

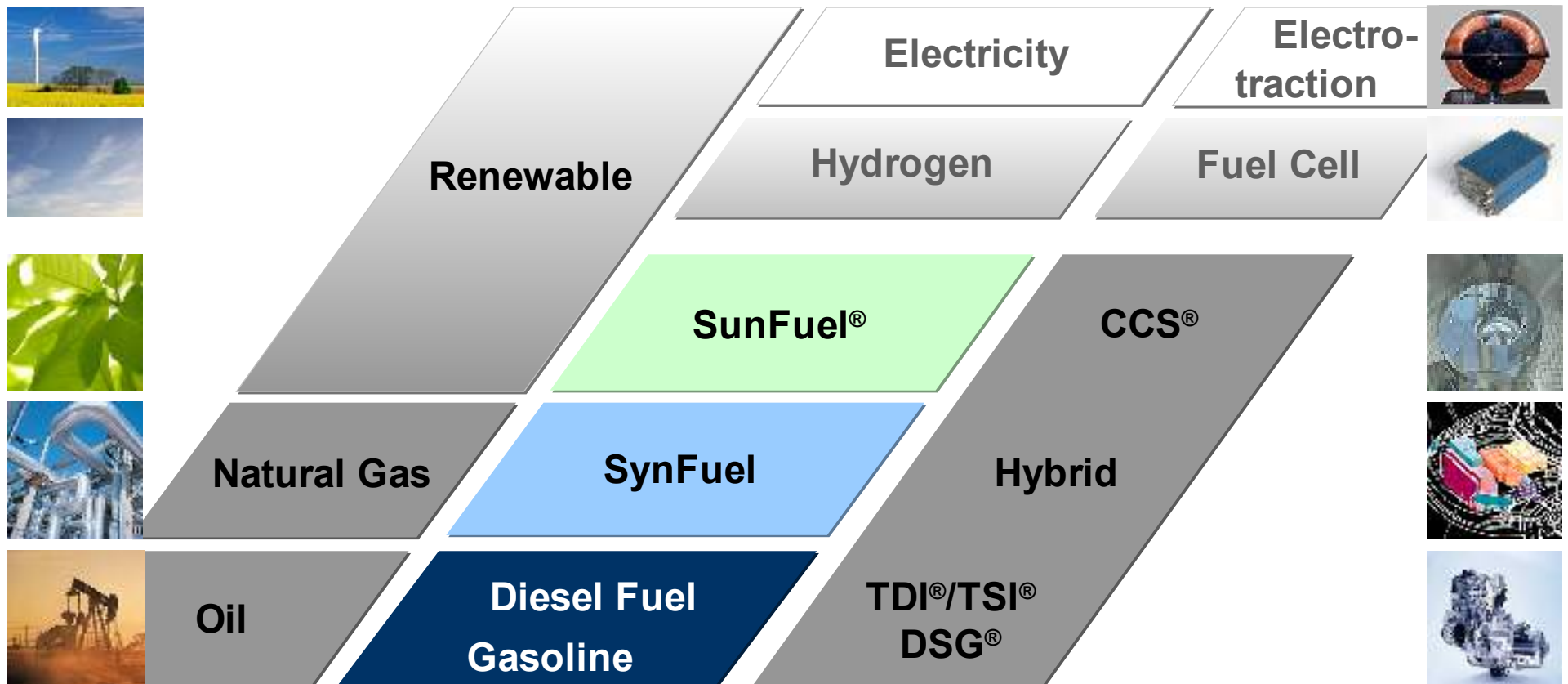
# Biofuels and future engine requirements

