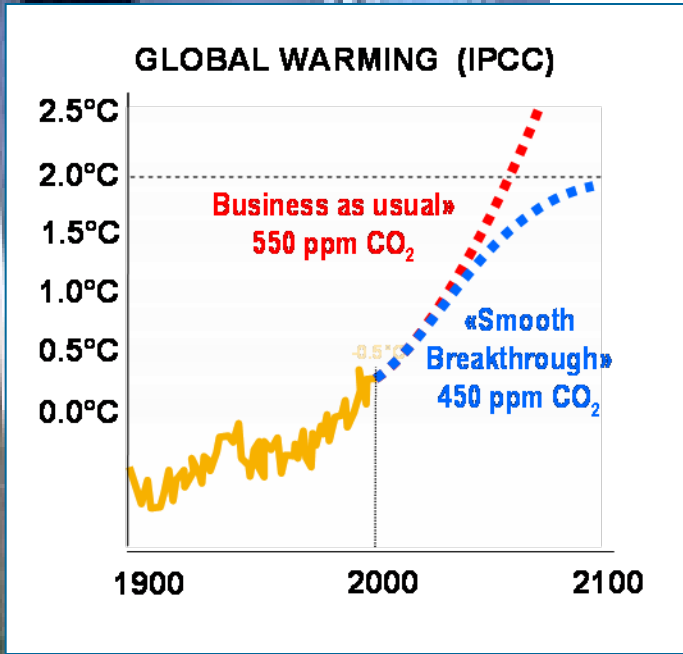
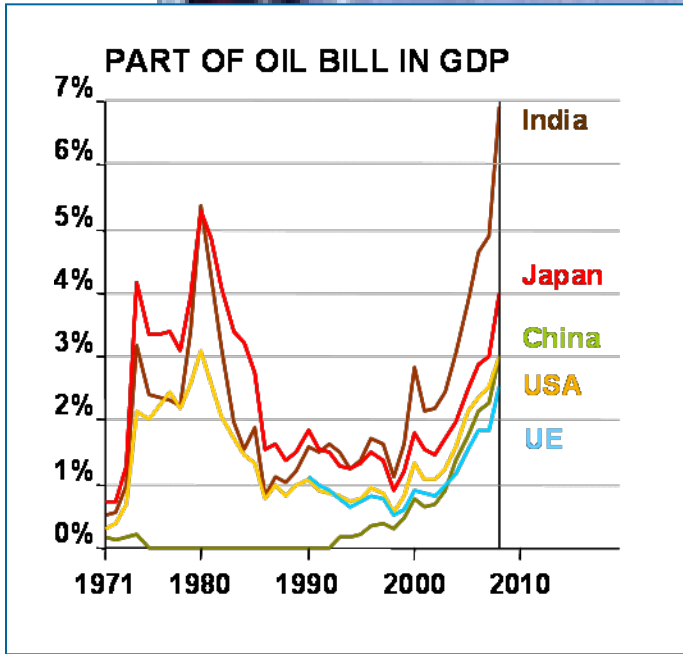
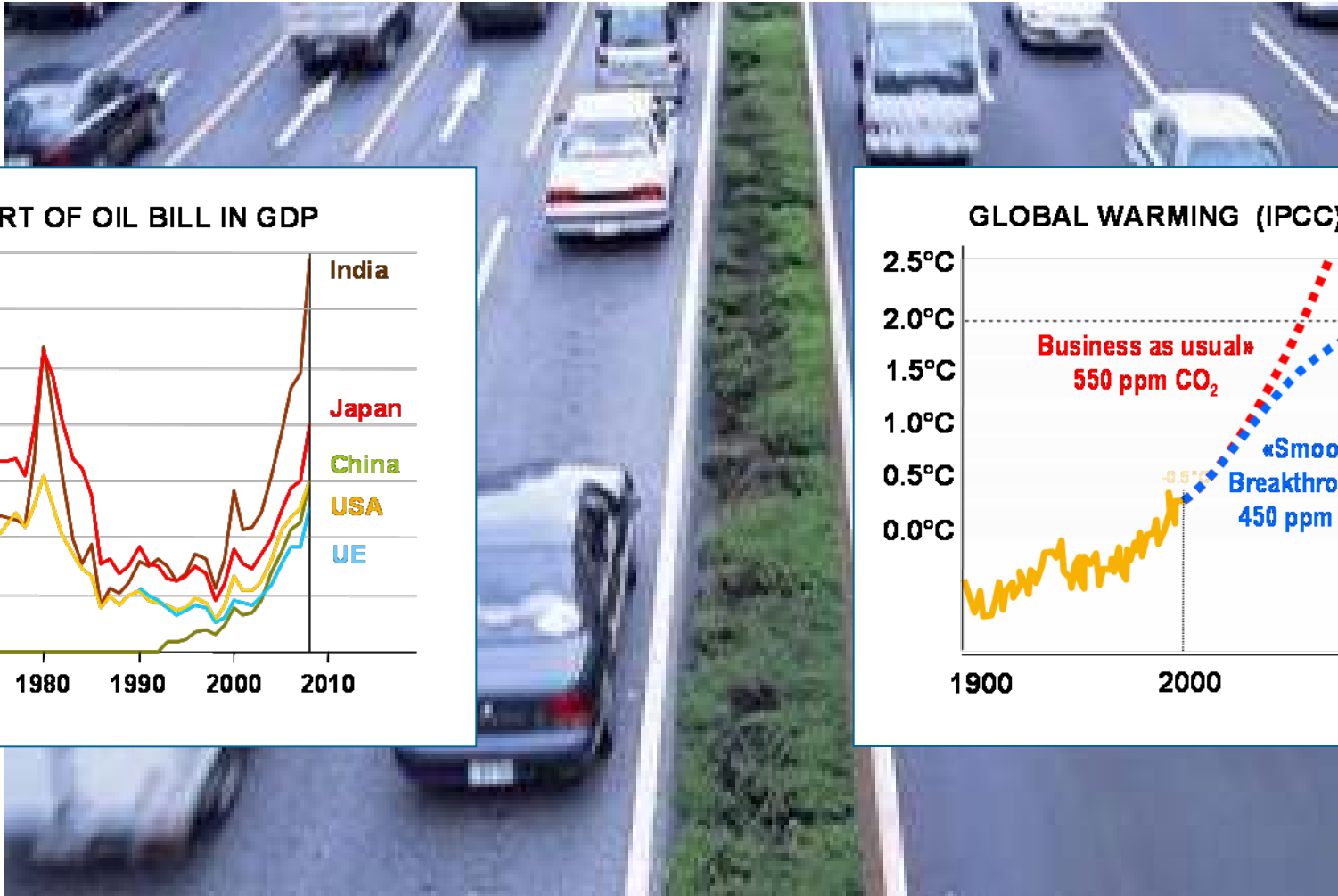
Renault perspectives

