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**Info Day on the
research PPPs**

13 July 2009

***The
European
Green Cars
Initiative***

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Content/Key Points

- **The economic crisis and the answer of the EU**
- **What are our global competitors doing?**
- **The research part of the European Green Cars Initiative:**
 - **content**
 - **forthcoming calls**
- **Interaction between the public and the private sector**





The global crisis. At the wrong time ?

- The current financial and economic crisis is an unprecedented challenge, happening concurrently with the early signs of a global environmental crisis
- GHGs need to be reduced, and incremental solutions will not be enough, step changes are needed
- The US car industry example shows that not taking into account energy efficiency and advances in technology is risky
- The survivors are likely to be the leaders of tomorrow's green technology
- Planning large investments in technology at such times, however, is difficult
- The EU recognised the risks and prepared a global answer



Why the Green Car Initiative ?

- The **130-95g/km** targets for car fleet average CO₂ emissions
 - Supercredits for vehicles emitting below 50 g/km
- The **post Euro 6/VI** pollutant emissions regulations
- **Air quality** regulations not being met
- Car electrification can be a response to all these challenges, and improve the efficiency of the global energy system while incorporating renewable sources
- At the same time, electrification is not viable to reduce CO₂ in cargo transport. Hence a strong emphasis on improving truck efficiency and on smart logistics
- Leading by example in environmental technology makes it easier to promote **standards and exports** and achieve global results at lower cost
- Electrification gives emerging car OEMs a chance to **leapfrog** western manufacturers, bogged down by legacy technologies and investments

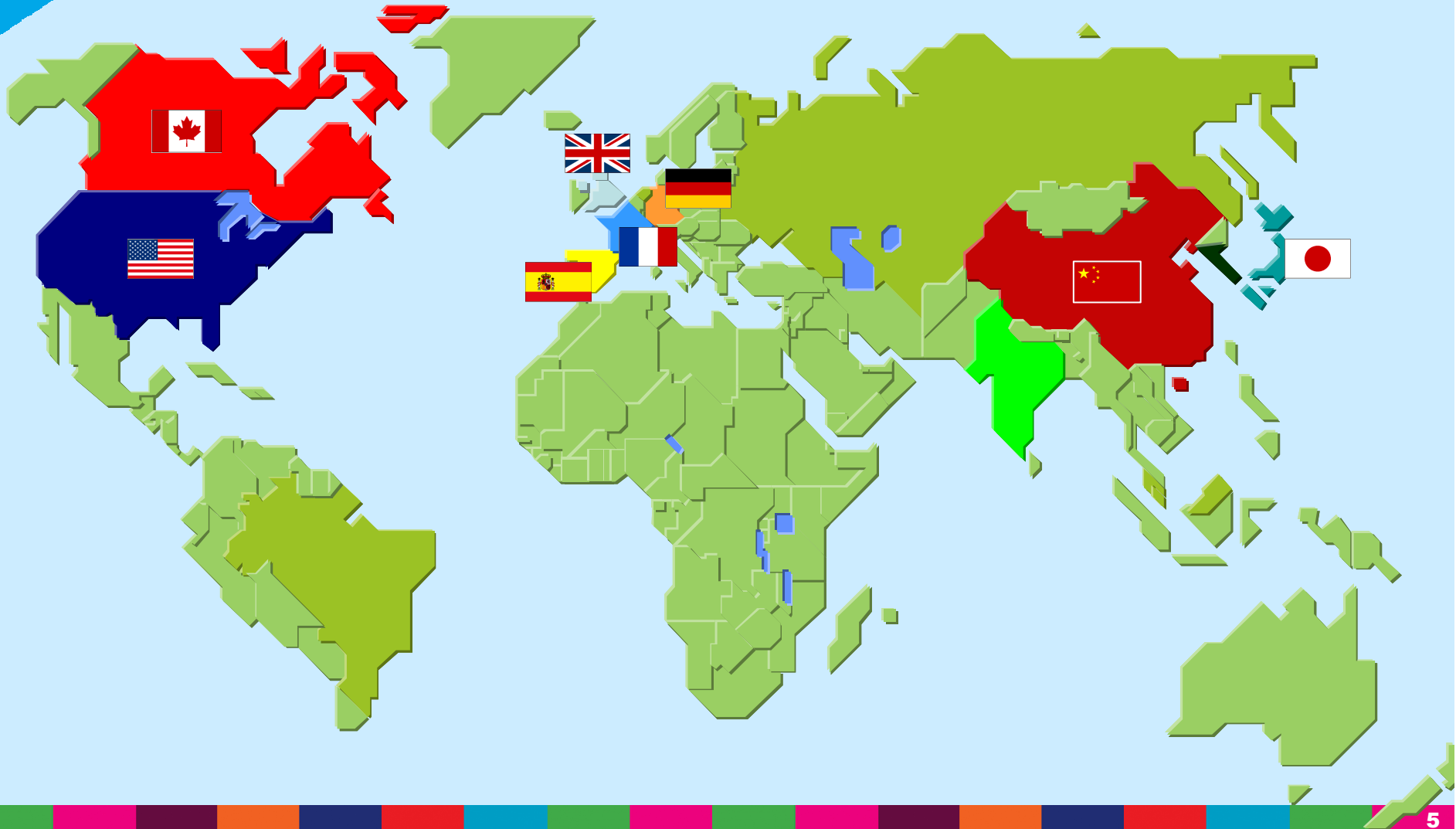




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Overview of Worldwide Automotive Electrification Plans (EAGAR project)