## **The View of a Car Manufacturer**

Dr. Wolfgang Steiger

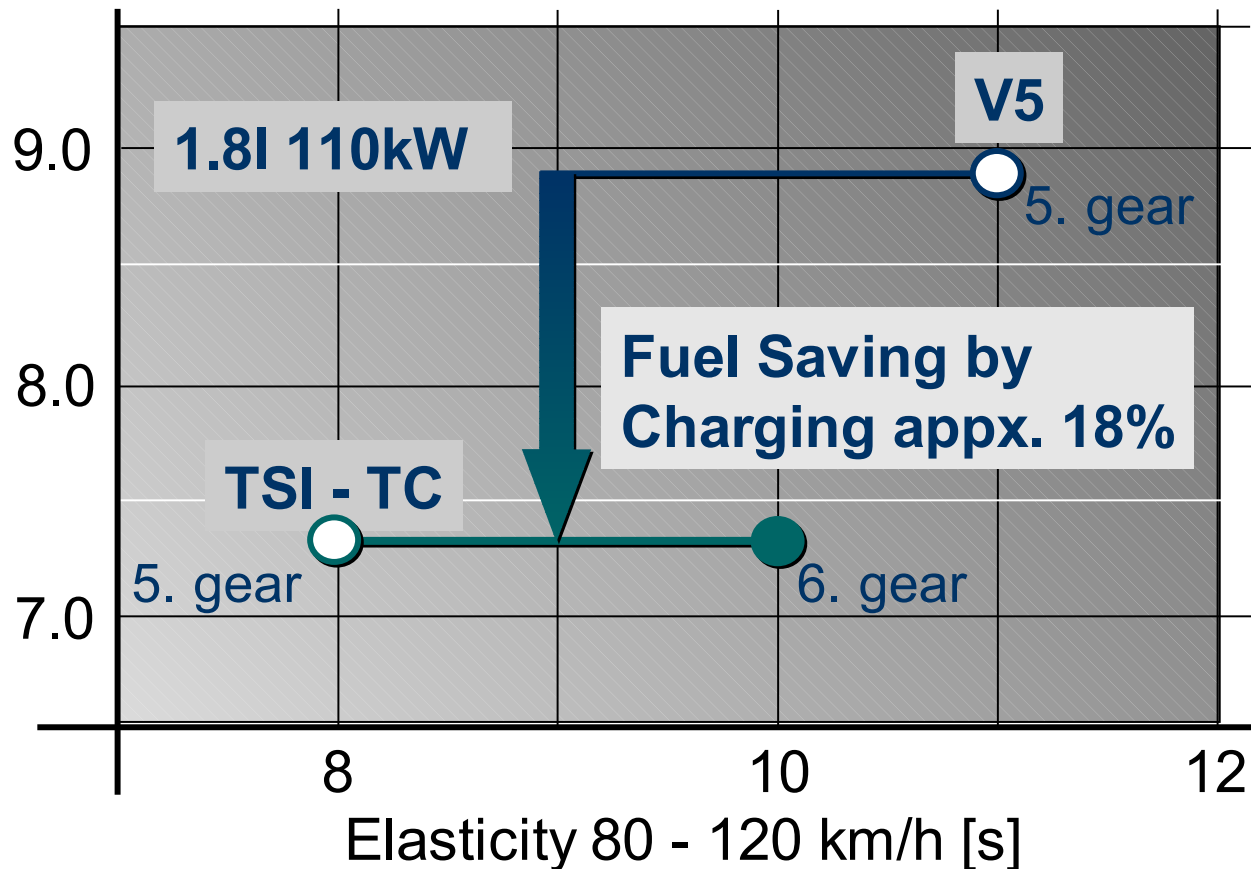
31.01.2008 European Biofuels Technology Platform, Brussels