Dr Philippe Schulz
Expert Leader – Environment, Energy & Raw Materials



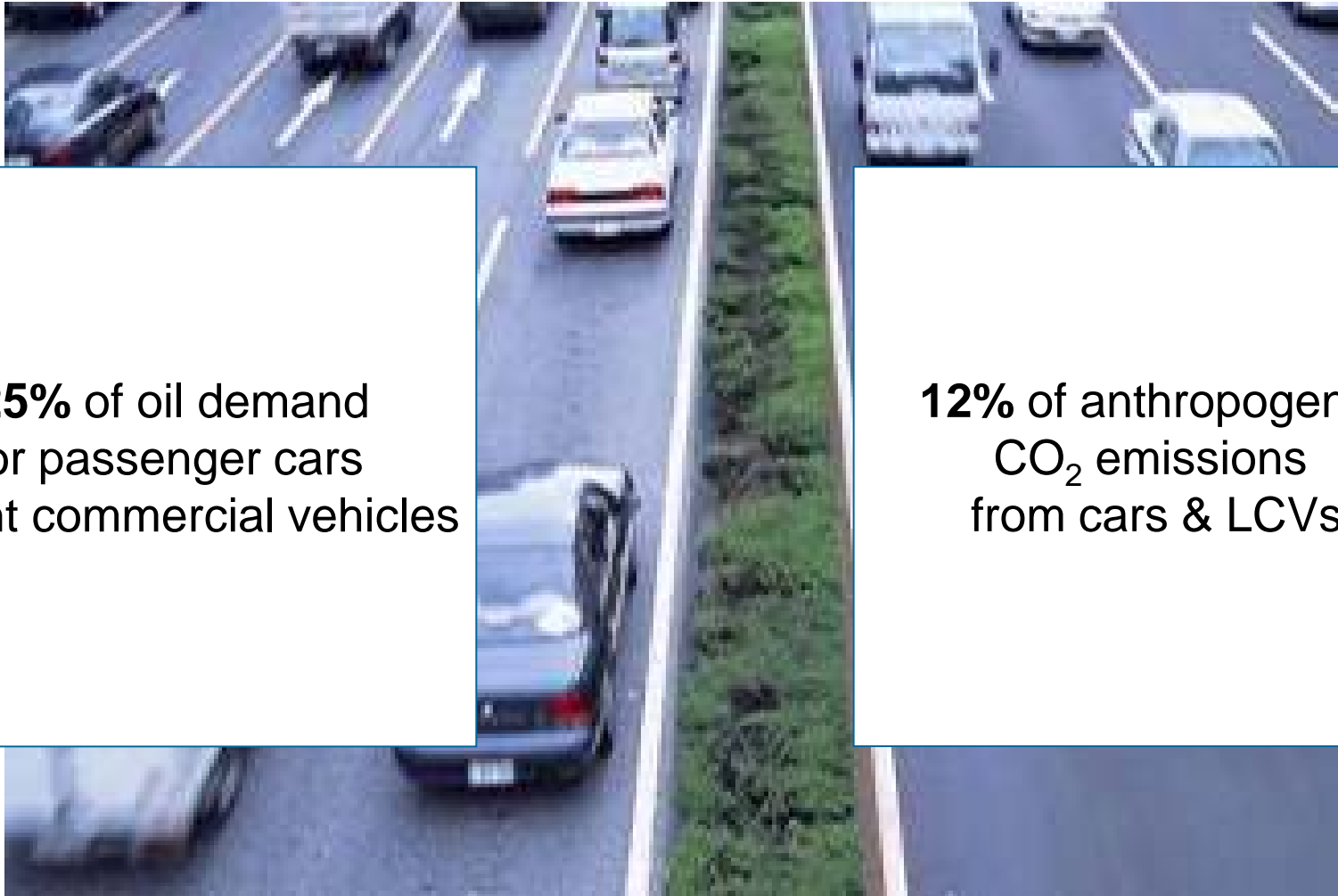
Global Fuel Economy Initiative 2012-2015
Leipzig – May 2, 2012

