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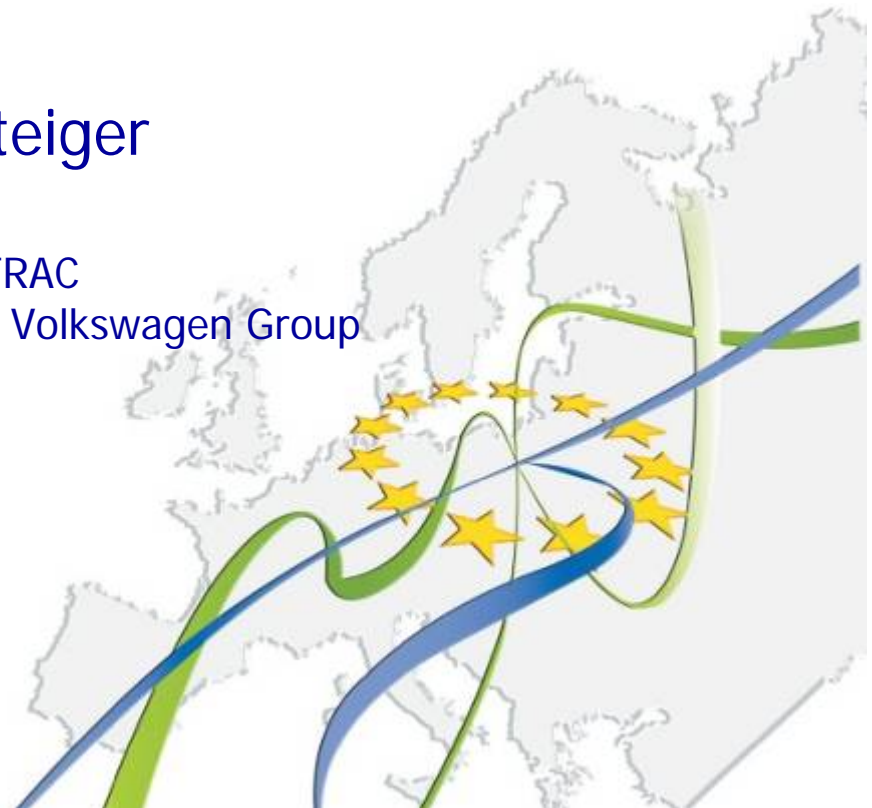
European Road Transport Research Advisory Council

