

Renault Powertrain Strategy

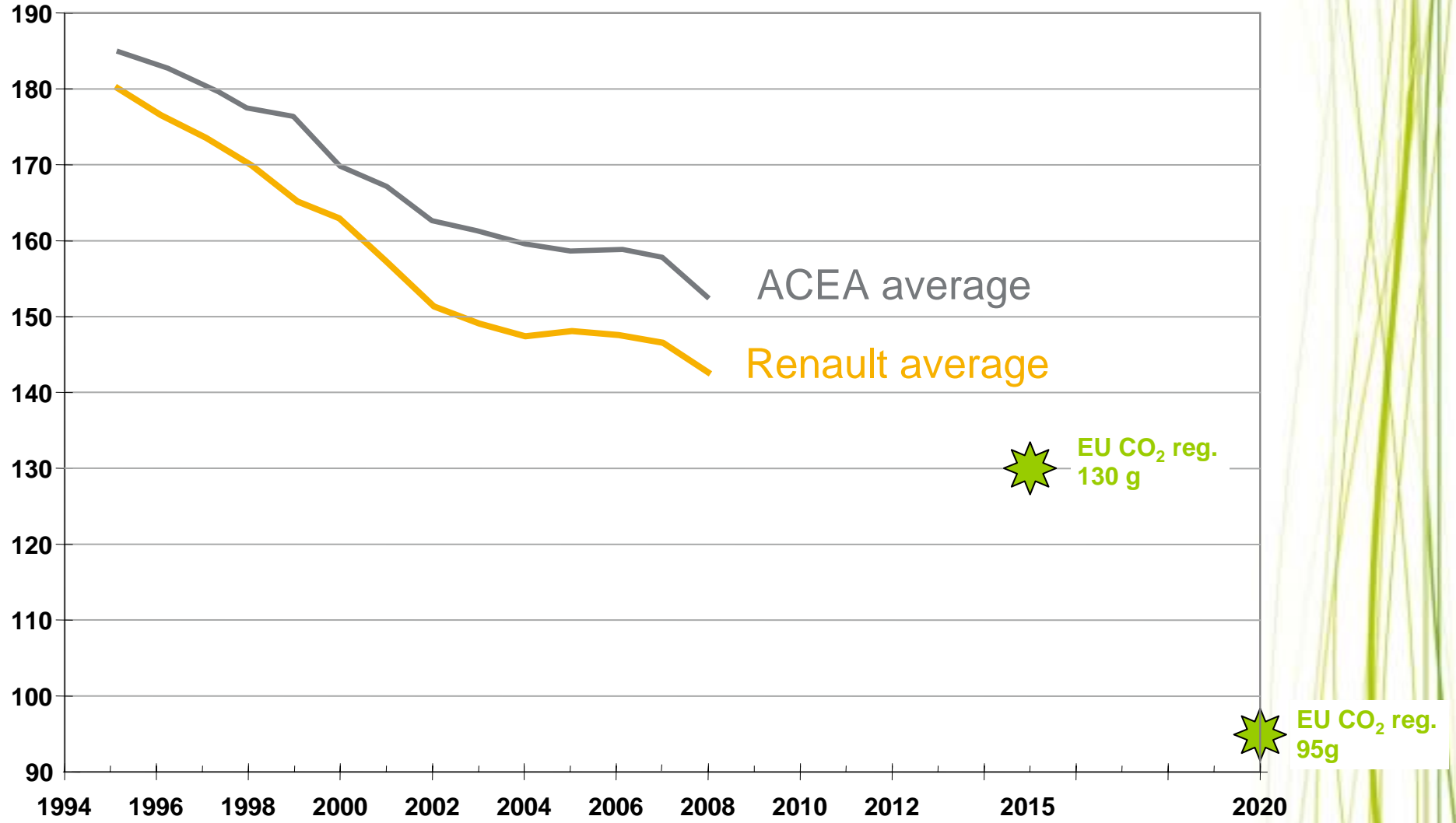


JACQUES PROST
SVP, POWERTRAIN ENGINEERING

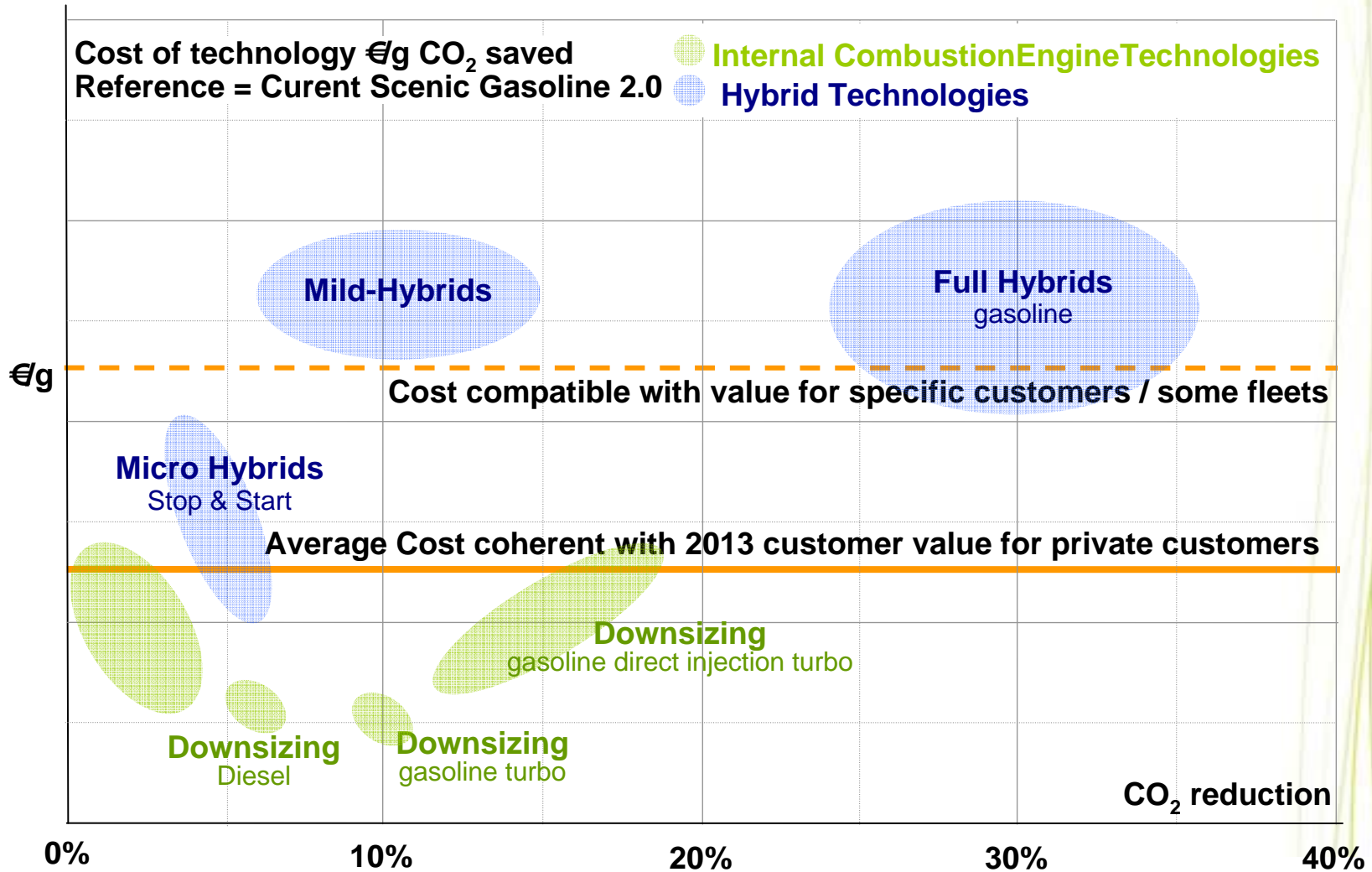


CO2 EMISSION AVERAGES AND NORMS

Average CO₂ emissions (g/km)