(EAGAR project)





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Vision, targets and programs - USA



- **One million PHEV on road until 2015**
- **Energy Storage, Power electronics, Electric propulsion: detailed targets for passenger cars until 2020 depending on the application**

Programs for FY 09, DoE:

- Recovery Act-Transportation Electrification; RTD of PHEVs, EVs, or FCVs, PC and commercial, not 2-wheelers. Min 100 demo vehicles per project; \$378 Mio
- Recovery Act - Electric Drive Vehicle Battery and Component Manufacturing Initiative - production capacity increase; \$2000 Mio
- Clean Cities: expand the use of alternative fueled vehicles and advanced technology vehicles. + required infrastructure, operation and maintenance: \$ 300 Mio



Government funding and incentives for EVs/PHEVs - Japan



Central government

Buying incentive

- “Basis of incentive” is difference between EV/PHEV and baseline vehicle price
- Government will support half of the “basis of incentive”, e.g. For Mitsubishi i-MiEV, JPY 1,390,000

Weight tax

- Zero weight tax for EVs/PHEVs



R&D Funding

- For FY 2009 NEDO is supporting Next Generation High Performance Battery development with a budget of £15.5m (£1 = 160 Yen)

Local government

Buying incentive

- Dependent on local government
- Tokyo and Yokohama support half of central gov. support but conditions apply, e.g. for Mitsubishi I-MiEV, JPY 695,000
- Tokyo: only available for small enterprises, ltd to 250 car / year
- Yokohama: for all purchasers but only those with Li-Ion battery and rapid charging system

Purchase tax

- Tokyo: zero purchase tax & zero annual tax for 5 yrs
- Yokohama: zero purchase tax

Other fiscal incentives

Parking

- 50% parking fee discount in Tokyo and Kanagawa for EVs/PHEVs

Toll Road fee refund

- Maximum refund of JPY 5,000 per month, only for wireless-paying system (ETC) users
- Only in limited prefectures like Kanagawa



Vision and targets - China



- **Vision: China aims at being the leader on electric vehicles and hybrid vehicles**
- **Targets:**
 - 20% reduction in energy consumption per unit of GDP and an estimated 45% increase in GDP, each by 2010
 - China wants to raise its annual production capacity to 500,000 hybrid or all-electric cars and buses by the end of 2011, from 2,100 in 2008.
 - 15% EV and PHEV to be expected in 2020
 - Public use of EV and PHEV is heavily subsidized, EUR 6,800 for battery electric vehicles
 - EV infrastructure in 2020 to cover cities having >1.000 USD GDP/capita
- **Programs (MOST):** Automotive Industry Readjustment and Revitalization Plan (RMB10 Bn), National Hi-tech Prog. 863 "Fuel Efficient and New Fuel Vehicle Project" (RMB 1.1 Bn), National Basic Research Prog.(RMB 1.3 Bn), National Key Laboratories Prog. "Laboratory of Automotive Safety and Energy" (RMB 1.4 billion)



Europe is also there. How efficiently?

- EU efforts (e.g. DE, FR, UK, ES) are comparable to those some of our global competitors
- Duplicated or uncoordinated efforts can however diminish the effectiveness of the investment
- Some issues like education, standardisation and regulation, user studies and infrastructure development beg for a EU-level approach
- R&D at basic and intermediate level also benefits from accessing the best competencies rather than only national ones
- Member state involvement in joint programming is the best answer to these issues and more



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European Green Cars Initiative: 3 main streams of actions

- Demand side measures & public procurement: e.g. reduction of circulation and registration taxes for cars with low CO2 emission (no budget foreseen)
- EIB loans in support of industrial innovation Budget: €4 billion
- Research activities
Budget: €1 billion (€500 million from FP7 matched by a similar amount from industry)





Public-Private Partnerships

- To promote the convergence of public interest with industrial commitment and leadership in determining strategic research activities
- Quick response and smooth start: use existing schemes & structures (FP7 and ETPs)
- Smart investments : to improve competitiveness of European industries & environmental protection



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European Technology Platforms involved



European Road Transport Research
Advisory Council



European Technology Platform on
Smart Systems Integration



European Technology Platform for the
Electricity Networks of the Future



European Green Cars Initiative: R&D to focus on more than cars!