Increasing energy consumption = High energy prices & CO₂ emissions



We are part of the problem

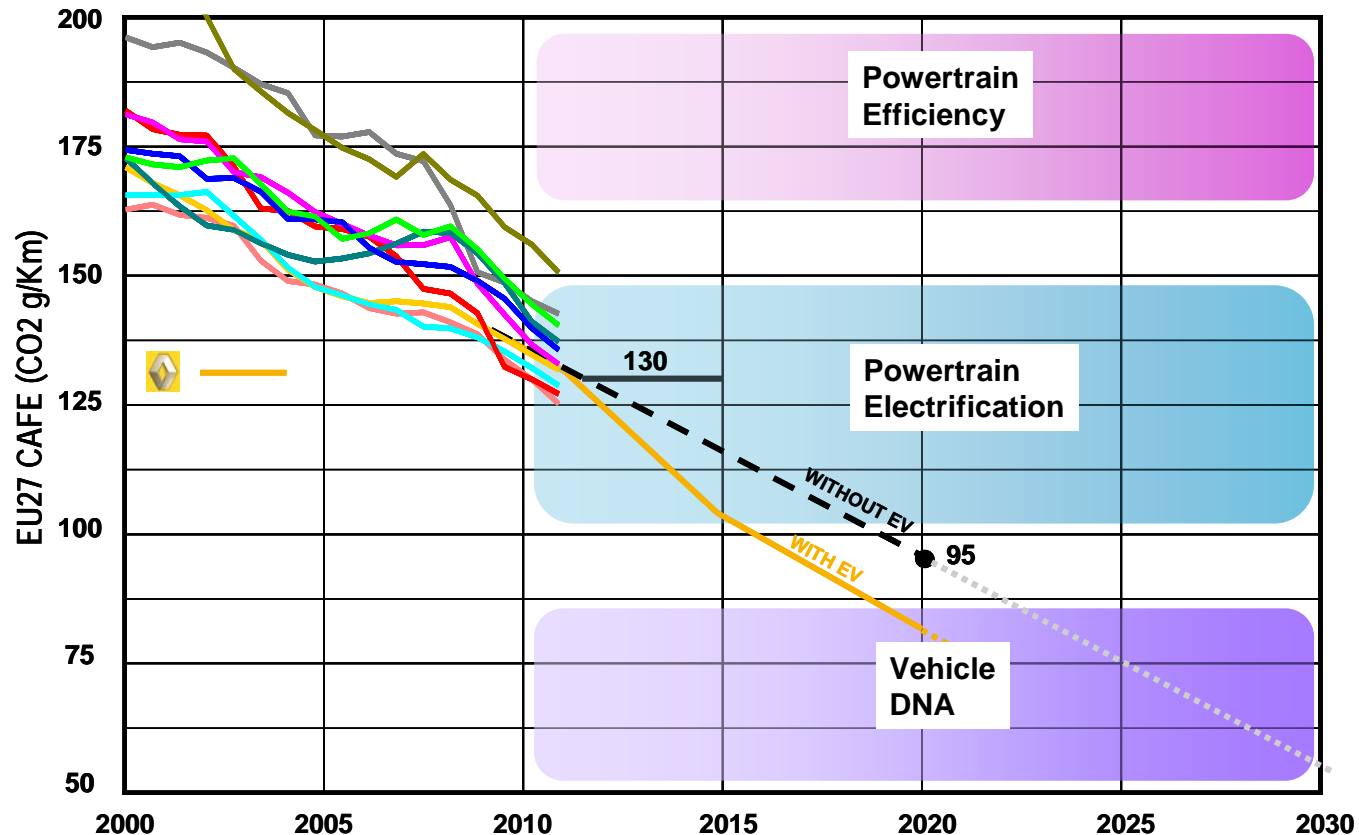
We want to be part of the solution



25% of oil demand
for passenger cars
& light commercial vehicles

12% of anthropogenic
CO₂ emissions
from cars & LCVs

EU 2020 CAFE objective seems achievable, Even though technology breakthrough is required