IMPLEMENTING TECHNOLOGIES CUSTOMERS ARE READY TO PAY FOR

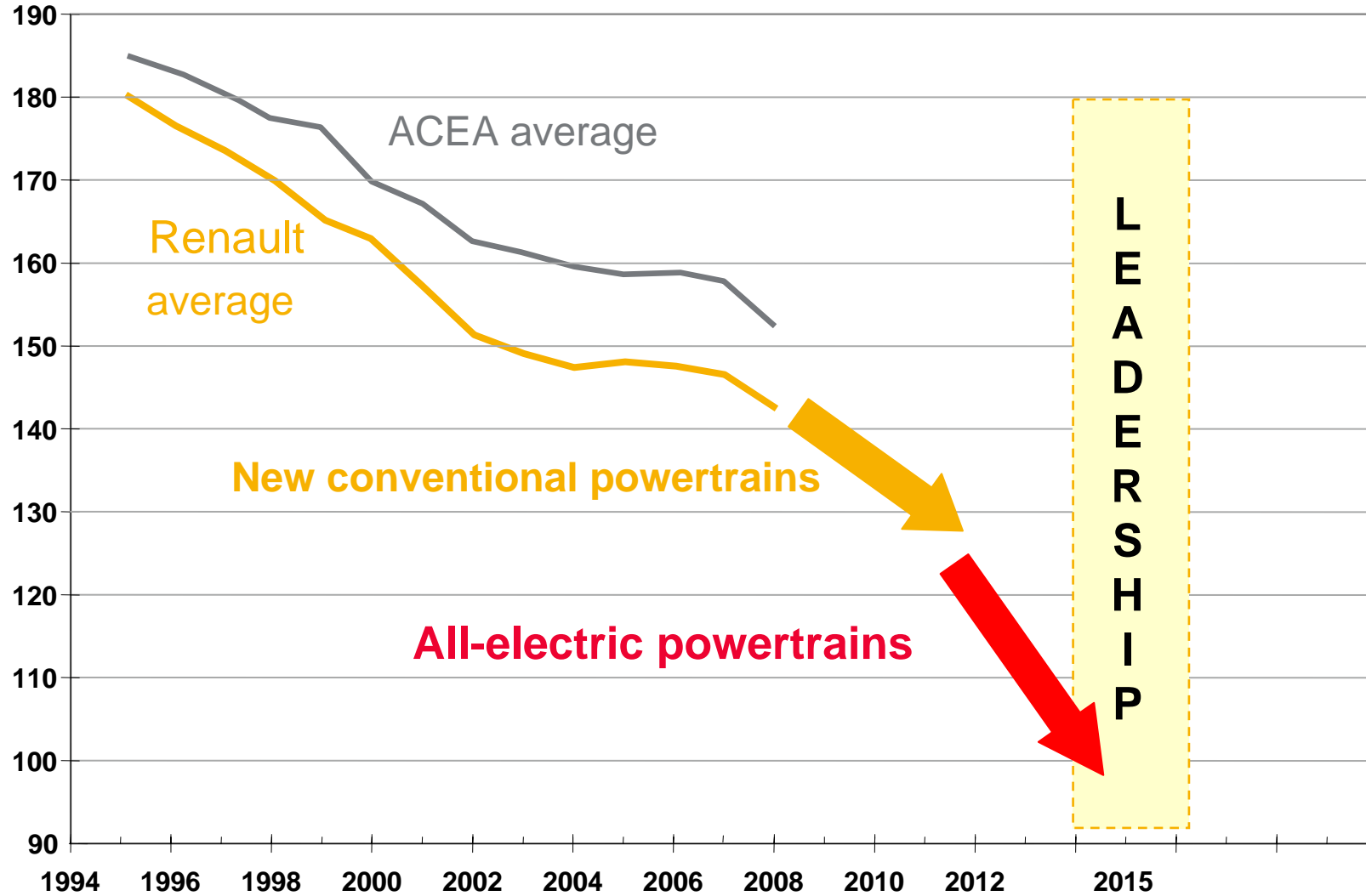


CO₂ EMISSIONS : TARGETING THE NUMBER ONE RANKING IN EUROPE IN 2015

- 1. By introducing new technologies for conventional powertrains**
- 2. By developing all-electric powertrains**

TARGETING THE NUMBER ONE RANKING IN EUROPE IN 2015

Average CO₂
emissions (g/km)



Introducing new technologies
on conventional powertrains

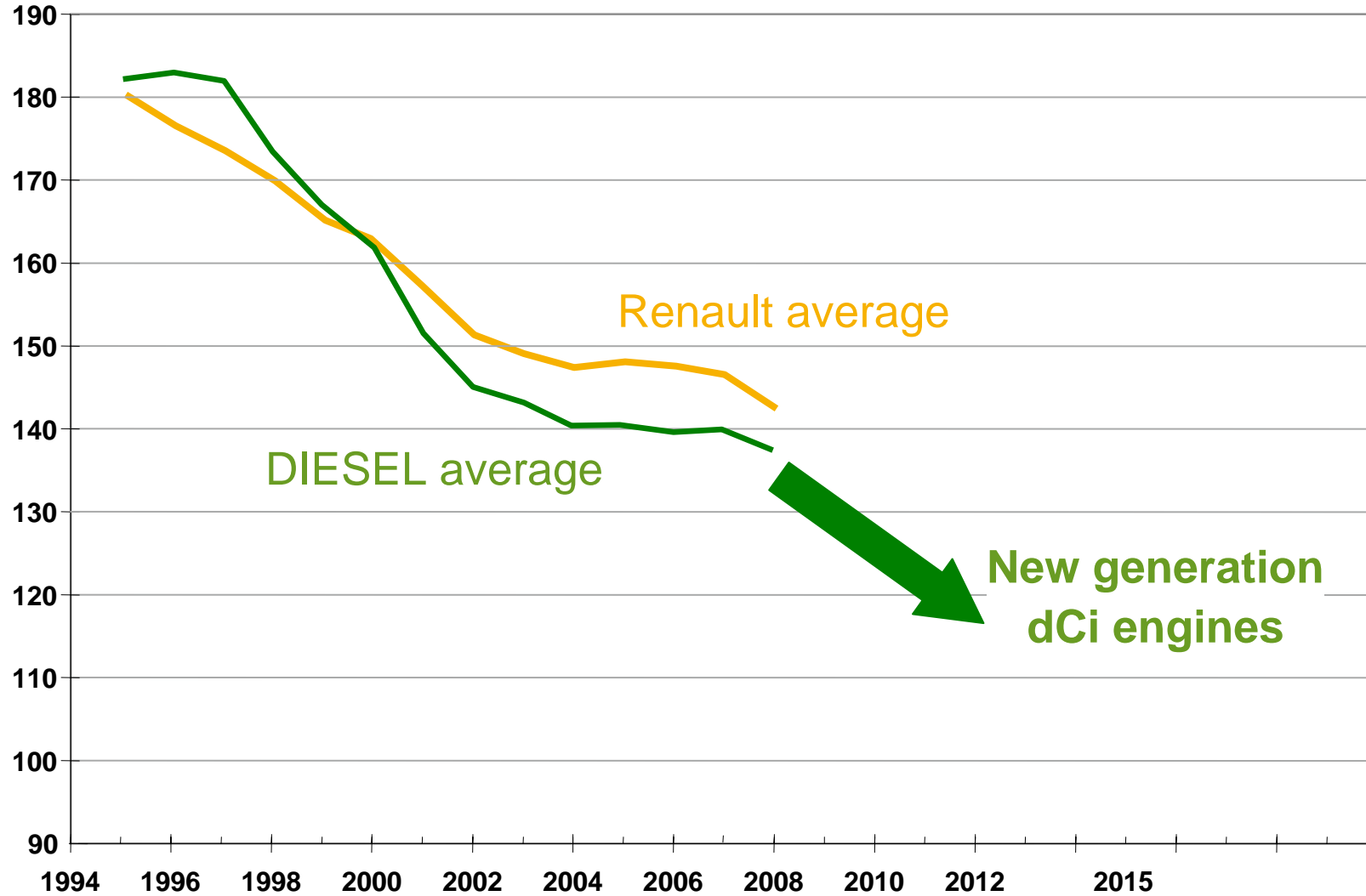


dCi engines new generation



TARGETING THE NUMBER ONE RANKING IN EUROPE IN 2015

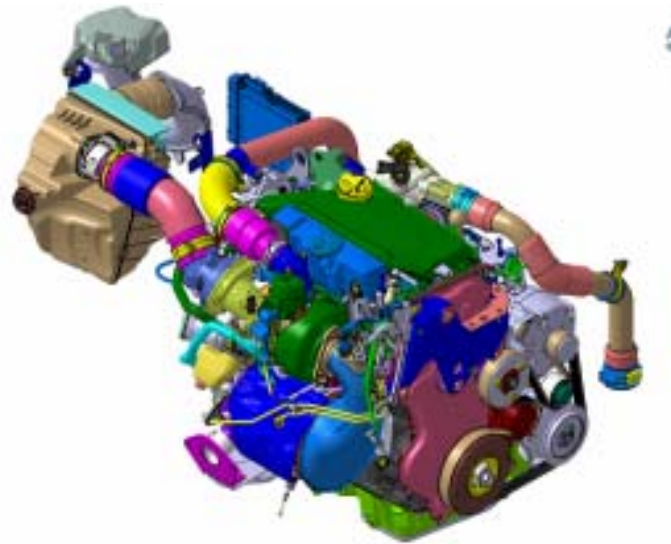
Average CO₂
emissions (g/km)