Today and Future Activities as part of the European Green Car Initiative

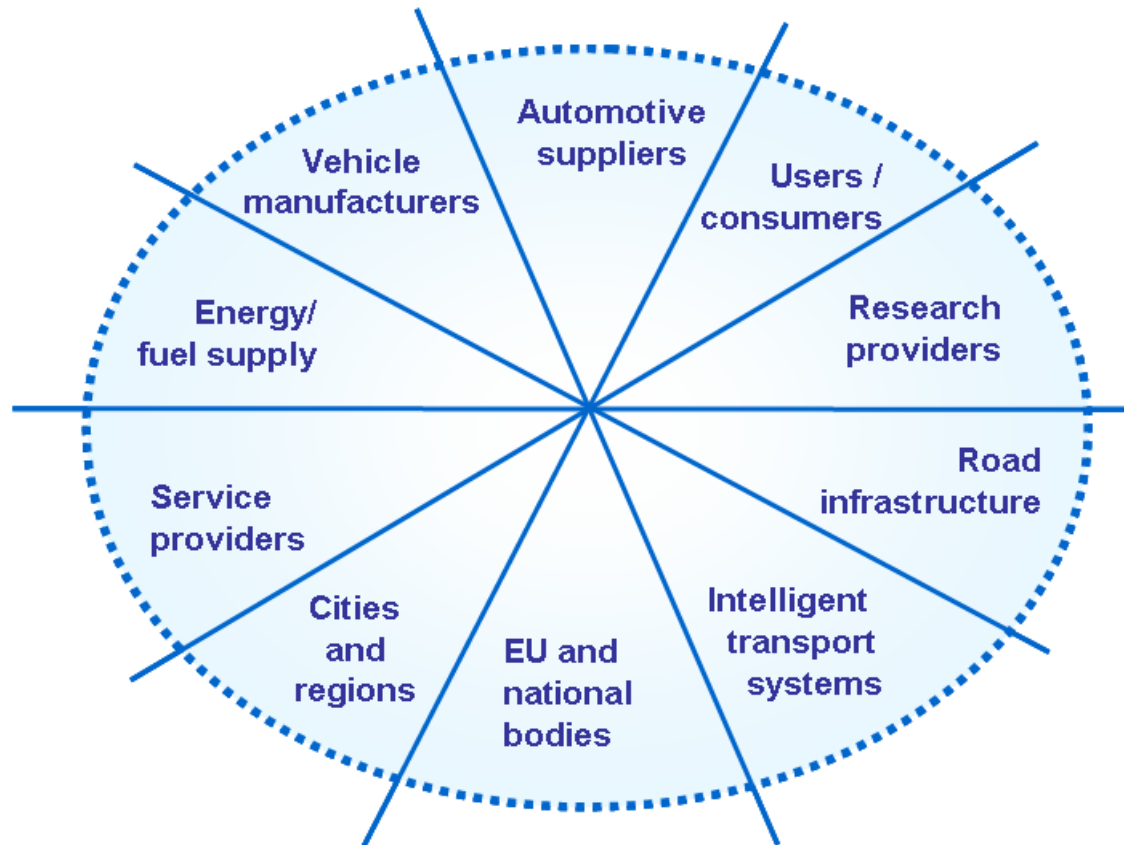
Wolfgang Steiger

Chairman ERTRAC
Director Future Technologies Volkswagen Group

Valencia, 14.4.2010



ERTRAC Stakeholders



All major Road Transport Stakeholders are represented in ERTRAC, through their associations, as well as representatives of the EU and Member States.

A systemic approach for road transport needs all stakeholders!



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ERTRAC Contribution

- **Respond to one of the key elements of the Lund Declaration – the social challenges**
- **Bring together the stakeholders involved in Road Transport**
- **Clustering with other ETP's related to the focused project**
- **ERTRAC has been key in the definition of the needs for electrification**
- **Continue to provide input for future research programmes that can be useful nationally as well as at a European level**
- **ERTRAC will serve as a focus to coordinate efforts to develop and execute research strategies**



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Systemic challenge requesting a system approach

Increase the efficiency of the Road Transport System through Research and Innovation on:

- **Vehicle**
- **Infrastructure**
- **Logistic & Mobility Services**
- **Energy & Resources**
- **Sustainable Production Systems**



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Research & Innovation to tackle the social challenges of a sustainable road transport system

- **Energy Efficiency**
- **Decarbonisation of Energy**
- **Reliability**
- **Safety**

+ Global Competitiveness !

Europe in a critical position. Competitive position at stake.

