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EUROPEAN COUNCIL FOR AUTOMOTIVE R&D

# **What Power for Future Mobility: EUCAR Presentation to CEBRE**

Simon Godwin, 27<sup>th</sup> April 2010

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# EUCAR Members

## The 12 Major European Automotive Manufacturers



## **“To Strengthen the Competitiveness of European Automotive Manufacturers through Strategic Collaborative R&D”**

**by:**

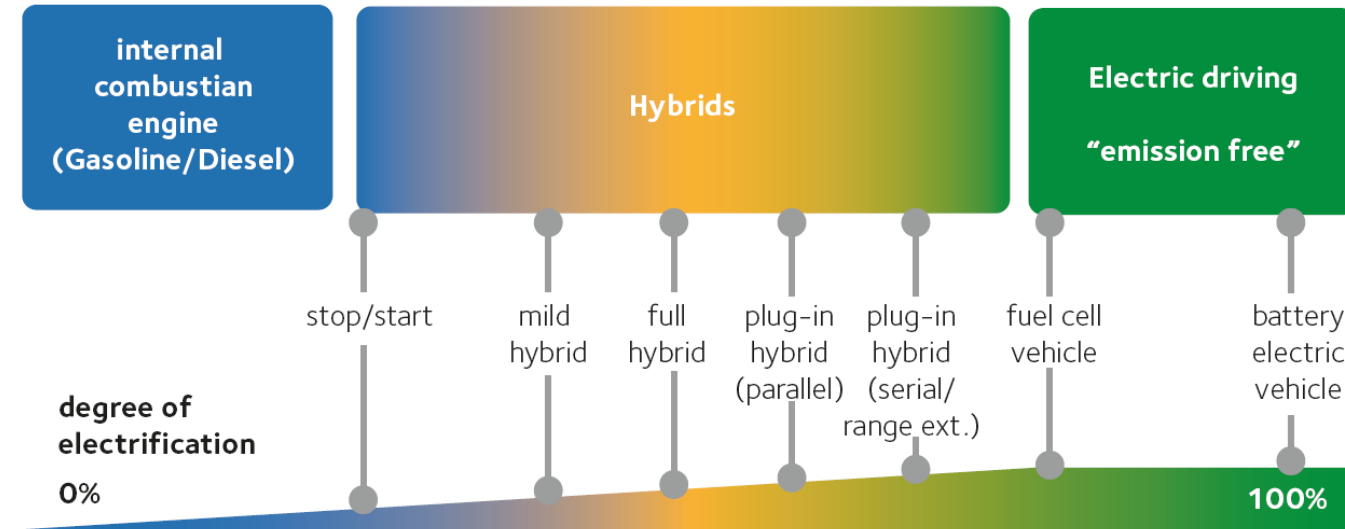
- **Identifying, formulating and prioritising the common R&D needs;**
- **Interacting with the European Commission, national bodies and other key stakeholders in order to represent, promote and communicate these R&D needs;**
- **Initiating, supporting and monitoring impact studies, projects and programmes;**

# Research ideas enable future technologies

- EUCAR's members work on many clean efficient propulsion technologies for passenger and goods vehicles
  - Advanced internal combustion engines
  - Electric hybrid vehicles
  - Alternative fuels and biofuels
  - Hydrogen fuel cell vehicles
  - Battery electric vehicles
- Associated technologies contribute substantially to efficiency
  - Advanced materials and structures
  - Intelligent transport systems integrated with the vehicle and autonomous driving concepts
  - Efficient interfaces between different transport vehicles and modes
  - Improved logistics
- New ideas are arising in all these technological areas