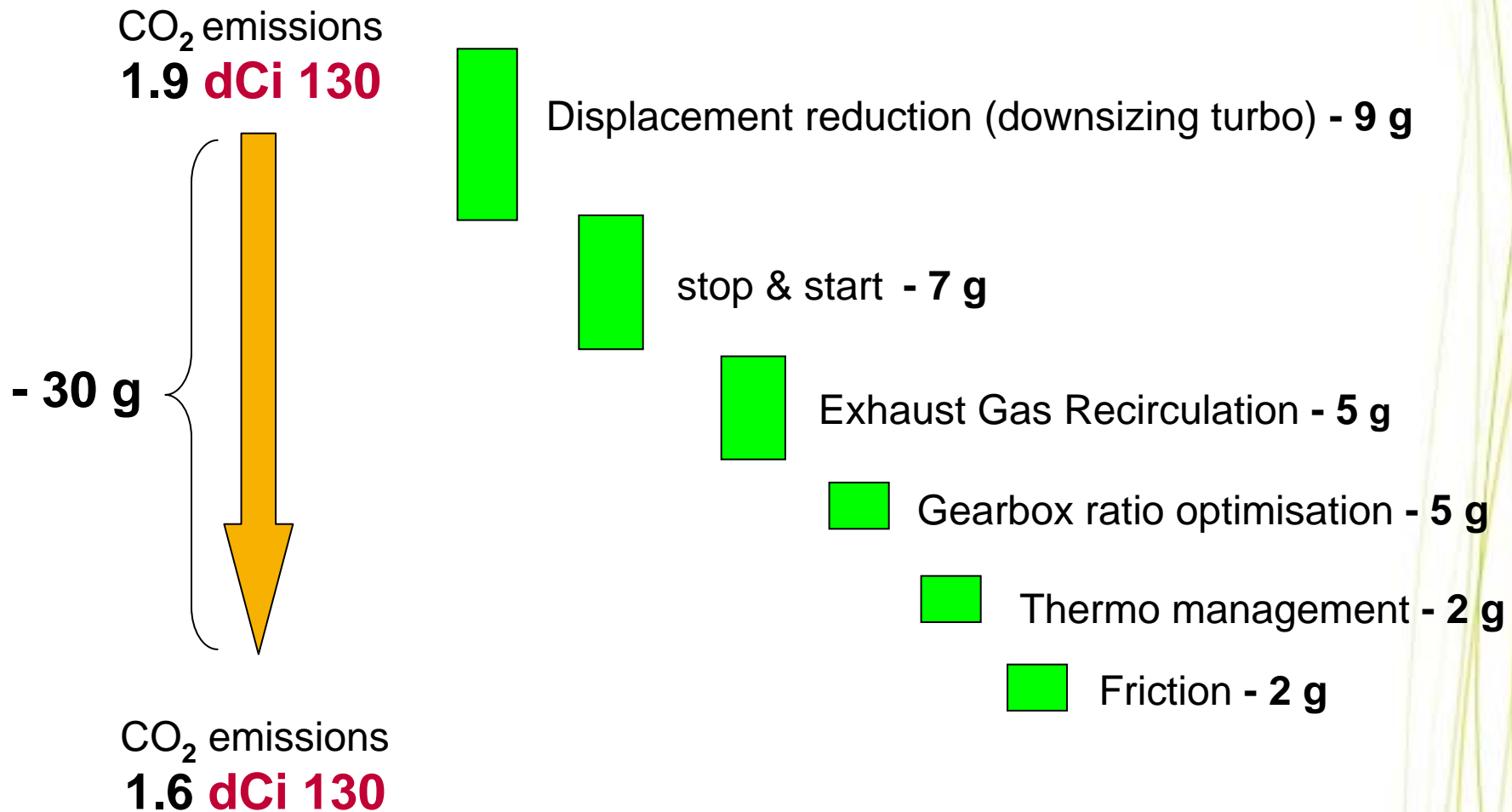
1.6 dCi 130

- **Diesel direct injection common rail turbocharged engine**

- 4 cylinders
- 240 M€ of entry ticket



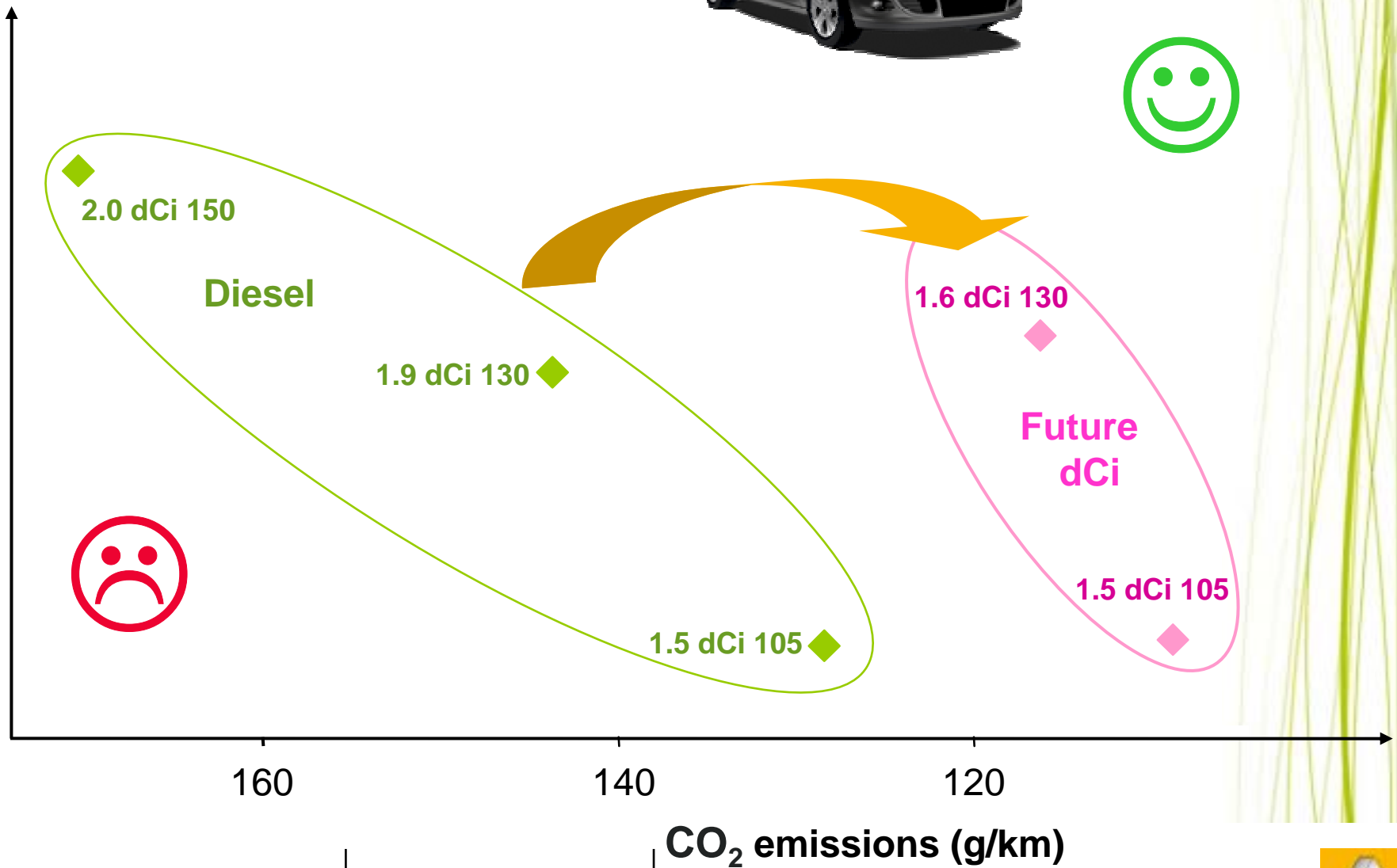
CO₂ EMISSIONS REDUCTION - 30 g/km



DIESEL OUTLOOK



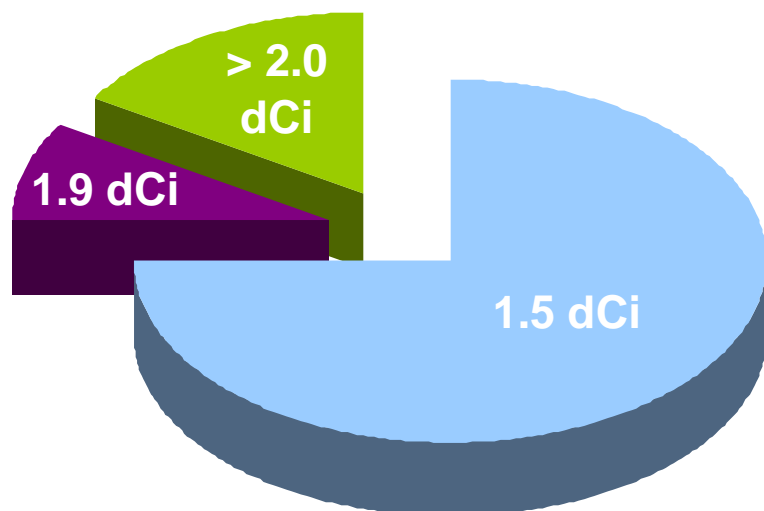
Performance



RENAULT GROUP DIESEL MIX IN EUROPE

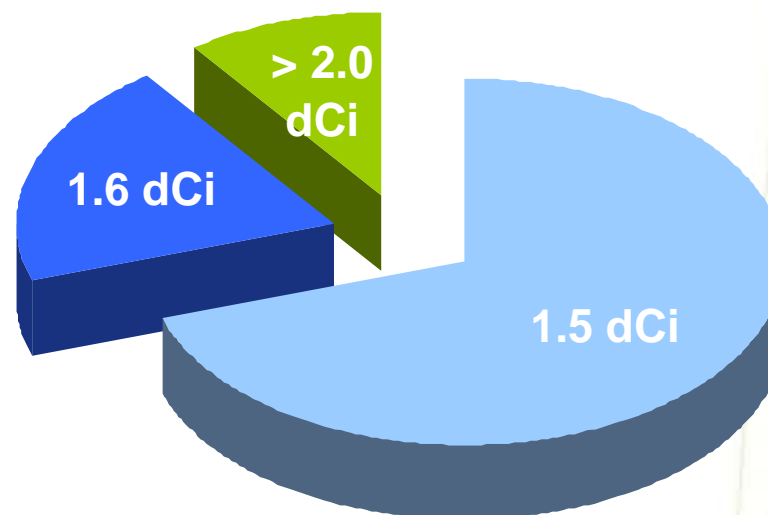
PC + LCV

2008



75% downsizing

2015



90% downsizing



Introducing new technologies
on conventional powertrains

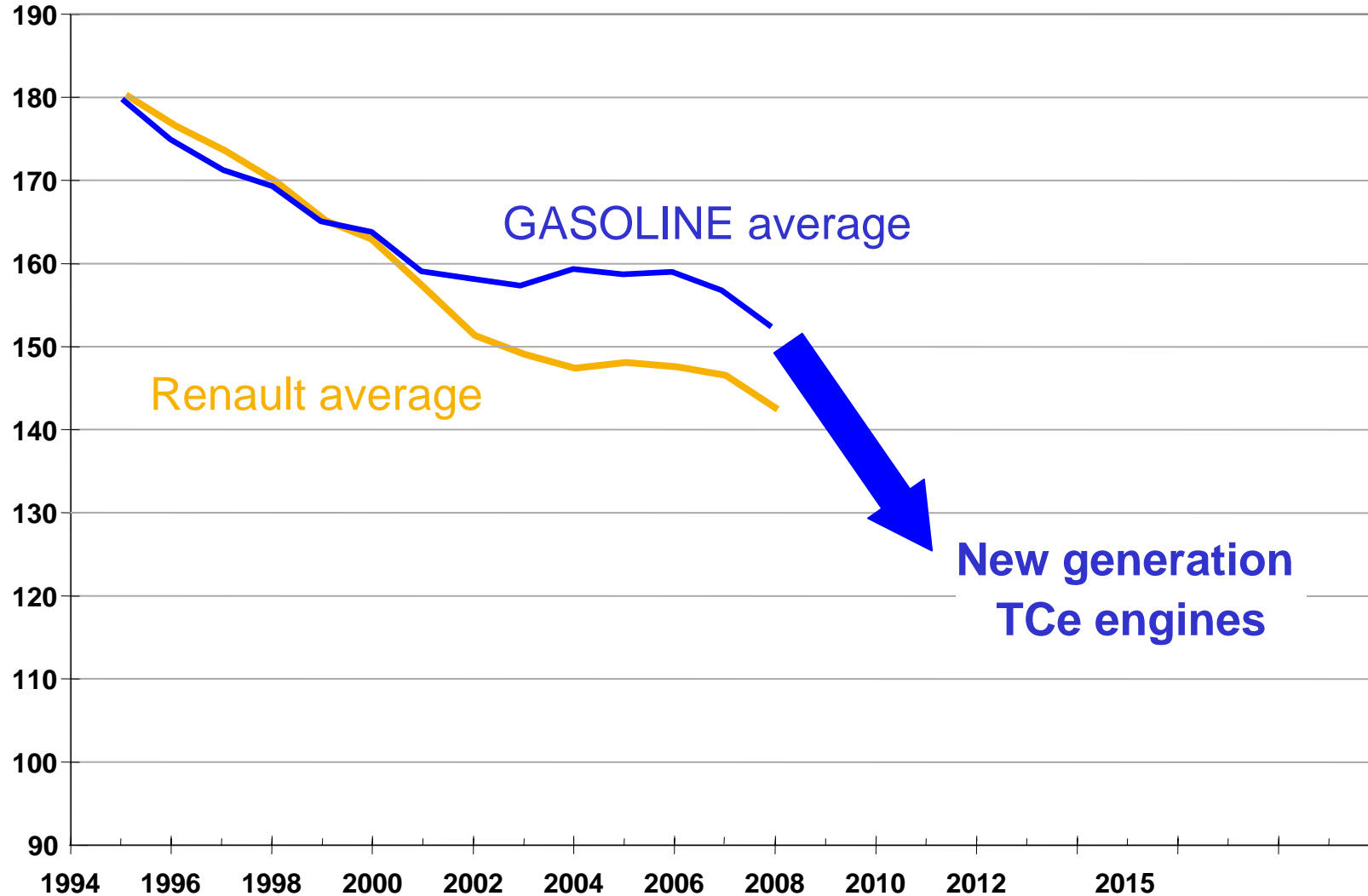


TCe engines new generation



TARGETING THE NUMBER ONE RANKING IN EUROPE IN 2015

Average CO₂
emissions (g/km)



