



Annex VII "Hybrid Vehicles"

Phase III

**Contribution to European Commission consultation
"Reducing CO₂ emissions from cars"**

The IEA IA-HEV and Annex VII “Hybrid Vehicles”

Introduction

The International Energy Agency (IEA), based in Paris, is an autonomous body within the framework of the Organization for Economic Co-operation and Development (OECD). The IEA carries out a comprehensive programme of energy co-operation among its 26 Member countries. The members are committed to address oil supply disruptions. Within the IEA they take joint actions, they co-ordinate their energy policies, and they share information about environmental and energy issues.

Annex VII "Hybrid Vehicles" is one of eight Annexes of the IEA "Implementing Agreement for Hybrid and Electric Vehicle Technologies and Programmes" (IA-HEV). This Agreement is an international collaboration program in which currently ten members are actively participating. Each Annex to IA-HEV deals with different topics related to electric, fuel cell and hybrid vehicles. The participating countries in IA-HEV are: Austria; Belgium; Denmark; France; Italy; The Netherlands; Sweden; Switzerland; Turkey; United States.

Within the "Implementing Agreement for Hybrid and Electric Vehicle Technologies and Programmes", Annex VII “Hybrid Vehicles” addresses in detail hybrid vehicle technologies and their related issues. Already in the nineties IA-HEV has started this Annex, which is now in its third phase. Independent technical experts on hybrid vehicle technology from Austria, Belgium, France, The Netherlands, Sweden and the United States are currently participating in Annex VII.

Annex VII “Hybrid Vehicles” Contribution

Both the IEA IA-HEV Annex VII activities and the EU activities are driven by the same concerns regarding climate change. Therefore the European members of Annex VII consider positively the consultation initiative on the proper framework to be adopted for an effective CO₂ emission reduction of surface transport.

After a careful analysis of the reference documentation given by the Commission the European members of Annex VII would like to highlight the potential role of Hybrid Electric Vehicle (HEV) technology as a suitable solution for addressing CO₂ transport emissions.

As *super partner* entity the Commission keeps a neutral approach for obtaining the objective. With the present document the European members of Annex VII do not want to take any positions in favour or against one technology, the groups would like only to highlight the advantages that HEVs and Plug-In HEVs offer for fuel consumption reductions, and consequently CO₂ emissions, reductions.

The adoption of an electric drive and an energy storage system allow the downsizing of the internal combustion engine together with energy recovery during braking phases. Downsizing is possible because the internal combustion engine does not need to be sized on the maximal power requirements anymore. Practically the internal combustion engine runs in more restricted operating range where the efficiency of the

engine is higher. Consequently the overall energy efficiency of the vehicle is improved.

Moreover a “Start and Stop” engine operating strategy is allowed, as well as pure electric operating modes. Downsizing and advanced operating strategies of the powertrain greatly contribute to the containment of the fuel consumptions and CO₂ emission. Particularly those improvements are achieved in urban drive cycles, and it is an additional advantage because roughly 75% of the EU citizen lives in the urban areas.

Further, as soon as the hydrogen could be produced in a sustainable way, the electrical powertrains technologies developed for HEVs, PHEV, and EVs can also be used for fuel cell powered vehicles.

For these reasons the European members of IA-HEV Annex VII wish that the European Commission, keeping the principle of neutrality, promotes an integrated action which makes HEV technology, as one of the major candidates for more efficient vehicle propulsion systems of the future, making the 100gCO₂/km threshold more readily achievable. We first recommend supporting research on electric energy storage devices, drive technologies, and recharging infrastructures. Second we encourage public information campaigns to increase awareness by the European public concerning the environmental improvement opportunities that the hybrid electric vehicle technology offers.

NOTICE

Annex VII of IA-HEV, also known as Annex VII of the Implementing Agreement for Hybrid and Electric Vehicle Technologies and Programmes, functions within a framework created by the International Energy Agency (IEA). Views, findings and publications of IA-HEV and/or its Annex VII do not necessarily represent the views or policies of the IEA Secretariat or of all its individual member countries.

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