



Alternative fuels and engines: the prospects



Tiago Lopes Farias
Instituto Superior Técnico

ITF/IMTT Seminar on Innovation in Road Transport
2 October 2009, Lisbon



New energy sources

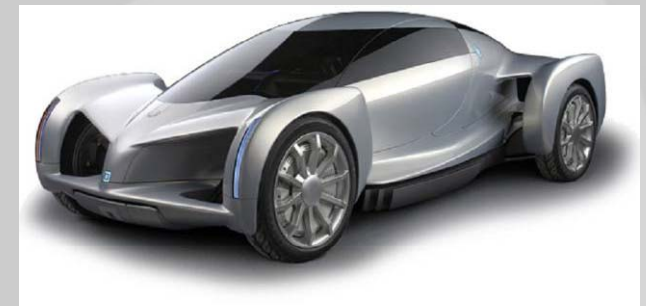
- Ethanol
- Biodiesel
- Natural Gas
- Bio Gas
- Electricity
- Hydrogen

- New Propulsion Systems
 - hybrid, electric, “plug in”,
 - fuel cells.....

Key issues... not always fully addressed



1. **Why? Does it makes sense?**
 - Reduces CO2 emissions?
 - Is security of supply addressed?
 - Reduces pollutant emissions?
 - Is it more efficient?
2. **Is it available ... at a competitive price?**
3. **Is there a refueling infrastructure available?**
4. **Is legislation ready?**
5. **Who pays?**
6. **Who wins?**



Is it sustainable?



14:40 - 15:30 Further Interventions and Discussion

Alternative solutions for HGVs

- **Rui TIMÓTEO** (SCANIA): New generation of HGVs – how to meet the environmental goals
- **Neville S. JACKSON** (Ricardo PLC, professor): Low carbon technologies for heavy duty vehicles
- **Staffan LUNDGREN** (VOLVO R&D): Volvo solutions for improving performance of HGVs
- **Robert STÜSSI** (European Association for Battery, hybrid and Fuel cell electric Vehicles): Past, present and future for electric vehicles
- **Francisca DUARTE PACHECO** (Ministry of Economy and Innovation, Portugal): The Electric Mobility Programme in Portugal

15:30- 16:00 Discussions / Concluding remarks by Chair



Thank you for your attention



Tiago Lopes Farias
Instituto Superior Técnico

ITF/IMTT Seminar on Innovation in Road Transport
2 October 2009, Lisbon