TCe 90 AND TCe 115

- **Gasoline Direct Injection Turbocharged engines**
- 210 M€ entry ticket



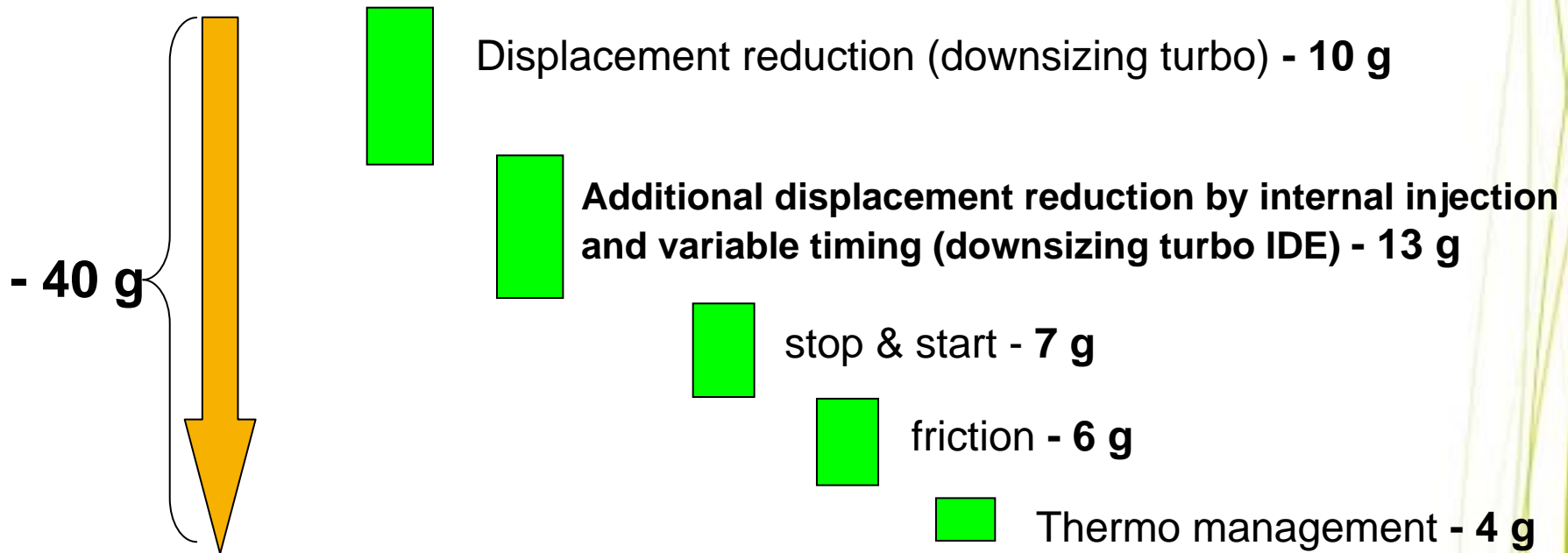
- 3 cylinders
- 0,9 litre



- 4 cylinder
- 1,2 litre

CO₂ EMISSIONS REDUCTION - 40 g/km

CO₂ emissions
1.6 16v 110

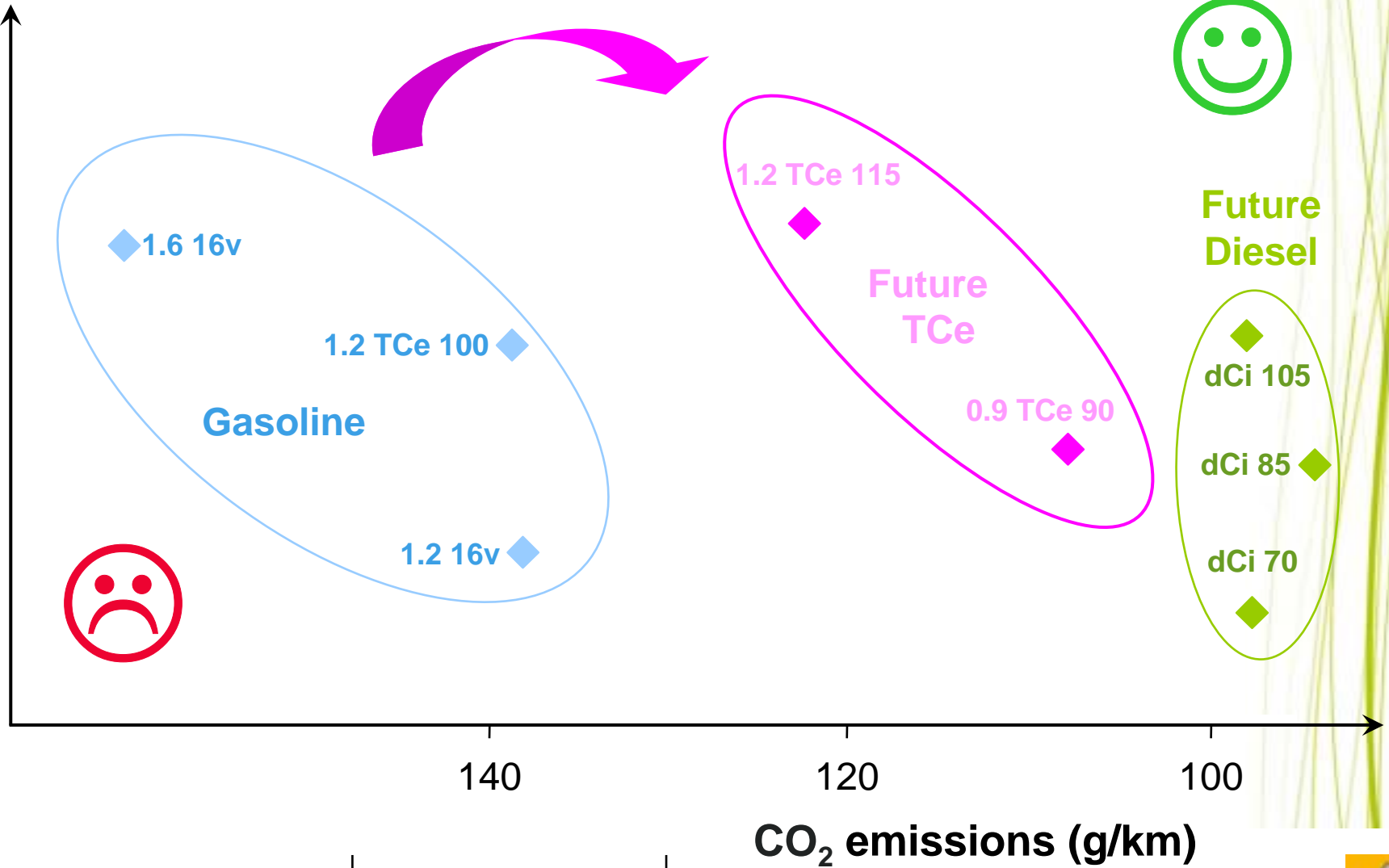


CO₂ emissions
1.2 TCe 115

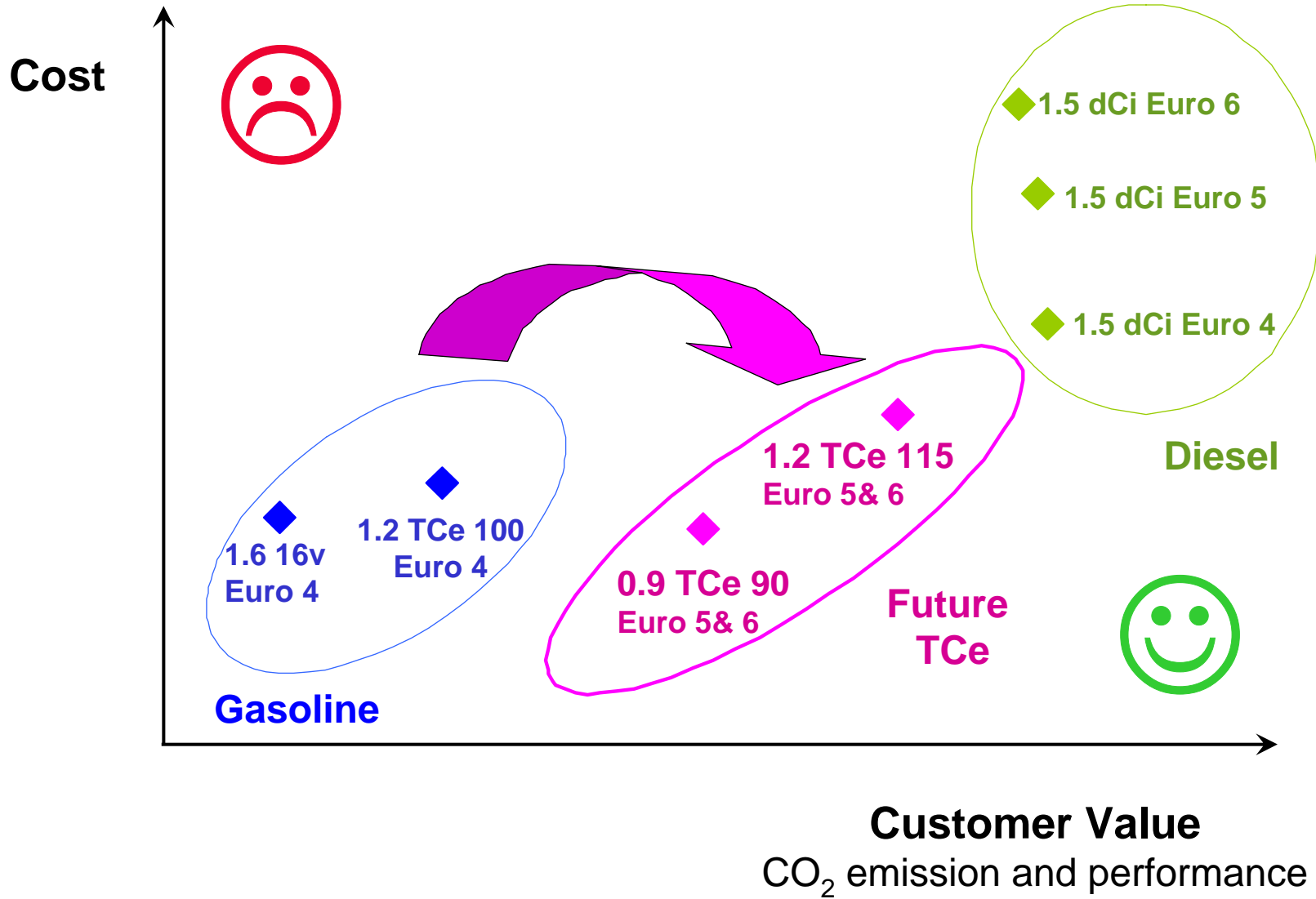