Greening Cars

=

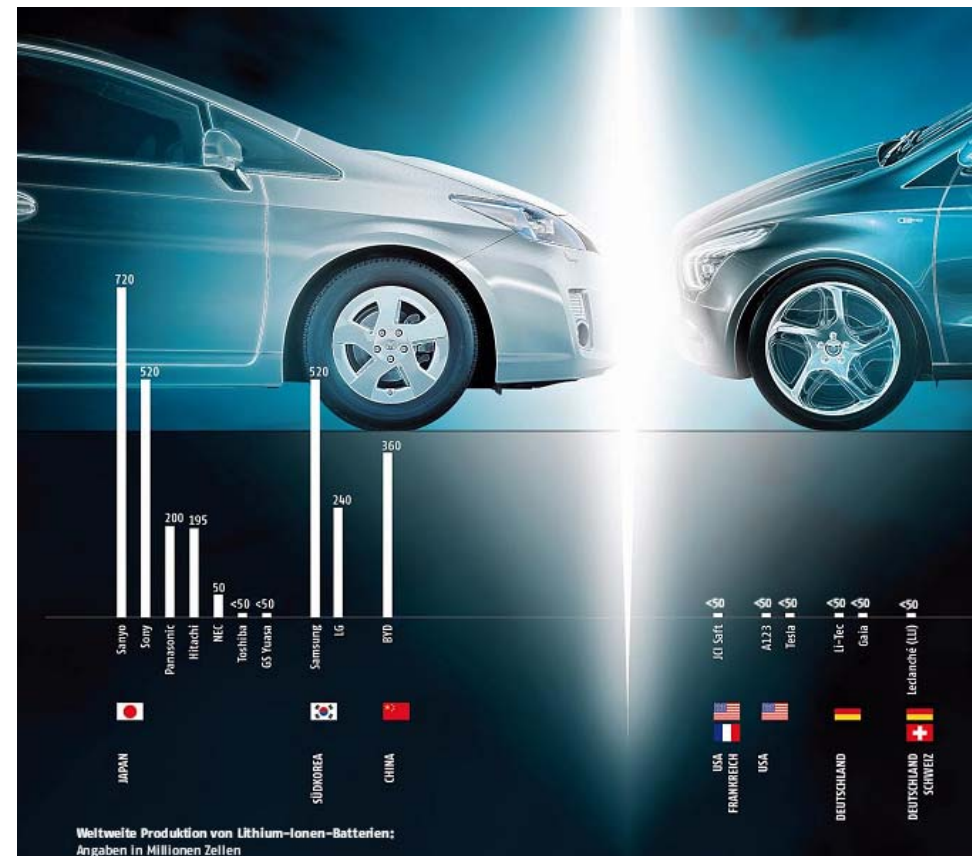
Expertise issue;