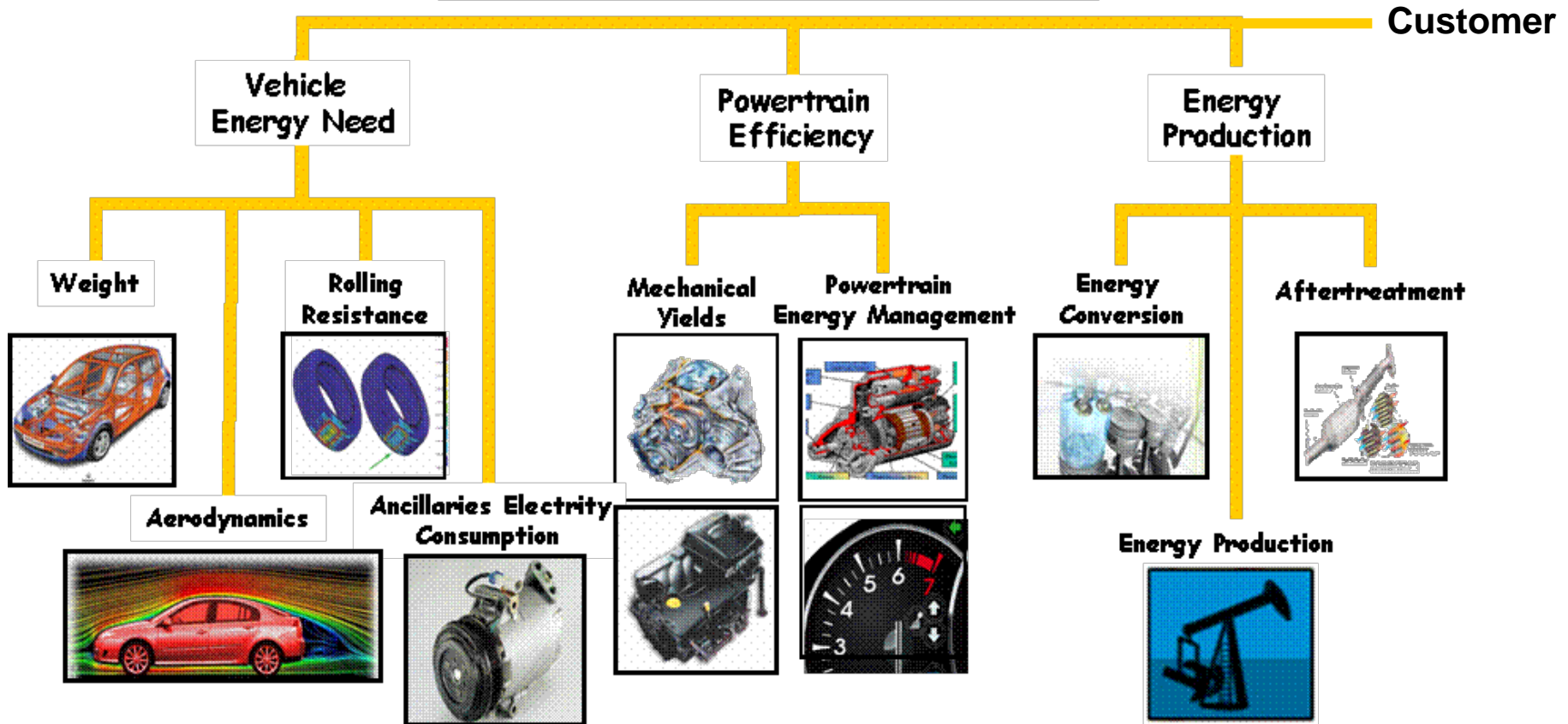


Two main challenges :

1. Develop affordable fuel efficient vehicle technologies
2. Spread-out the most efficient vehicle technologies...where car market grow...