GASOLINE OUTLOOK



Performance



TCe 90 AND TCe 115

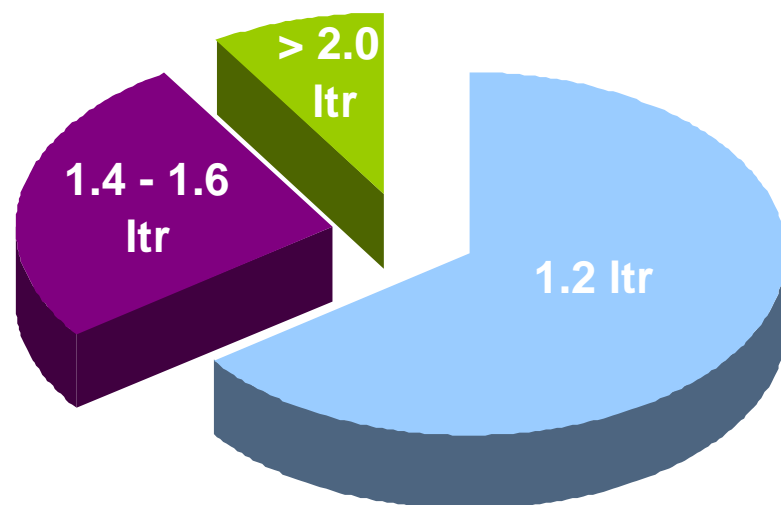


RENAULT GROUP GASOLINE MIX IN EUROPE

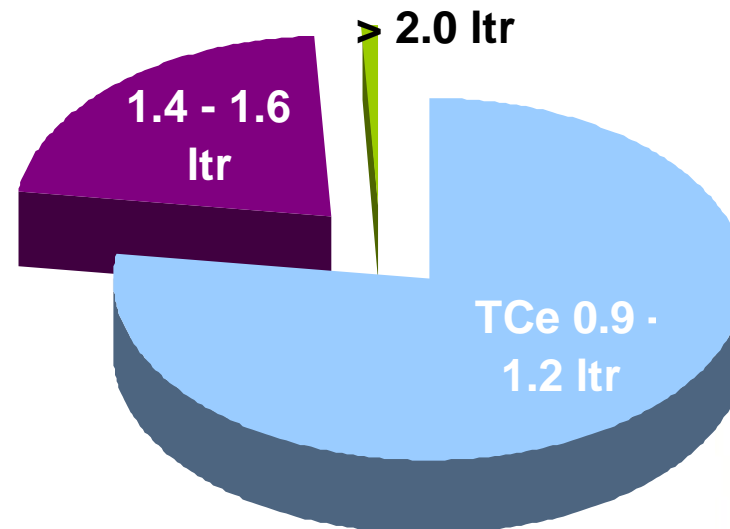
PC + LCV

2008

2015



65% downsizing



85% downsizing

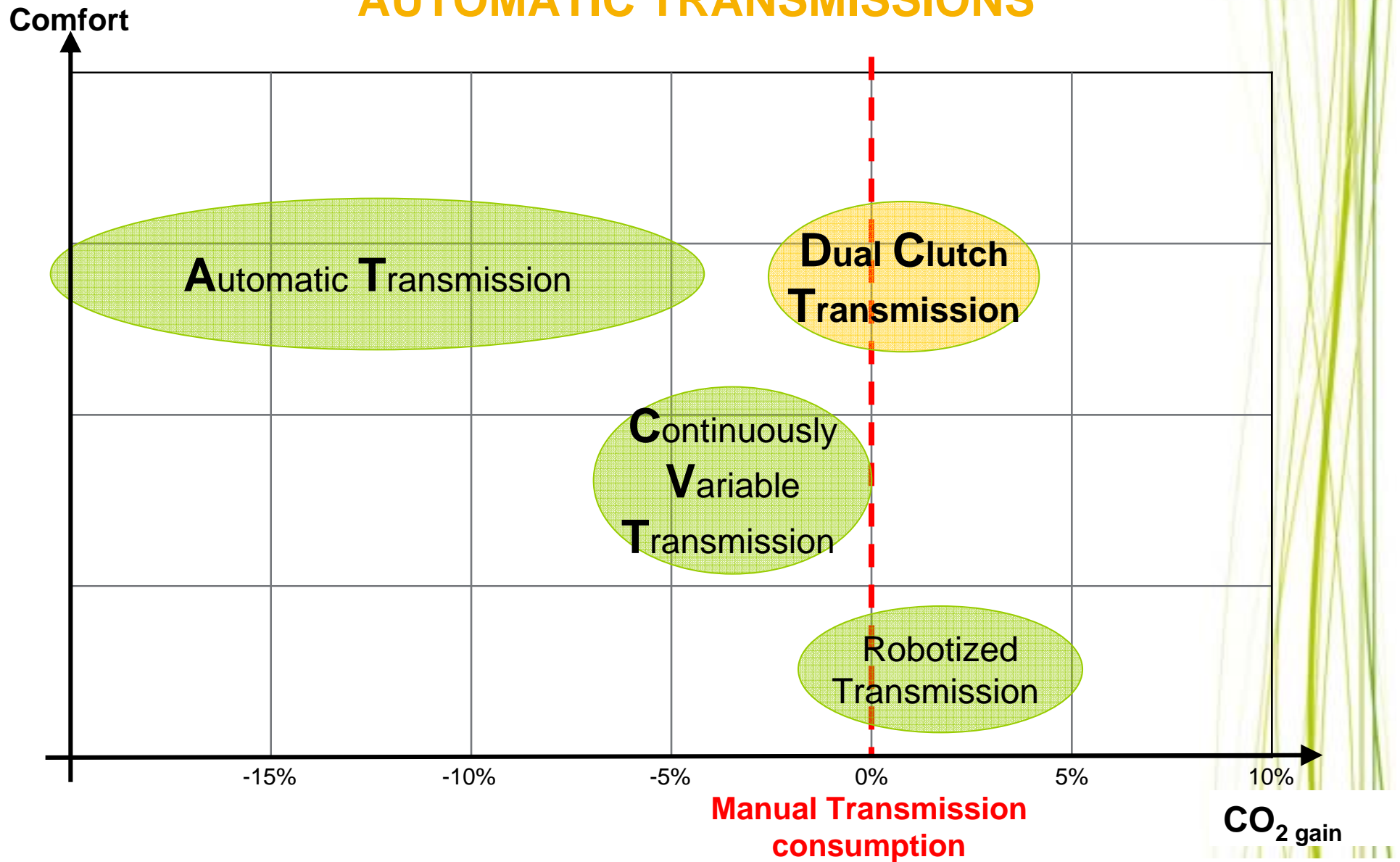
Introducing new technologies
on conventional powertrains



