**PROJECT**

**ALTER-MOTIVE**

**Deriving effective least-cost policy strategies for ALTERNative autoMOTIVE concepts and alternative fuels**

**Funding:** European  
**Duration:** Oct 2008 - Mar 2011  
**Status:** Complete with results

**Objectives:**

The core objective of this project was to develop an action plan for implementing effective least-cost policy strategies to achieve a significant increase in innovative alternative fuels (AF) and corresponding alternative more efficient automotive technologies (AAMT) to head towards a sustainable individual & public transport system.

**Methodology:**

Initially a review of historical developments in private & public transport was conducted focussing on AF & AAMT and corresponding national policies. Next, a life-cycle analysis was applied, AF & AAMT were critically assessed with respect to their ecological, economic and energetic performance. To explore the future relevance, feedstock potentials of AF and technological prospects for AAMT were investigated. The heart of this project is an investigation of about 80 recently implemented successful case studies of pilot projects for marketing AF & AAMT from all over Europe and beyond. Finally, the outputs of all previous tasks were linked to develop prospective scenarios which showed in a dynamic context up to 2020 how different AF & AAMT could enter the market depending on the applied policy mixes, and depicted the resulting cost & ecological impacts.

**Parent Programmes:**  
IEE - Intelligent Energy Europe

**Institute type:** Public institution  
**Funding type:** Public (EU)

**Partners:**

The following partners took part in the ALTER-MOTIVE:

- Austrian Mobility Research / Forschungsgesellschaft Mobilitäet Gemeinnützige GmbH (FGM-AMOR) (Austria)
- Black Sea Regional Energy Centre (BSREC) (Bulgaria)
- AEOLIKI Ltd (Cyprus)
- Det Økologisk Råd (Denmark)
- Rhonalpenergie-Environnement (RAEE) (France)
- BSR Sustainability GmbH (Germany)
- Wuppertal Institut für Klima, Umwelt und Energie GmbH (Germany)
- Centre for Renewable Energy Sources (CRES) (Greece)
- Eni Corporate University S.p.A. (Italy)
- Energy research Centre of the Netherlands (ECN) (Netherlands)
- Stowarzyszenie The Krakow Institute for Sustainable Energy (Poland)
The project yielded the following results:

The following results from a comprehensive ecological and economic assessment of alternative fuels and alternative automotive technologies:

(i) Biofuels: biogas has the best ecological performance but highest costs. Biodiesel and bioethanol have to considerably improve their ecological performance up to 2020.

(ii) Hydrogen-based fuel cell and battery electric vehicles will remain comparably expensive up to 2020 and they are only preferable to conventional cars if they are fully based on renewables.

130 case studies were conducted, documented and presented. About 80 of them were evaluated comprehensively from a energetic, ecological and economic point-of-view as well as regarding their acceptance. Virtually all of these case studies have received a very high acceptance by the public.

A (internet-based) dynamic simulation model was implemented, as well as Business-as-usual (BAU) and ambitious policy (AP) scenarios using this model. In the BAU-scenario energy consumption as well as CO2 emissions remaine fairly stabile while in the AP-scenario energy consumption decrease by about 14% and CO2 emissions by about 20% up to 2020.

An Action Plan with key recommendations for policy-makers. The 2020 quantitative CO2 emission reduction target of the EU can only be reached with a proper mix of instruments. In this context, the instruments identified as having the highest short-term effects are standards and taxes. Improving energy efficiency alone does not necessarily lead to an equivalent energy and CO2 saving effect. Stricter standards should be accompanied by an additional focus on fuel conservation through fuel taxes.

**Strategy targets**

This project contributed to the promotion of more sustainable development.

Documents:
- Final Report (Final report)

STRIA Roadmaps: Low-emission alternative energy for transport, Smart mobility and services

Transport mode: Road transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Decarbonisation, Environmental/Emissions aspects

Geo-spatial type: Other