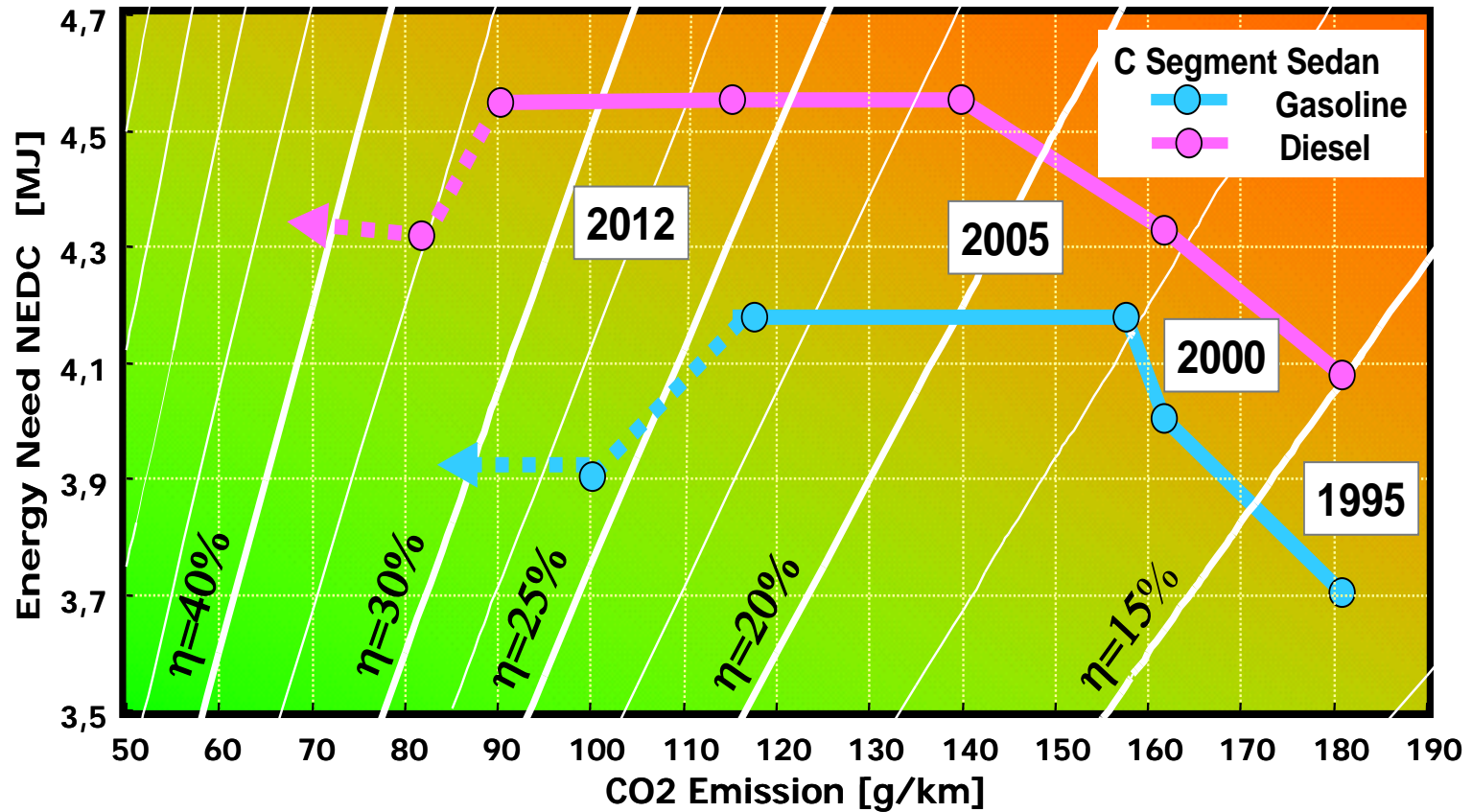
MANY LEVERS TO LOWER THE CO₂ EMISSION AND FUEL CONSUMPTION

CO₂ & Fuel Consumption levers



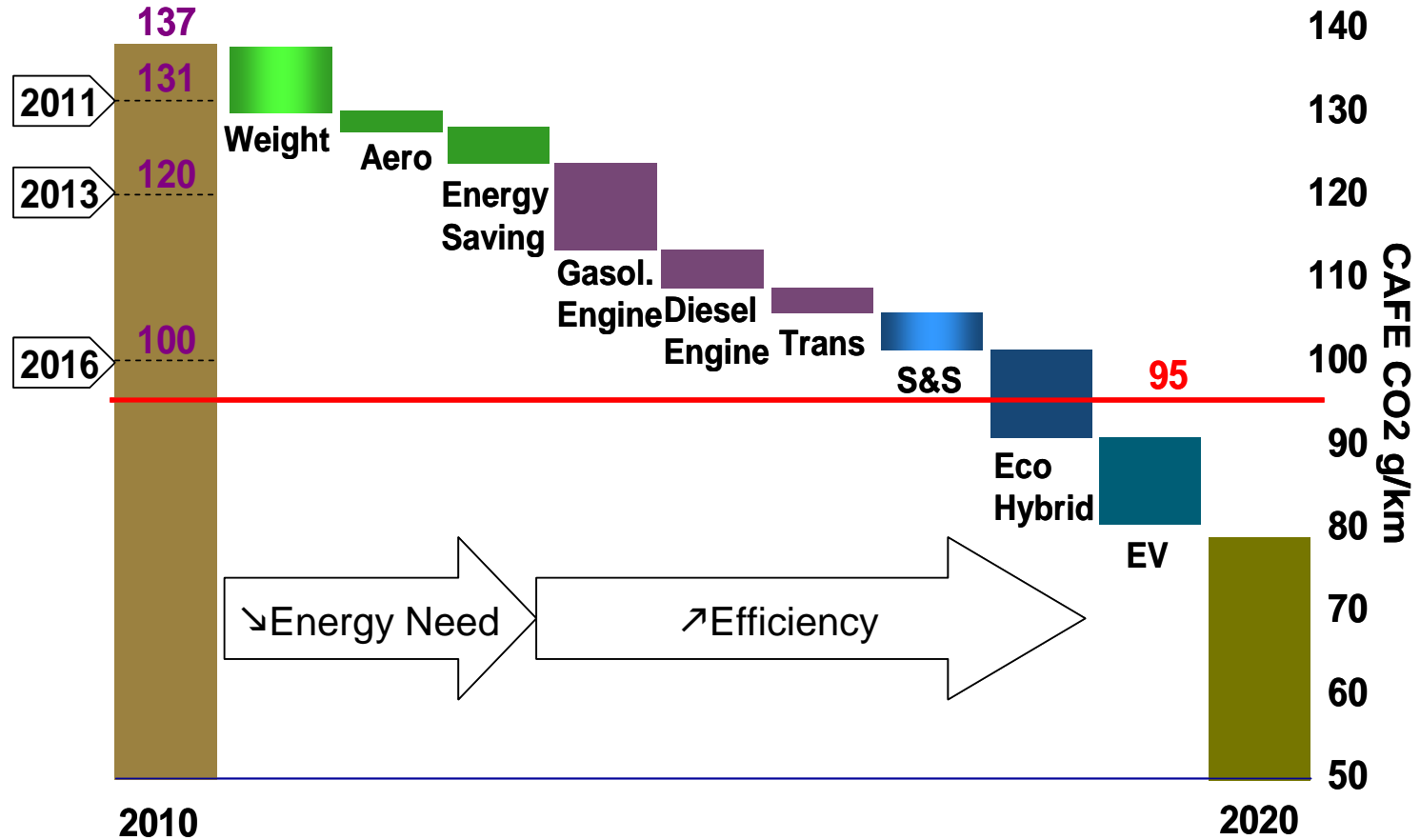