Automatic transmission

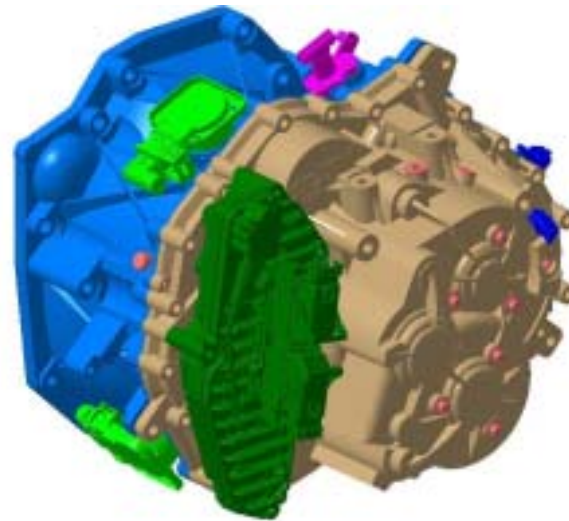


AUTOMATIC TRANSMISSIONS



DUAL-CLUTCH TRANSMISSION

- Great comfort of use
- SOP in 2010 on Mégane 1.5 dCi at 114 g/km CO₂

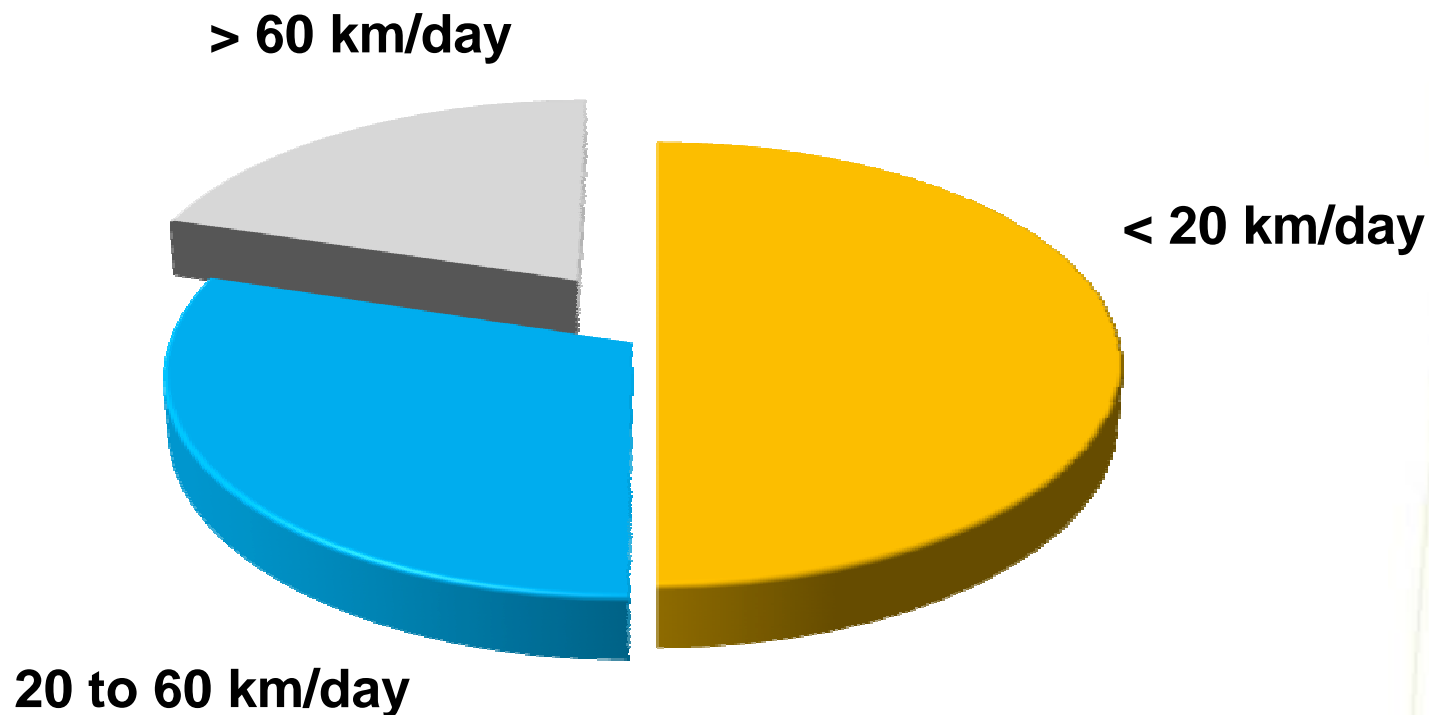




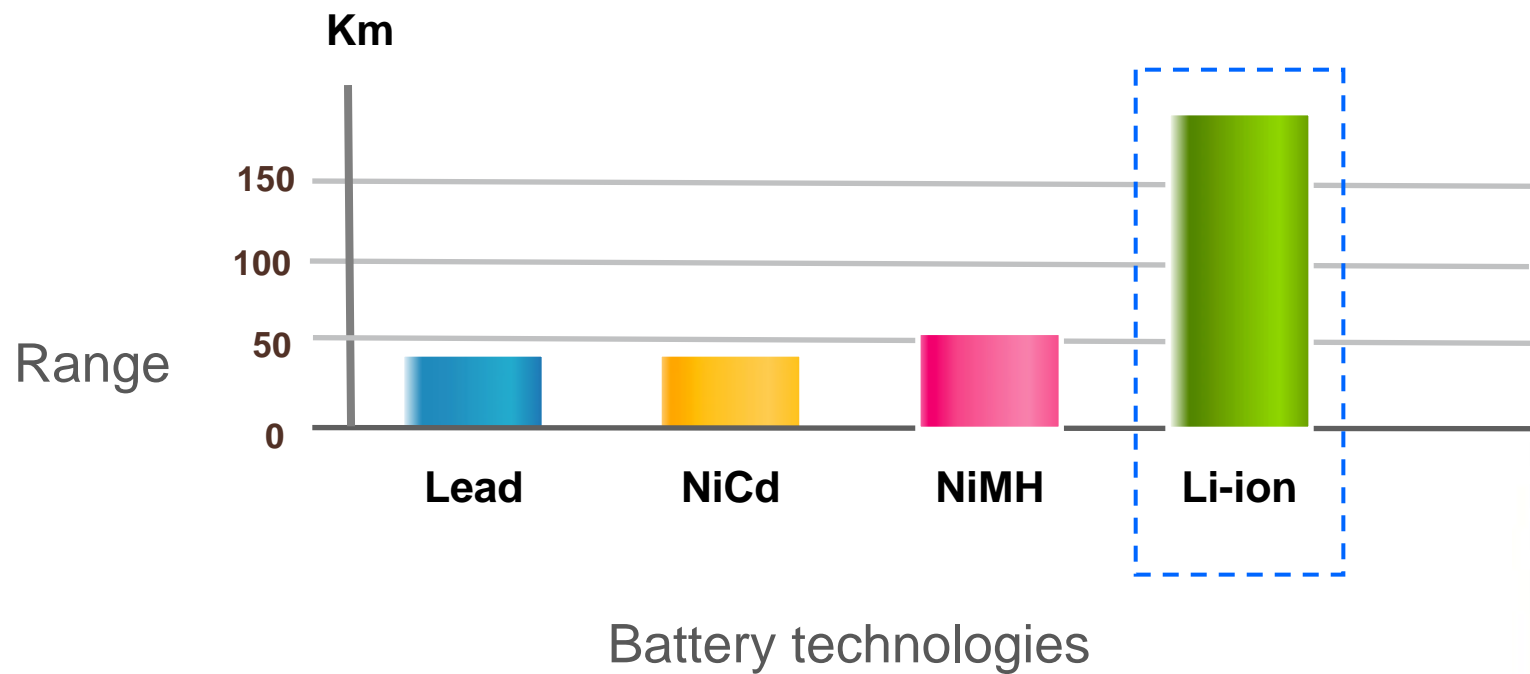
Developing all-electric powertrains



80 % OF EUROPEAN PEOPLE ARE DRIVING LESS THAN 60 KM PER DAY