Employment issue

+

Immense impact on

the Supply Chain

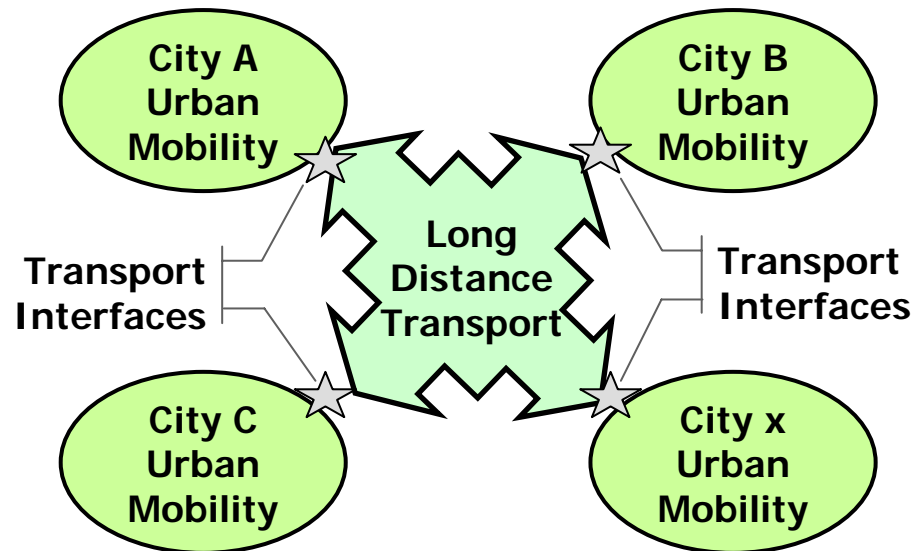


Orientation on Grand Social Challenges

**European Road Transport System in 2030:
50% more efficient than today**

Composite objective, expressed in multiple indicators

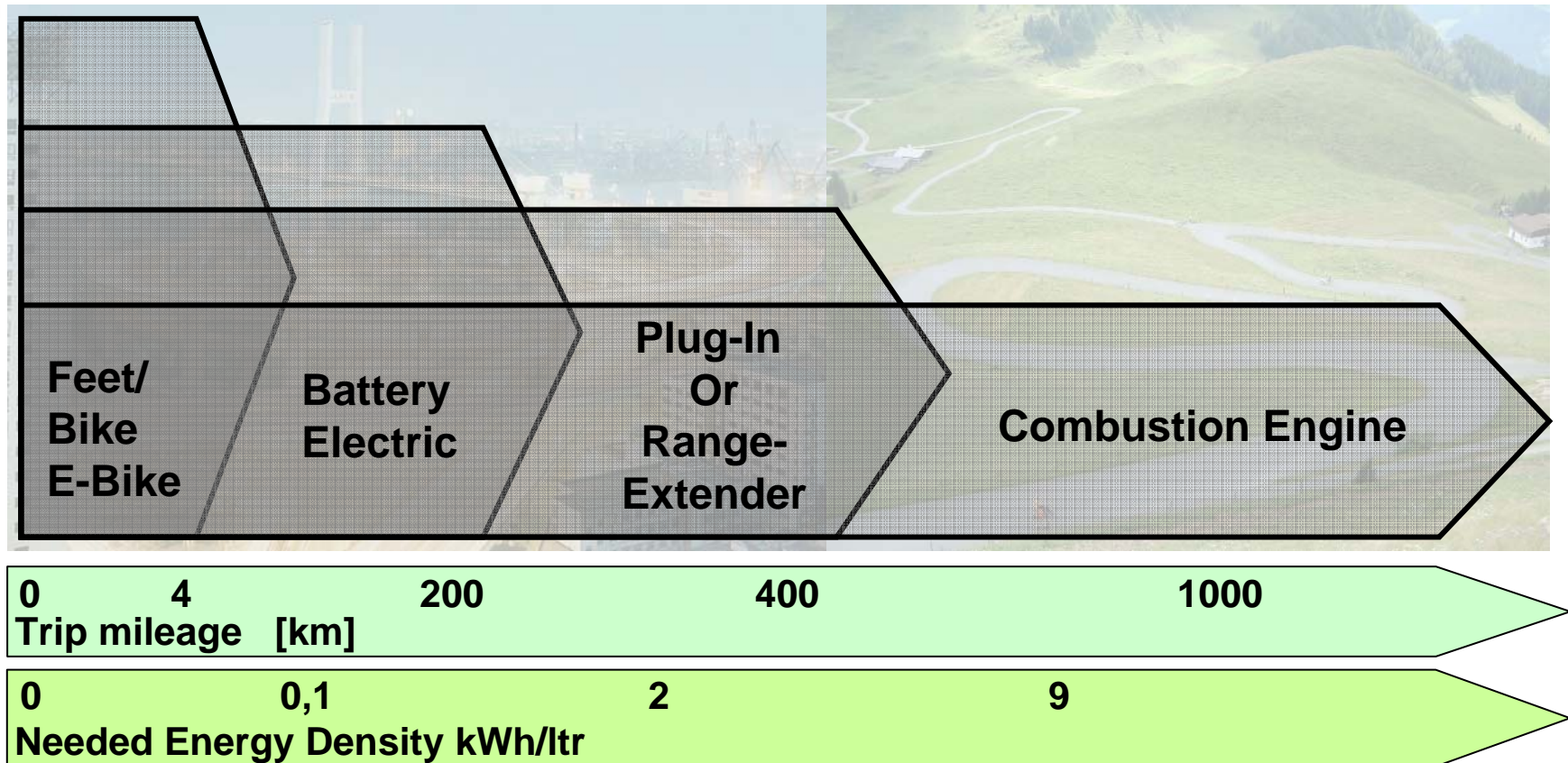
Transport Applications:



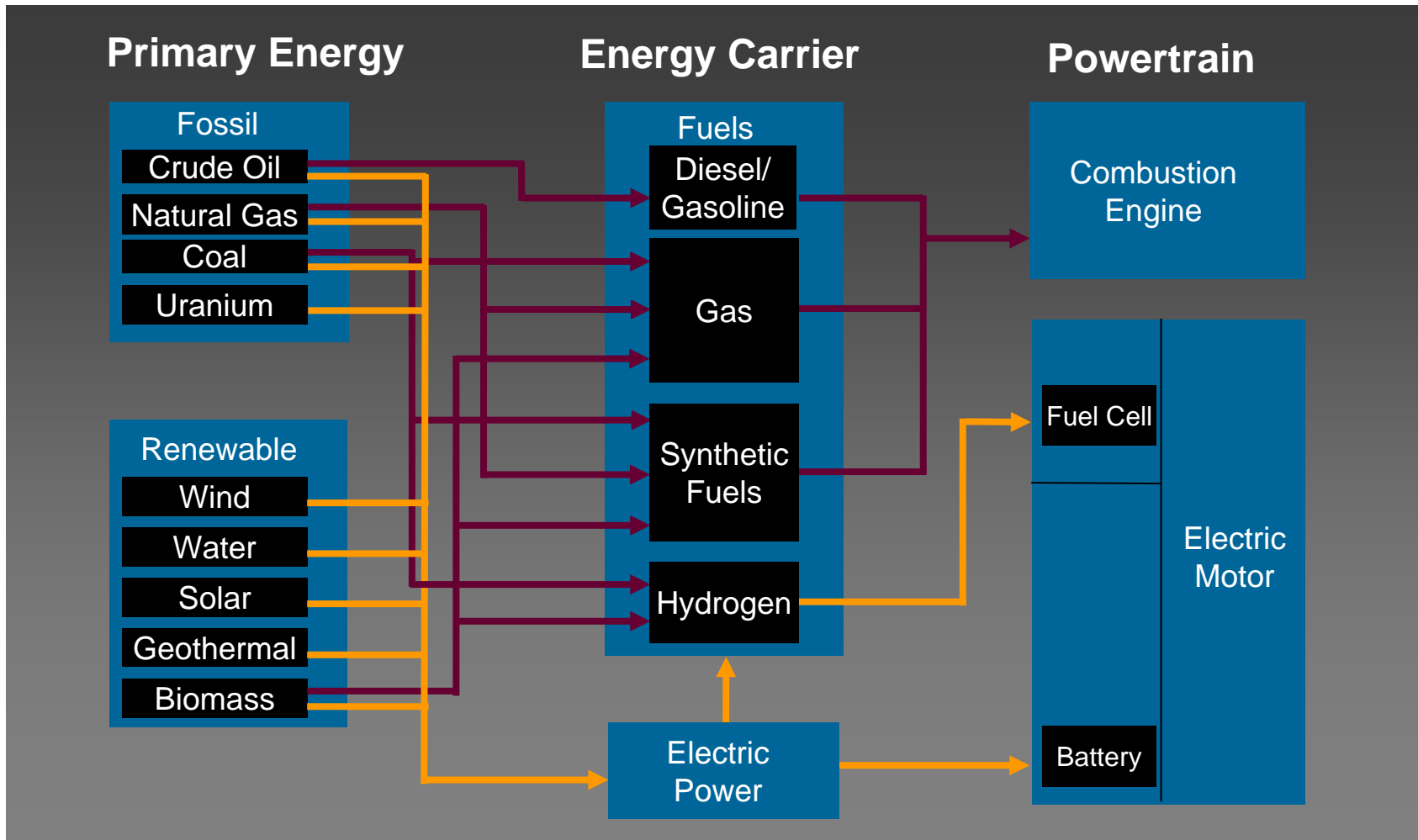
Responding to Mobility demands

Development of a diversity of powertrains

Delivering mobility