# Electrification of the vehicle is one option

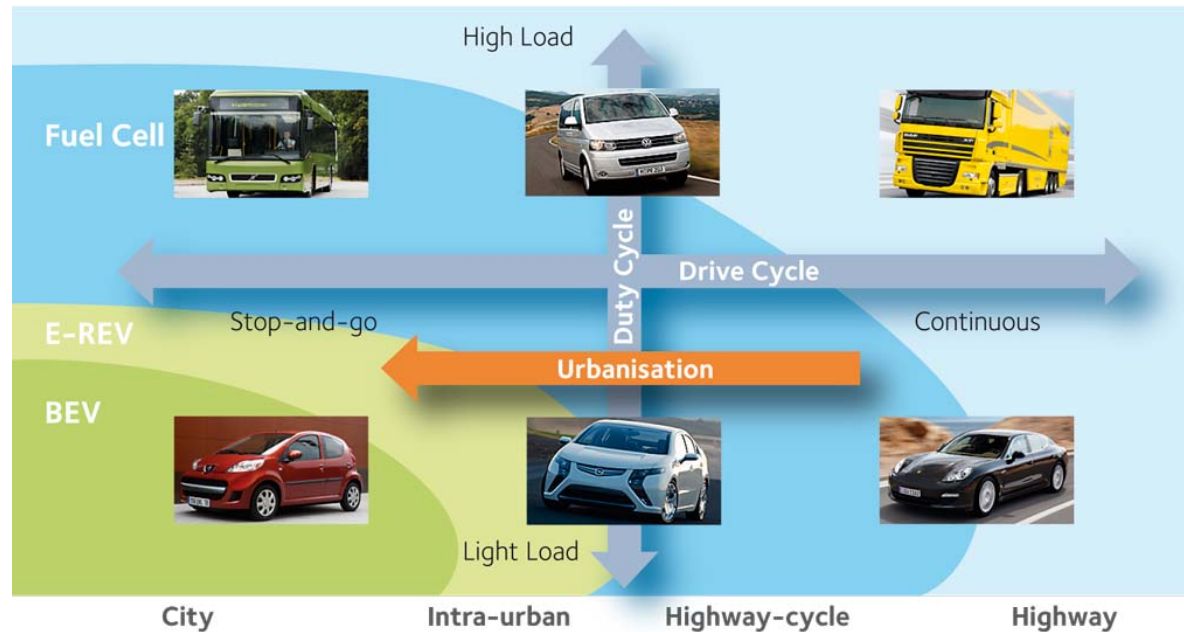
- There is a wide spectrum of concepts for electrification of the vehicle



- These concepts include / incorporate all of the technologies previously mentioned
- The future share of these different electrification concepts will be determined by maturity of technology and market acceptance

# Duty and Drive Cycles determine Drive Options

- Deployment of different applications will depend on required utility cycle of user



- Different concepts are appropriate for different applications
- For certain applications, conventional engines remain the only solution
- Viability of electric vehicles will depend on cost and infrastructure

# Ideas need time to become viable products

- ❑ For the foreseeable future (well beyond 2020), the internal combustion engine will remain the dominant propulsion system
  - Research into ICEs, new propulsion systems (including electrification) and associated technologies is therefore necessary
- ❑ Time is needed to bring new ideas to exploitation stage
  - Today's research can result in market launch by around 2020
  - Market penetration of competitive new technologies could then be expected by 2030
- ❑ Affordability, competitiveness and safety are parallel priorities
  - Efficient manufacturing techniques are also being researched
  - Passive, active and cooperative safety systems have implications for the vehicle efficiency – research also continues in these topics
- ❑ The nature of research is to investigate possibilities
  - Define objectives (e.g. environmental, safety, economic)
  - Remain technically neutral to allow ideas to flourish
  - Some ideas may not make it – inherent risk of investment in technology

# Research requires resources

- The automotive industry is the largest EU investor in R&D
  - €26bn per year investment
  - Highly competitive industry
  - Currently much investment is being made in electrification
- Research is enhanced through collaboration in pre-competitive domain allowing wider exploitation of results
  - EU Framework Programme including European Green Car Initiative
  - National research programmes
  - Public funding helps to mitigate the risk
  - Administrative burdens in EU research funding must be reduced
- Societal demands on road vehicles necessitate support
  - Ideas are needed to meet economic, societal and environmental demands
  - EU policy should ensure a sufficiently high level of support and funding for automotive research
  - Set road transport and automotive technologies as a priority theme in the Eighth Research Framework Programme