# Volkswagen's Fuel- and Powertrain Strategy

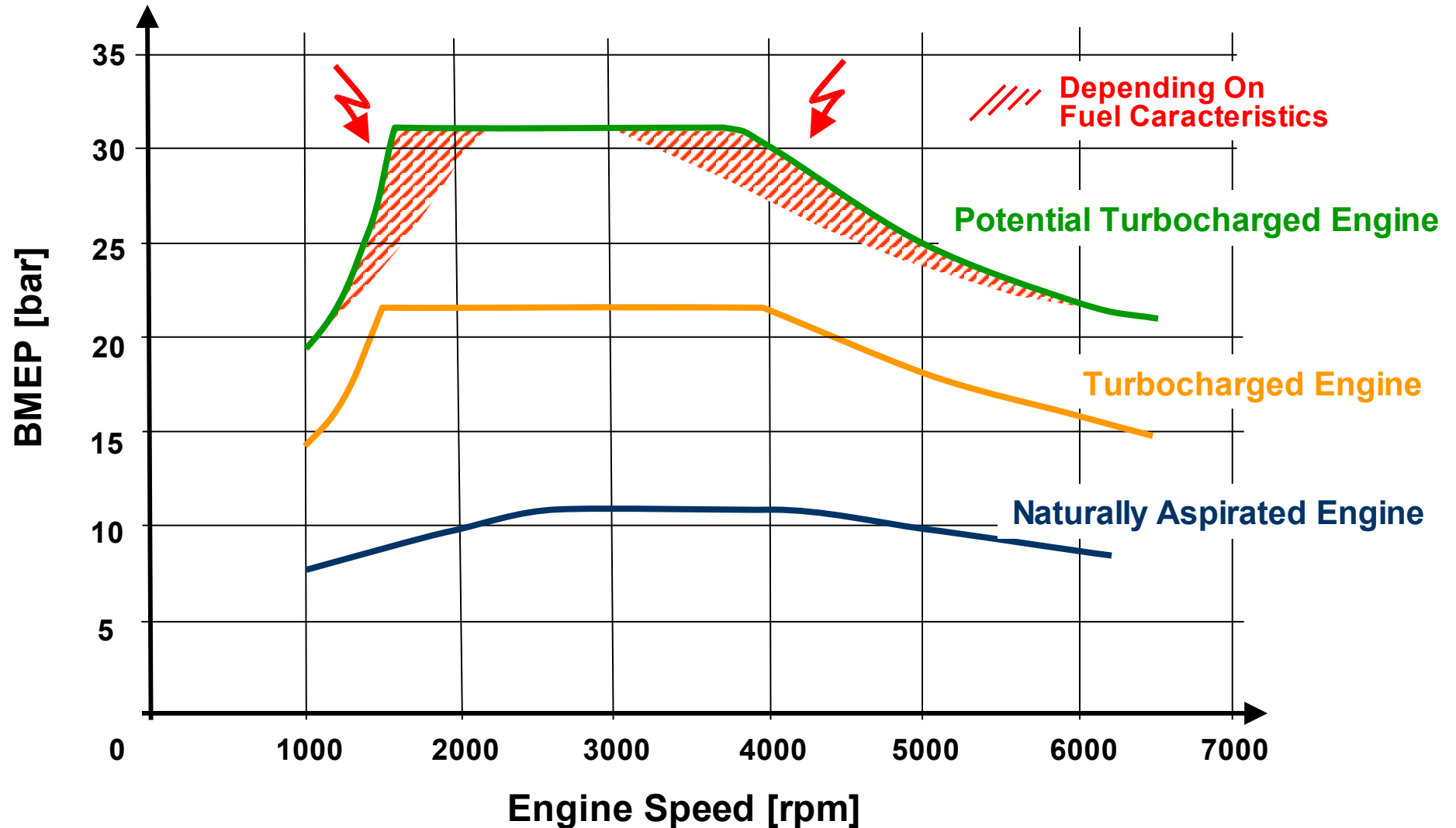


# TSI® – Fuel Consumption Reduction by Turbo Charging Comparison V5 vs. TSI - TC (125kW)

Fuel Consumption [l/100 km] NEDC