A GRASP OF LITHIUM-ION BATTERY TECHNOLOGY



A MASS PRODUCTION MARKET

Fluence ZE
H1 2011



Kangoo ZE
H1 2011



Twizy
H2 2011

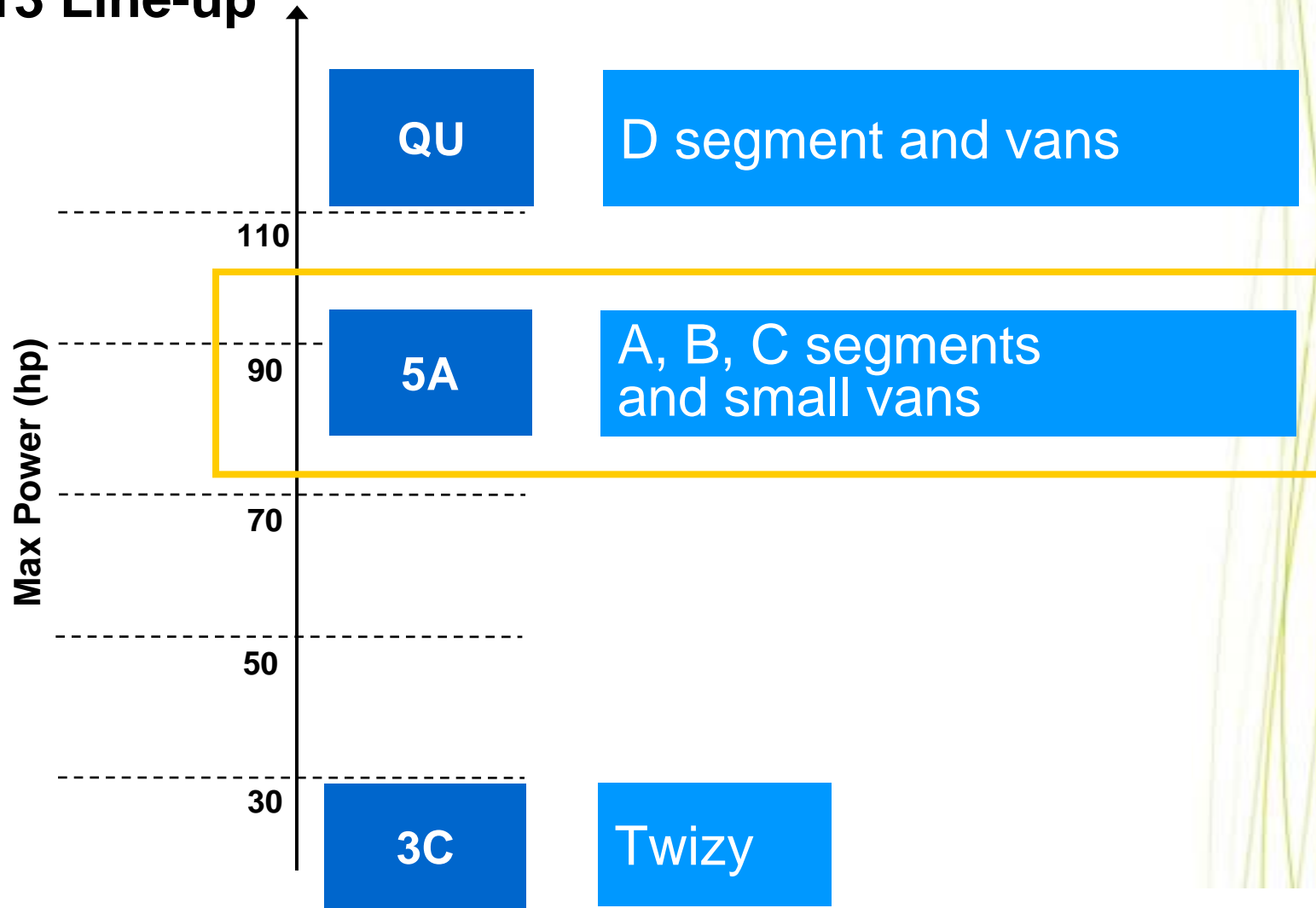


ZOE
H1 2012



RANGE OF ALL-ELECTRIC POWERTRAINS

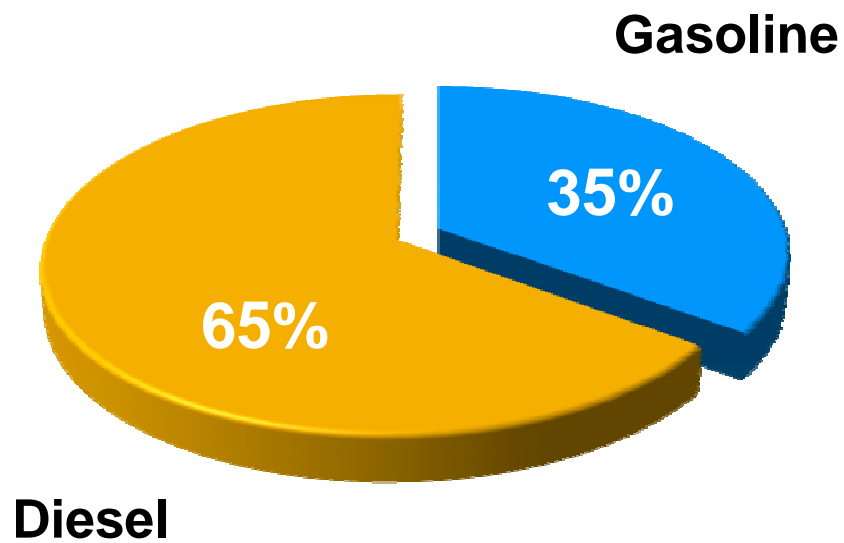
2013 Line-up



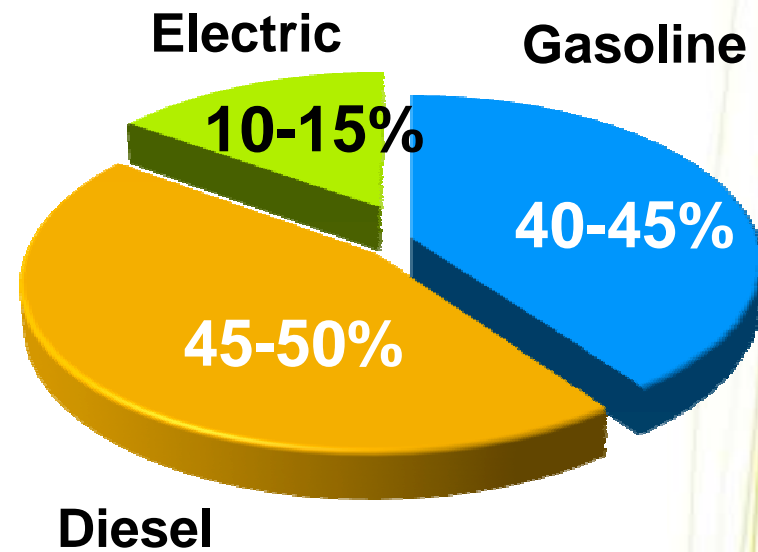
A MASS-MARKET (EUROPE)

