Promoting alternative automotive technologies
and alternative fuels –
some insights from the EU-project
“ALTER-MOTIVE”

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ALTER-MOTIVE

- **Coordinator:**
  - EEG, Vienna University of Technology

- **Partners:**
  - Stichting Energieonderzoek Centrum Nederland, The Netherlands
  - Eni Corporate University S.P.A., Italy
  - IREES, Germany
  - Wuppertal Institut für Klima, Umwelt, Energie GmbH, Germany
  - AEOLIKI Ltd, Cyprus
  - Black Sea Energy Center, Bulgaria
  - Association Rhônalpénergie-Environnement, France
  - Centre for Renewable Energy Sources, Greece
  - Stowarzyszenie The Kraków Institute for Sustainable Energy, Poland
  - Chalmers Tekniska Högskola Aktiebolag, Sweden
  - Forschungsgesellschaft Mobilität-Austrian Mobility Research, Austria
  - Sociedade Por Quotas CEEETA-ECO, Portugal
  - Det Økologisk Råd (EcoCouncil), Denmark

- **Duration:**
  - 1 October 2008 - 30 April 2011
Objective of the Project ALTER-MOTIVE

• The core objective of the project ALTER-MOTIVE is to derive effective least-cost policy strategies to achieve a significant increase in alternative fuels and corresponding alternative more efficient automotive technologies to head towards a sustainable transport system.

• The heart of this project is an investigation of about 80 recently implemented successful case studies of pilot projects for marketing alternative automotive technologies (AAMT) and alternative fuels (AF).

• Furthermore, prospective scenarios on the future deployment of AF & AAMT will be developed, showing how to meet EU targets with least-cost for EU citizens based on efficient & effective policy mixes.
COUNTRY REVIEW REPORT

A report compiled within the European research project

Deriving effective least-cost policy strategies for alternative automotive concepts and alternative fuels-ALTER-MOTIVE

Intelligent Energy – Europe (IEE), STEER
Contract no. IEE/07/307/SI2.499569

(work package 2 – deliverable D3)

By
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December 2009
Cross-country comparison of the major indicators in EU

In detail the development of the following features is documented:

• **Amount of fuel used** *(energy consumption of passenger cars)*
• **Biofuels consumption and production*,
• **Fuel price*,
• **Vehicle stock** *(including the number and type of vehicles)*,
• **Travel activity** *(vehicle-km driven)*,
• **Fuel intensity** *(litre/100 km)*
• **Policy instruments** implemented *(types of taxes, tax levels and tax incentives, CO2-dependent policies, subsidies…)*.
Energy consumption of passenger cars

Bioethanol production in EU-27

Country shares of bioethanol production 2003 in EU-27 countries

Country shares of bioethanol production 2008 in EU-27 countries

9 PJ

60 PJ
Biodiesel production in EU-27

Shares of biodiesel production 2003 in EU-27 countries

- IT: 19%
- DK: 3%
- AT: 2%
- Other: 1%
- FR: 25%
- DE: 50%

Shares of biodiesel production 2008 in EU-27 countries

- IT: 8%
- DK/SE: 3%
- AT: 3%
- ES: 3%
- UK: 2%
- Other: 11%
- FR: 23%
- DE: 36%

53 PJ

285 PJ
Comparison of biofuel production in 2008 in EU-27 countries (Data source: EBTP, EBB)
Development of car stock

Development of car ownership per 1000 capita in EU-27, 1970 – 2007
Development of car stock

Car ownership versus GDP per capita 1980-2007
Development of vehicle-km driven

Development of vehicle kilometer per capita in selected EU countries 1980-2007
Development of fuel price

Fuel price (including all taxes) for selected countries 1980 – 2007
Fuel intensities

Average on road fuel intensity of stock of cars, gasoline equivalent (Diesel and LPG are converted to liters of gasoline at their energy content. 1 litre diesel = 1.12 litre gasoline)
Conclusions

The major (preliminary) conclusions are:

- Registration and ownership tax system
- Fuel taxes
- Regarding alternative fuels
- Regarding alternative automotive systems
Deliverables already available

Download from www.alter-motive.org:

• Concise report with country reviews on AF & AAMT in the context of overall historical developments in road transport

• Database of transport indicators with special focus on AF & AAMT

• AF & AAMT database (state of the art)

• Documentation of past and current pilot projects
(BIO) gas local fuel station

The biogas processing unit plus biogenic CNG filling station in Margarethen am Moos is the smallest commercially run facility of its kind anywhere in the world. Its simple, compact design has advantages both for operation and economically.

Background

The project (BIO) gas local fuel station lasted from January 2007 to September 2008. The upgrading plant and the local fuel station where implemented in Margarethen am Moos near Schwechat at the site of a 500kW biogas plant. The biogas plant delivers the additional biogas that is converted into fuel by simply increasing its biomass input. The project was initiated by TBB Consulting in cooperation with EVM (Energie Versorgung Margarethen am Moos) Vienna University of Technology, AGRAR PLUS, AXIOM, BAER, Fosselin (fuel station), FIAL and LUNENEDER.

Major results and lessons learned

The project goal has been achieved completely. Currently the fuel station has about 30 customers. From the beginning the project was funded by the Land NO as well as ÖKK and FFG. The total costs of the project of about 642,000 EUR (62,000 investment costs and 500,000 operation and maintains costs) are covered mostly by FFG (34,000 EUR), Land NO (150,000 EUR) and ÖKK (143,350 EUR). The remaining costs were paid by the operator of the plant, the EVM.

The public was informed about the project through different activities such as presentations, a kick-off event in March 2008 and as well as the kick-off event of the NO Energy Action Plan 2009.

After the success of demonstration plant in Margarethen am Moos it is now planned to find 25 more locations in Austria to construct another upgrading plant and a local fuel station similar to Margarethen am Moos.

More Information

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MID-TERM CONFERENCE

20. April 2010, 9:30 – 16:00
Festsaal, Vienna University of Technology

- World-wide problems and future perspectives of alternative transport systems
- Biofuels
- Ecological assessment of alternative fuels in transport
- Electro mobility
- Case studies
- Policies
National/regional workshop

07.01.2010 Bron, France Title: "Renewable Fuels and Alternative Motorization to Fight Against Greenhouse Gas Emission"

03.02.2010 Uddevalla, Sweden Title:"Alternative fuels and vehicles: different aspects on current and future policy instruments"

22.04.2010, Greece Title: “Transferring good experience for other countries”

17.05.2010, Italy Title:"Alternative fuels and vehicles: solution for sustainable transport policy”

10.2010 Poswietne, Poland Title:"Financial instruments for promotion of biofuels“

21.10. 2010 Lisabon, Portugal Title: National/regional workshop – Portugal

11.2010, Netherlands Title:"Analysis of policy effectiveness“

11.2010, Germany Title: National/regional workshop – Germany

16.11.2010 Vienna, Austria Title:"Electric and biogas cars and filling stations”
Thank you!

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