solutions for both urban and long distance



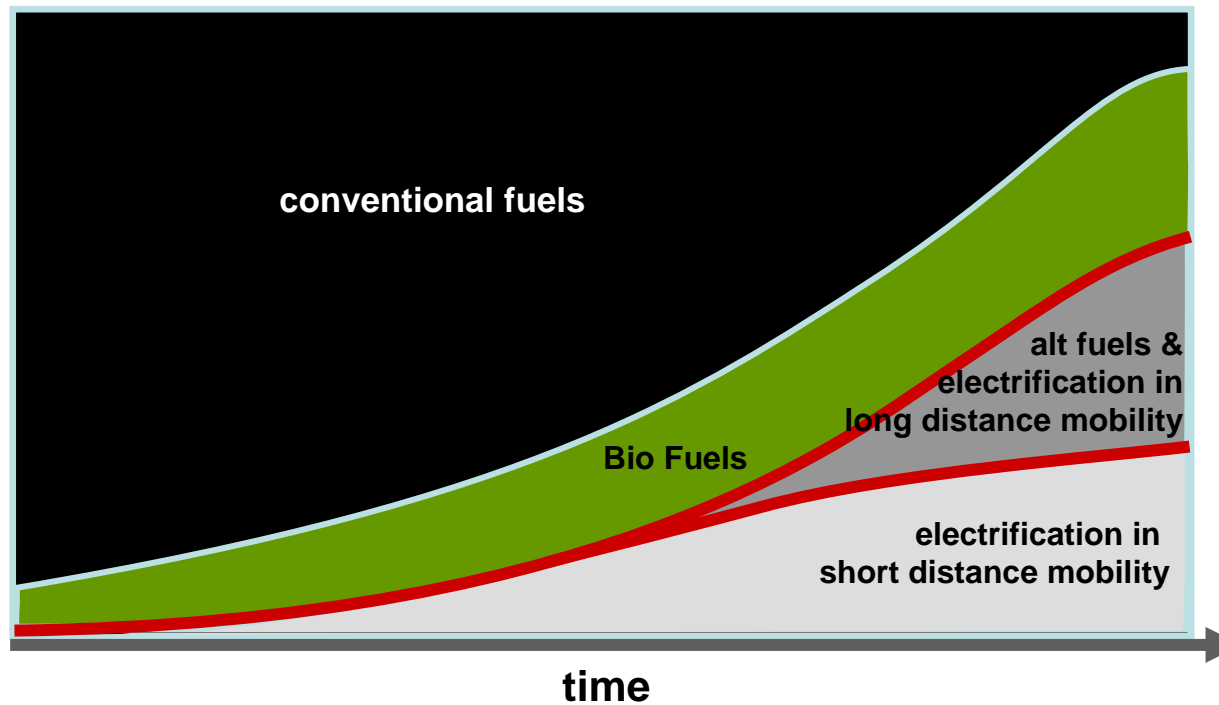
The energy sourcing is and will be even more critical