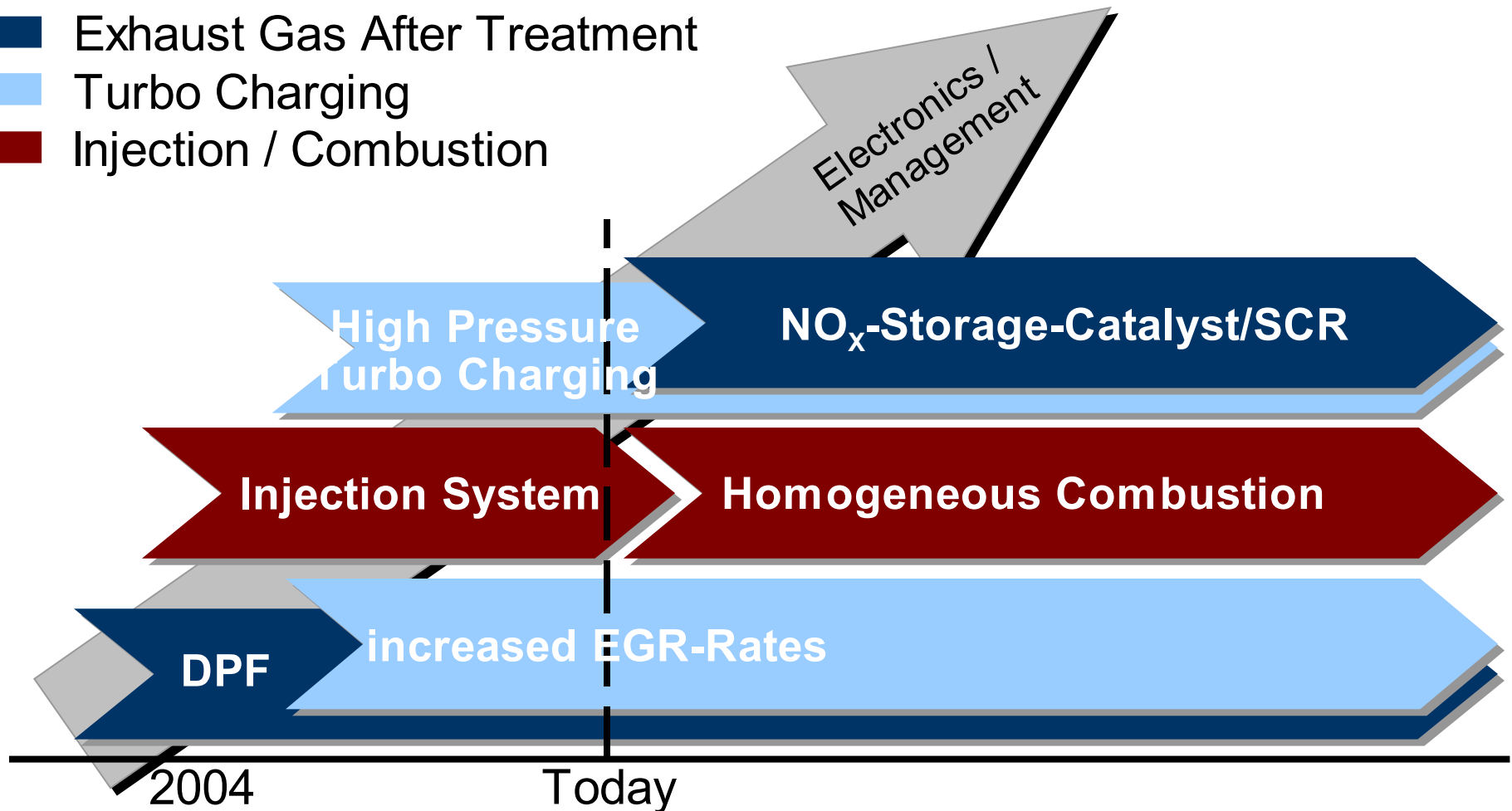


# Full Load Characteristics of SI-Engine



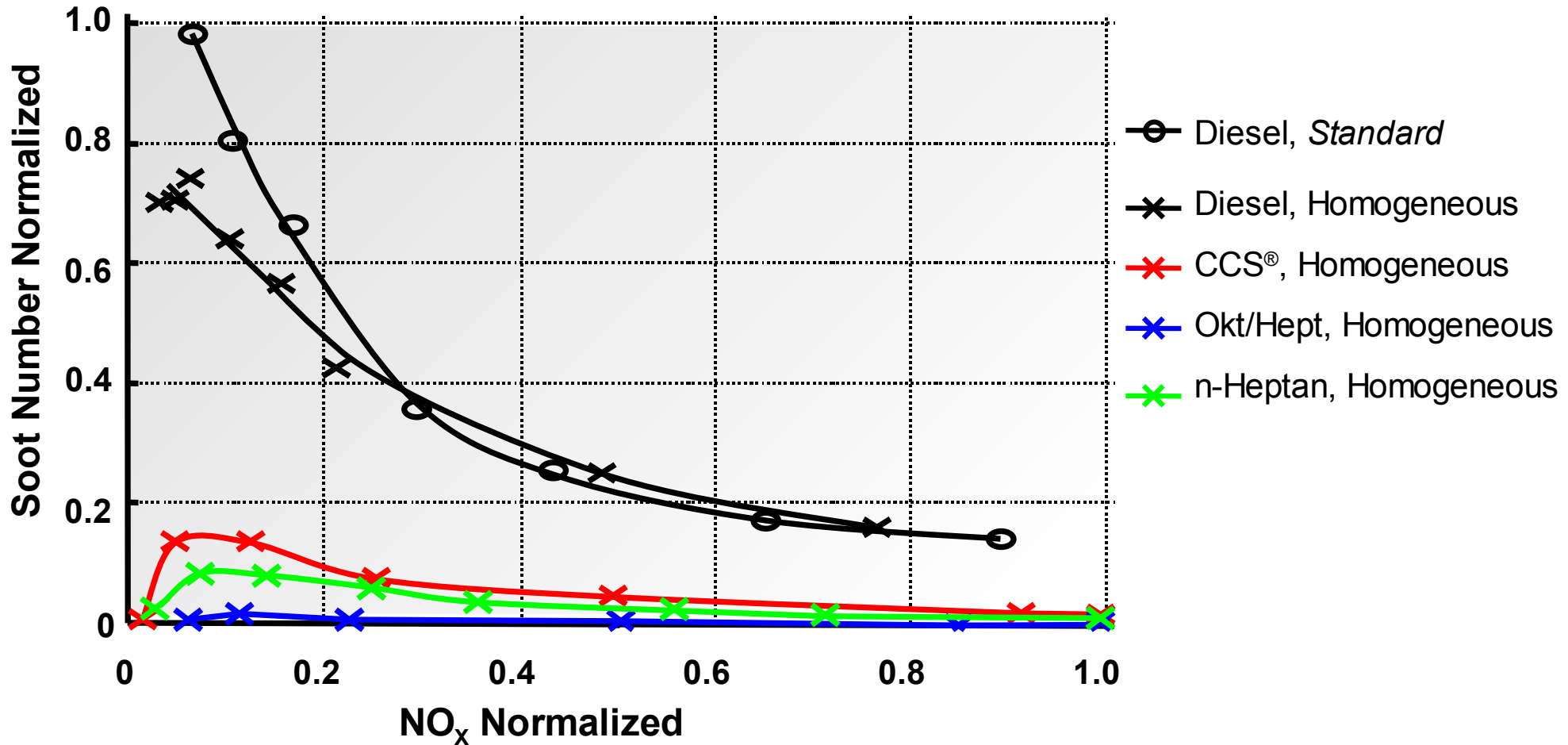
# Future Challenges for the Diesel Emissions

- Exhaust Gas After Treatment