Renault volumes for passenger car and LCVs

• 2008



• 2015



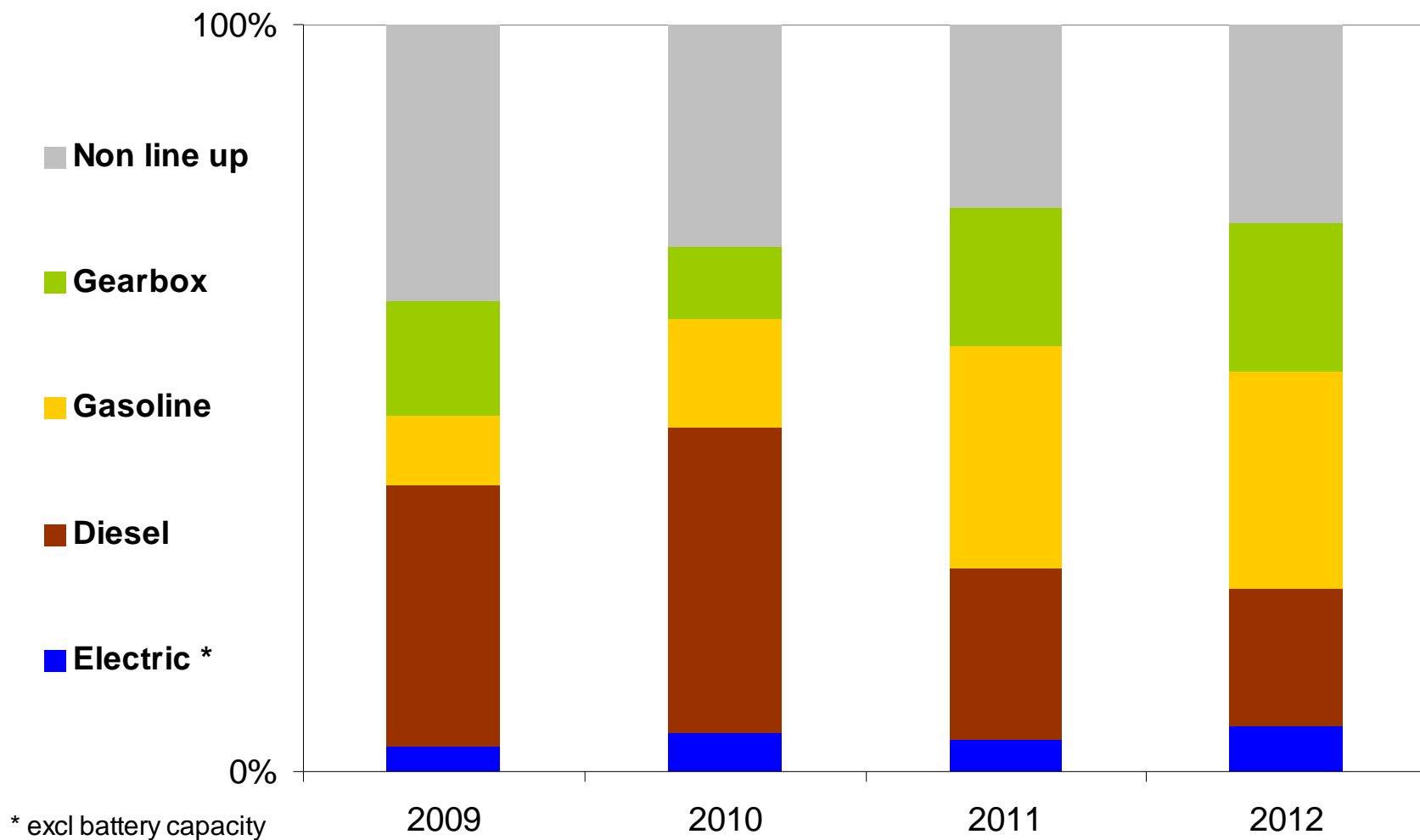


RENAULT Powertrain Investments

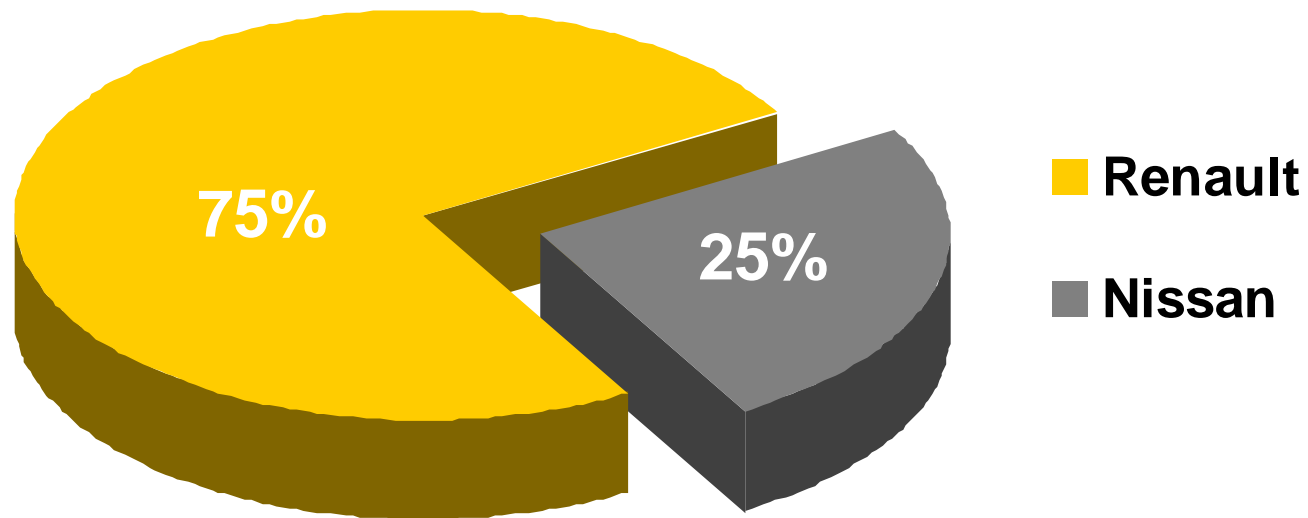
Entry Ticket Synergies with ALLIANCE



RENAULT POWERTRAIN INVESTMENTS



ALLIANCE ENTRY TICKET SHARING EXAMPLE ON THE TWO PROJECTS PRESENTED (TCe & dCi)



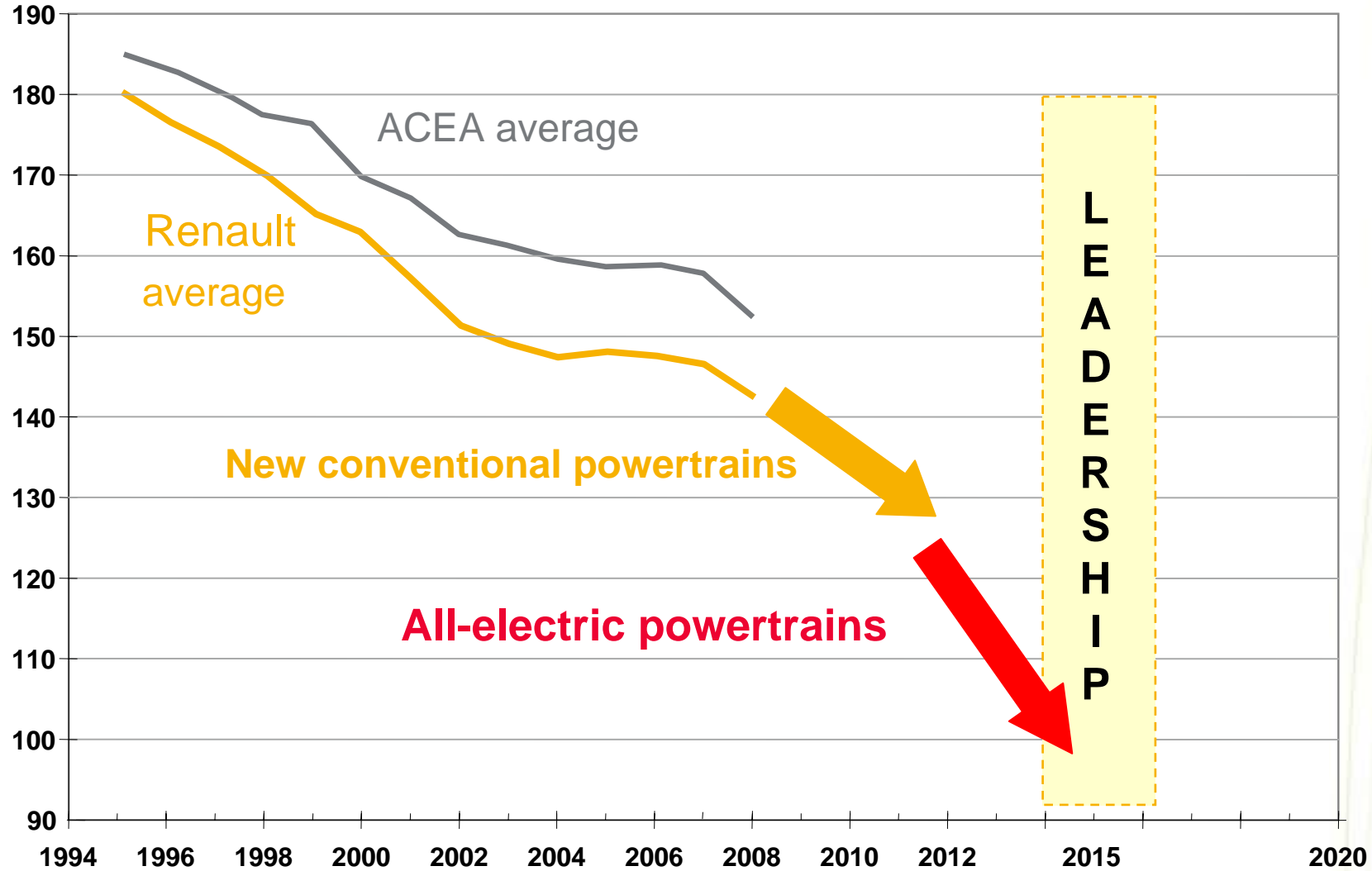


Conclusion



TARGETING THE NUMBER ONE RANKING IN EUROPE IN 2015

Average CO₂
emissions (g/km)





Questions & Answers