NEDC : 1 CO₂ g/ km ≈ 10 kg or 0,020 SCx or 8 Newton or 30 Watt (elec)

STILL A POTENTIAL TO IMPROVE THE ENERGY EFFICIENCY OF INTERNAL COMBUSTION ENGINES

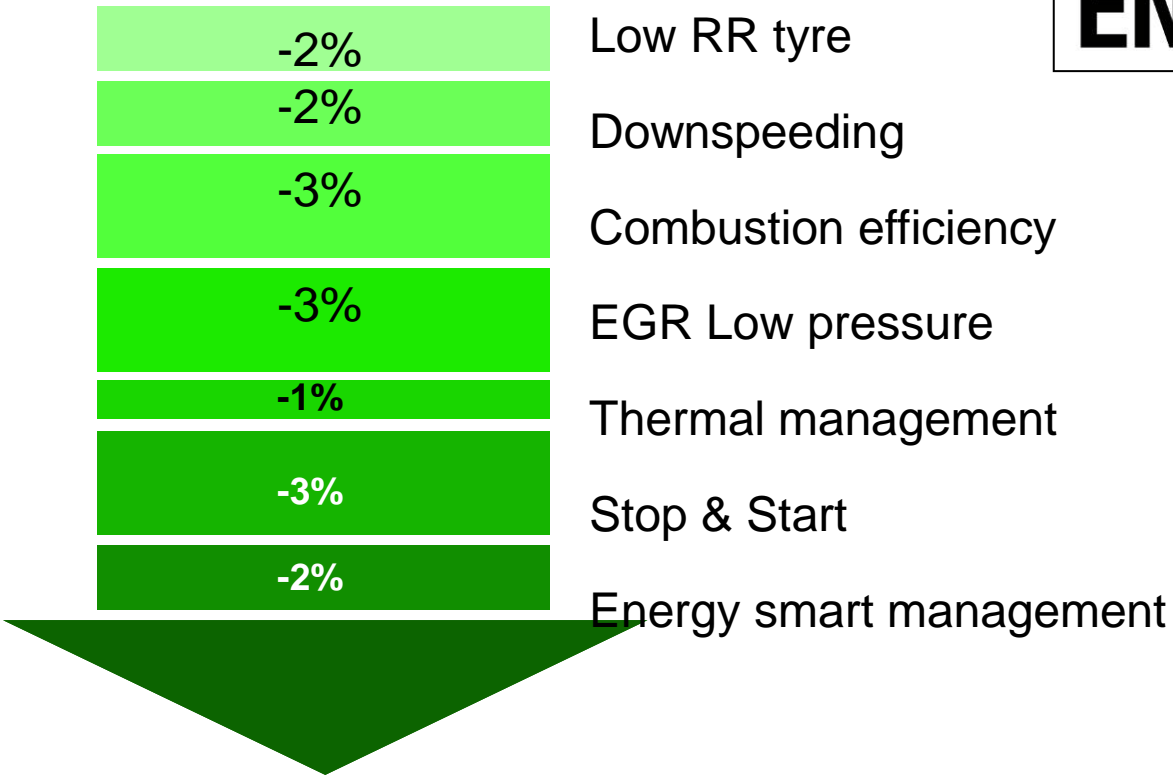


THE BIG CHALLENGE IS « COST »