- Turbo Charging
- Injection / Combustion

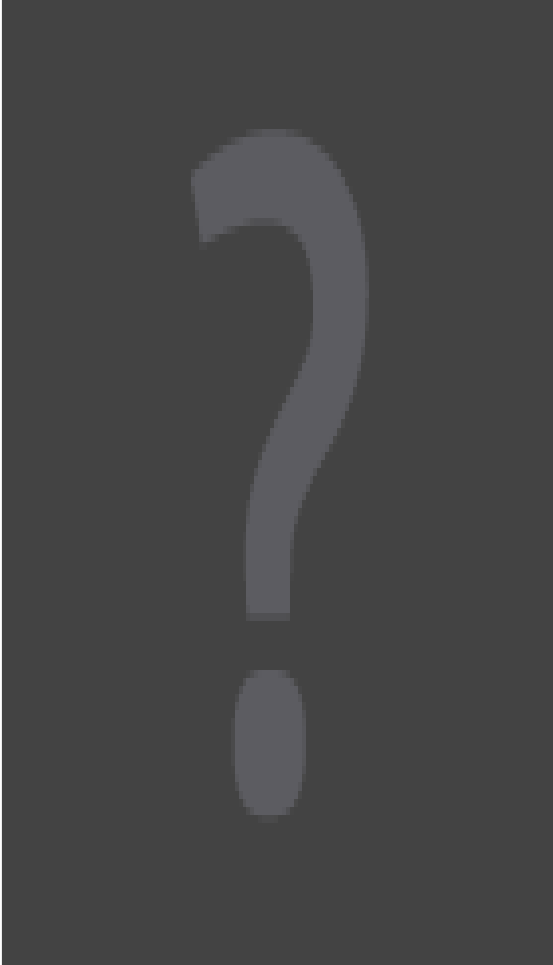


# Homogeneous Combustion - CCS® Engine Test

Fuels Comparison (rev. = 1500 rpm, IMEP = 6,8 bar)