Reducing Fossil Energy Demand and Decarbonizing Energies in Mobility

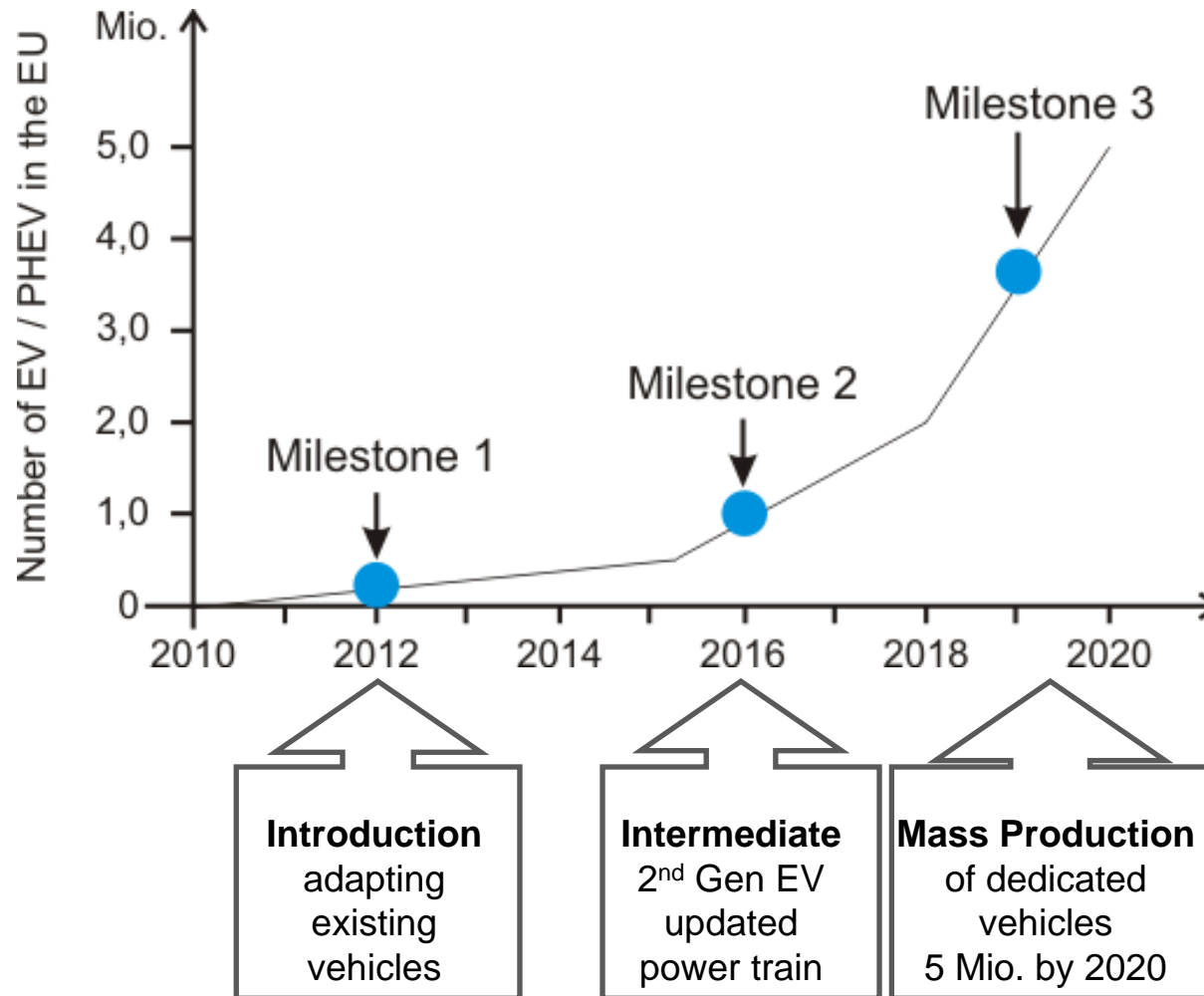
Schematics

Clear figures are defined by the increase of total traffic vs efficiency increase of powertrains



- even in long term no complete replacement of fossil and liquid fuels possible
- coexistence of long distance combustion engine and short distance oriented electric drive trains
- further development of battery technology may allow to reduce demand of alternative fuels

Industry Roadmap for Electrification



ETP Cluster



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Key R&D Topics for Electrification

- **Energy Storage Systems**
- **Drive Train Technologies**
- **System Integration**
- **Grid Integration**
- **Transport Systems**
- **Safety**

Collaboration between industrial sectors is critical to ensure timely, user friendly, and cost efficient deployment.



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Europe as leader in Electrification of Mobility

The full electric vehicle of the future will rely on a completely new range of components and systems.

+ Co-existence during the next decades with the optimization of ICE powertrains and introducing alternative fuels.

- **Highly complex global production systems**
- **Evolving global sourcing (commodities, components, systems)**
- **New dynamics in global supply networks**
- **Global critical access to engineering skills**

Europe to find its position in this globalized industry.

China and US have already affirmed their goal of leadership.

Conclusions

Europe must understand how critical the move to a sustainable road transport system is, in terms of:

- Research & Innovation Performance
- Employment

The ETP's and ETP-Clusters under the umbrella of the European Green Cars Initiative must be pursued, enhanced, and empowered to tackle these challenges.

Public Private Partnerships must continue.