RENAULT-NISSAN TO DEVELOP RELEVANT TECHNOLOGIES AT AFFORDABLE COST



CONTINUOUS IMPROVEMENT OF DIESEL TECHNOLOGY



**-16% CO₂ vs
previous generation**

ENERGY dCi 110

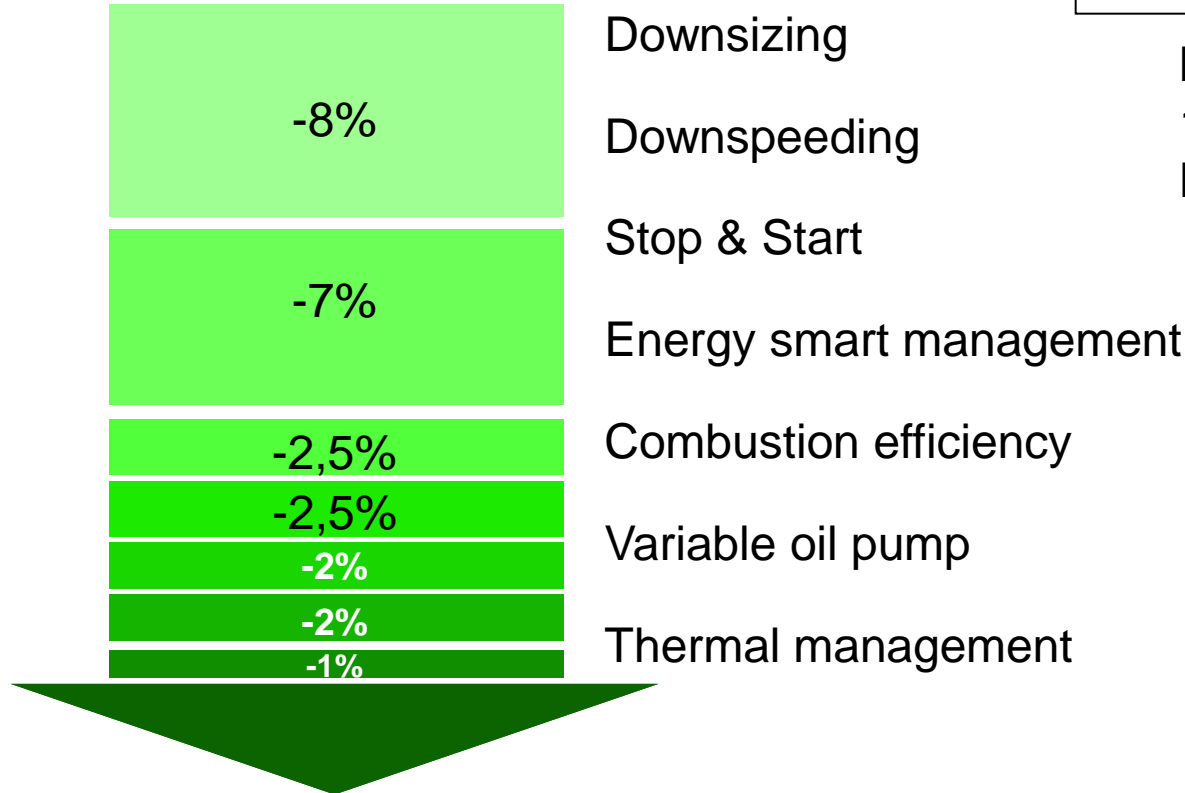
Megane 90 CO2 g/km
1,5l 4cyl. Turbo Diesel
Direct Common Rail injection



BREAKTHROUGH IN GASOLINE ENGINE TECHNOLOGY

ENERGY TcE 115

Megane 119 CO2 g/km
1,2 4cyl. Turbo Gasoline
Direct Injection



**-25% CO₂ vs
previous generation**

BREAKTHROUGH IN TRANSPORT : MASS MARKET EV




EV TO BE THE SOLUTION FOR A CLEAN & QUIET CITY
AT DIESEL COST (TCO)

The Renault-Nissan Alliance industrial strategy & deployment

Target : 1,5 million EV on the road by 2016

USA

Smyrna




NISSAN LEAF

Zama

Japan

Oppama



NISSAN LEAF



NISSAN LEAF



ZOE



KANGOO Z.E.