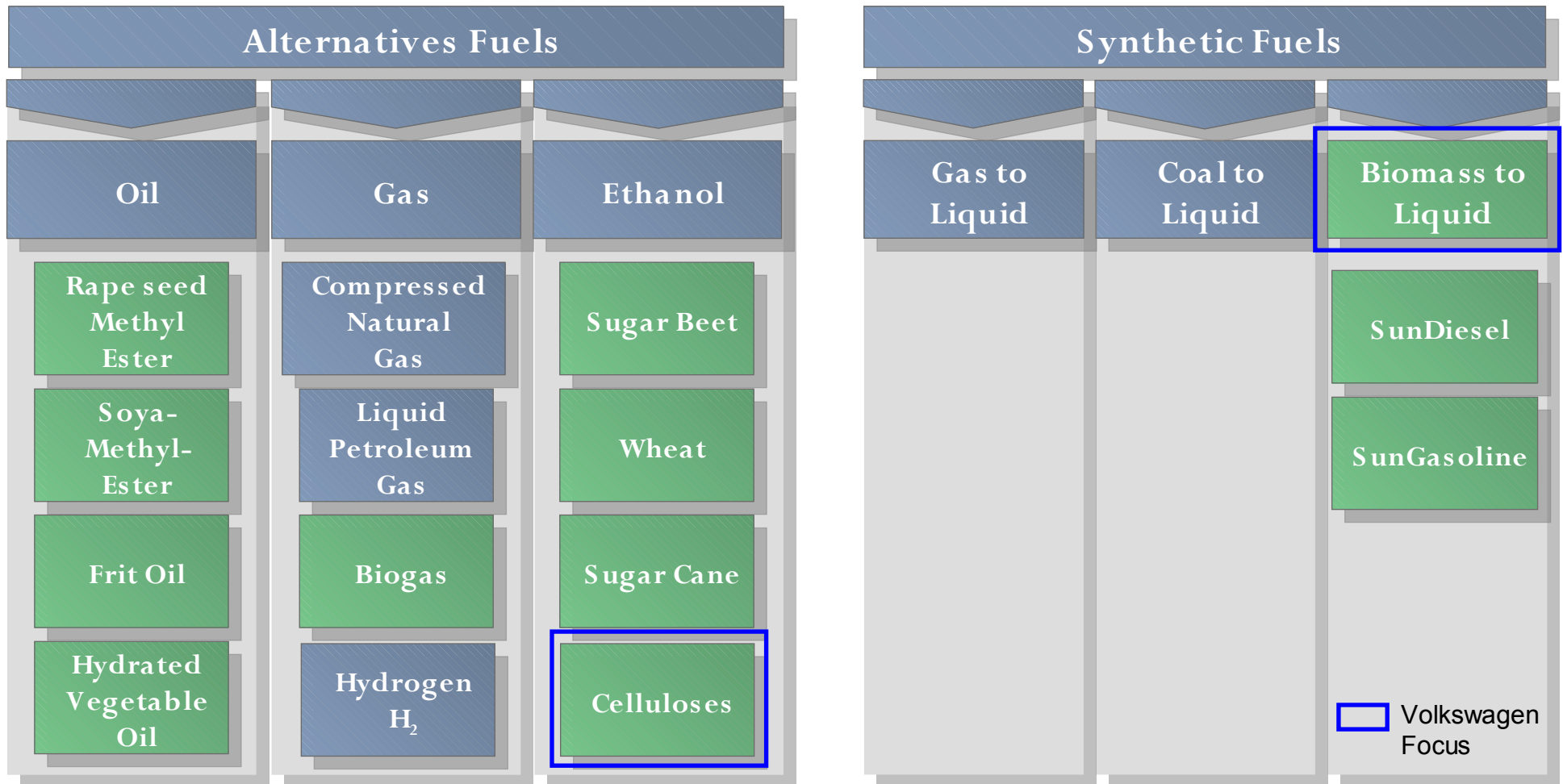


## Homogeneous Combustion for the Diesel



- Early homogeneous combustion reduces emissions (PM, NO<sub>x</sub>) **and Fuel Consumption**
- Important Fuel Characteristics
  - Boiling Range
  - Ignition Performance

# Alternative Fuels – Overview





## Conclusion



- Stay with EU tradition in linking fuel and engine requirement
- Future engine development for further CO<sub>2</sub> and Emission reduction requires changes in fuel characteristics
- 2nd generation biofuels are able to be adapted to future specifications



**Thank you  
for  
Your Attention**