- Heavy duty vehicles (Internal combustion engines, vehicles technologies for energy optimisation)
- Road and urban transport electrification
- Logistics, co-modality and Intelligent Transport Systems technologies.



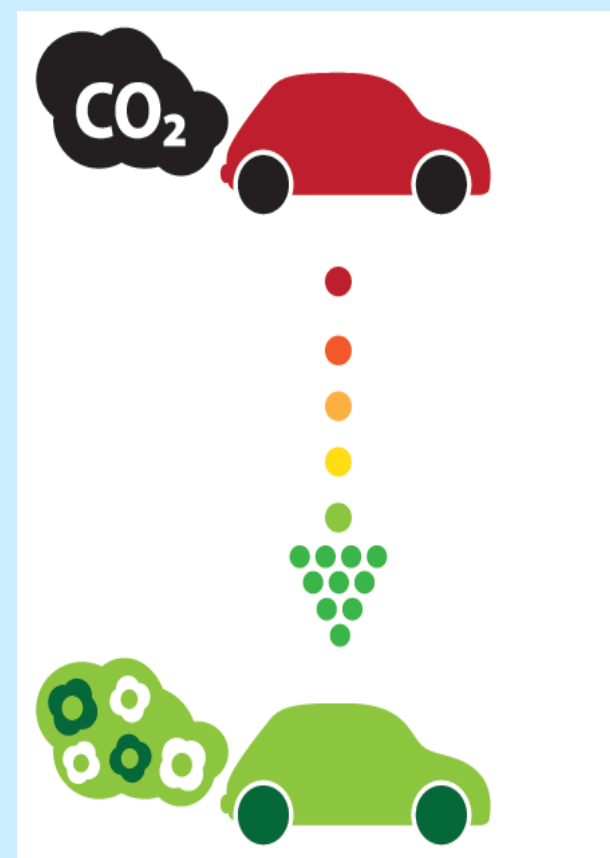


Road electrification

- **Three DGs: INFSO, RTD, TREN**

- **Five key research areas:**

1. Energy storage systems
2. Drive trains
3. Vehicle integration
4. Infrastructure integration
5. Integration with the transport system





ICT focus: Fully electric vehicle and its infrastructure 2010-2013

• Research areas and research needs:

1. Energy storage
2. Drive train
3. Vehicle concepts and integration
4. Grid integration and interfaces
5. Electric vehicle integration in the transport system

⇒ **ICT WP 2010**
(e.g. overall
efficiency gains in
the electric vehicle,
vehicle-to-road
infrastructure
integration)



Forthcoming FP7 Calls

FP 7 Theme	Focus on	Implemented by	Deadline
Joint Call NMP, Energy, Environment, Transport	Sustainable automotive electrochemical storage applications	DG RTD	14/01/2010
	Electric and hybrid vehicles	DG RTD	
Transport (Sustainable Surface Transport)	Demonstration project on electromobility	DG TREN	14/01/2010
	ICT for the fully electrical vehicle	DG INFSO	
ICT – Information and communication technologies			



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Next Information Days



http://ec.europa.eu/research/transport/events/infodays2009_en.html



Website on Green Cars

EU Transport Research - Green cars initiative - Windows Internet Explorer

http://ec.europa.eu/research/transport/info/green_cars_initiative_en.html

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EU Transport Research - Green cars initiative

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EU TRANSPORT RESEARCH

Aeronautics
Rail
Water
Road
Multimodal

Greening of transport
Co-Modality
Urban mobility
Safety and security
Competitiveness

Green cars initiative
Clean Sky JTI
Hydrogen and Fuels JTI
Galileo

Green cars initiative

GREEN CARS Initiative for economic recovery

The global economy is in crisis – a crisis which is already putting car sales in jeopardy. As the car industry is a major employer, any major disturbance to the industry risks affecting the economic and social fabric of Europe. This is why the European Commission made the car industry a key focus of its recovery package, presented in November 2008.

At the same time, today's environmental imperatives mean that we need to encourage all road transport stakeholders to move towards more sustainable transport.

The European Green Cars Initiative responds to both these needs. It provides financial support to research into the green technologies that will propel our cars, trucks and buses in the near future – spending on research today to correctly meet the demands of tomorrow. These will take the form of grants from the European Commission's scientific research budget, and loans from the European Investment Bank.

Despite its name, the Green Cars Initiative is not only for passenger cars. Under the Green Cars Initiative, research will be funded in a variety of areas such as greener combustion engines for trucks, bio-methane, and electric and hybrid vehicles and infrastructure.

These financial support measures will be supplemented by demand-side measures, involving regulatory action by Member States and the EU, such as the reduction of car registration taxes on low CO2 cars to stimulate car purchase by citizens.

The EGCI is expected to have long-term effects, ensuring that our transport systems are both competitive, and environmentally friendly, in the aftermath of the current economic crisis.

http://ec.europa.eu/research/transport/info/green_cars_initiative_en.html