TWIZY Z.E. CONCEPT



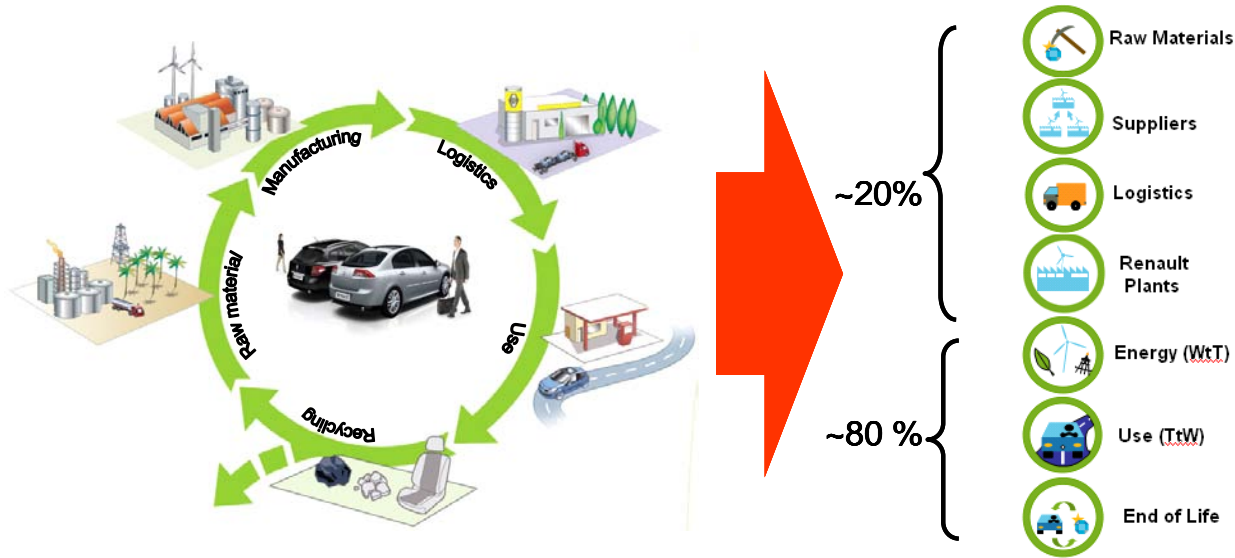
FLUENCE Z.E.

 Car production plants

 Battery plants



To make sustainable mobility happen :
Include all stakeholders in ambitious and voluntary commitments



RENAULT VOLUNTARY COMMITMENT :
Reducing the carbon footprint per car by 10 % from 2010 to 2013 **worldwide**



THE SECRETARY-GENERAL'S
HIGH-LEVEL GROUP ON
SUSTAINABLE ENERGY FOR ALL

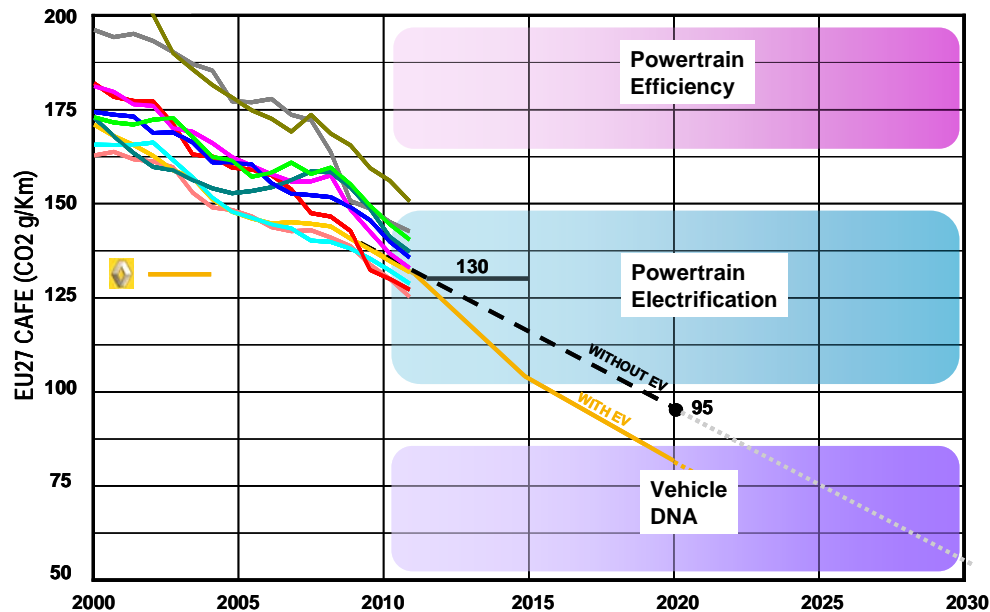


SUSTAINABLE
ENERGY FOR ALL



Next steps ?

- Promote improved fuel economy world-wide based on current experience where CAFE policy are implemented
- Every country unique in Energy & Transport policy, with benefit possible from diverse experiences (biofuels, LPG/CNG, Diesel/gasoline balance, EV...)



20 years experience
Auto-Oil PPP

Address both
Energy Efficiency
& Renewable targets
in transport

The **Global Fuel Economy Initiative** could be used as a platform to accelerate the introduction and harmonization of standards through targeted policies and programs, together with car & oil industries