

ASBE
12 october 2009

ASBE Position Paper



**Act now
for sustainable
mobility and employment**

Act now for sustainable mobility and employment

Hybrid, Plug-in Hybrid and Battery Electric Vehicles are today's sustainable mobility solutions to fight climate change, create better living quality and new green-economy jobs and makes us less dependent on one kind of energy-supply.

Direct benefits from EV's:

Environmental

Transport accounts for about 25% of all GHG emissions. There are about 800 million cars in the world today, a figure growing rapidly and forecast to reach more than 1 billion in less than a decade. This rapid increase in the total car fleet is far exceeding the ability of car manufacturers to reduce emissions and already exceeds sustainable numbers. The world can no longer afford conventional cars using liquid fuels.

The introduction of EVs leads to a significant decrease of pollutants in the atmosphere. Taken into account indirect emissions from energy production, we can compare the emission values for each type of car.

Figure 1 shows emission values as the total sum of operation-related emissions and emissions associated with final energy supply for Europe in the year 2000, for conventional cars (petrol, diesel and compressed natural gas) and electric cars.

Figure 2 shows the CO₂ emissions from the engine and those associated with final energy supply, for European cities.

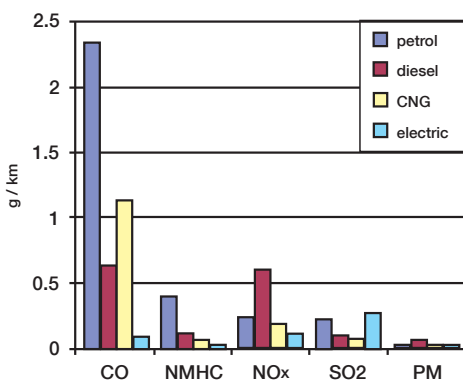


Fig.1: Vehicle emissions in Europe, 2002 [1]

[1] UNIPED 1998 Report

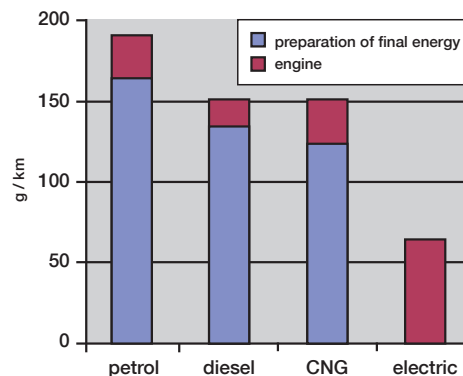


Fig.2: Energy-related CO₂ emissions [1]

From these tables it is clear that EVs pollute less for almost all pollutants. Only for sulphur dioxide, the figure remains larger, because of the number of sulphurous coal plants. This is becoming more and more controlled, and the part associated with electric vehicles is actually rather marginal compared to other polluters. However, this figure should decrease substantially thanks to the improvement in emission control and the use of natural gas in the next few years. The global ecological impact is firmly positive.

Figure 2 shows us EVs produce less than half as much CO₂ as the other drive variants. Moreover, most of inner city movements are very short. So thermal engines remain in general rather cold, which means that emissions are higher and that efficiency is low. Catalyst converters only work properly at a sufficiently high temperature after some kilometres.

In brief, low pollution by EVs is due to the higher efficiency of electric plants. Emissions from EVs are located outside the cities and it is easier to control emissions of one electricity plant than to control thousands of vehicles' exhausts.

As the primary fuel mix of each country becomes cleaner so electric vehicles will become cleaner over time. The goal is that all electric vehicles are powered by electricity from renewable / non fossil sources.

It is clear that EVs have an important role to play in the reduction of CO₂ emissions to avoid climate change and in reaching the targets that have been defined in the Kyoto Protocol.

Thermal engines are always rotating, even during a stop. EV motors, on the contrary, are stopped each time the vehicle stops. In traffic jams and at traffic lights EVs neither emit nor consume anything.

Energy efficiency and energy savings

In-depth studies show that, all figures being equivalent, taking into account the energy efficiency at both production and distribution level, the consumption figures are as follows:

	conventional cars		electric vehicles
	fuel consumption / 100 km	electricity equivalent	electricity consumption
car	8,5 l gasoline	909 Wh / km	488 Wh / km
van	12 l gasoline	1283 Wh / km	600 Wh / km
small lorry	16 l diesel	1910 Wh / km	1000 Wh / km

Table 1: Average consumption of conventional cars and electric vehicles [2]

[2] G. Maggetto, P. Van den Bossche and J. Van Mierlo, CITELEC report "Force électrique en Wallonie: les véhicules électriques et hybrides en Wallonie, une solution écologique durable pour la circulation urbaine"

These figures show that electric cars, vans or small lorries, respectively consume 54%, 47% and 52% of the primary energy needed by internal combustion vehicles.

It is clear that electric vehicles are much more energy efficient. This advantage will increase when it will be possible to recharge vehicles by connecting them directly to electricity production sources with a total output efficiency exceeding 50% (plants with combined gas/steam cycle, fuel cells, buffer batteries, etc.).

After all, the cleanest energy is the energy we do not use at all.

Economic

The use of EVs will contribute to a stronger European independence regarding energy supplies, because the market share of diesel and petrol, which are oil products, will become smaller.

Energy consumption balancing

Electric cars normally charge at night when energy-consumption is low. Future V2G (vehicle-to-grid) will allow to balance and back-up the electricity network.

Employment

Regions or countries that create an EV-favourable climate will be the first to see the deployment of these technologies and benefit from the employment created by the emerging new green economy.

Social

Traffic noise is making the living environment in modern cities quite unbearable. Thousands of combustion-engined vehicles are generating a constant unhealthy background noise which degrades the quality of life in cities. Especially electric scooters / mopeds can contribute to a significant reduction of excessive levels of noise pollution.

The electric vehicle is virtually silent and allows to rediscover the beauty of a moment of silence and quietness in town.

What about living “windows opened” in the very city centre? It's possible!

Health

Today more than half of the world's population lives in cities. Today also, more people die from poor air quality than from road accidents.

Most of the air pollution in today's European cities is caused by automotive traffic. Particularly in adverse climatic conditions, traffic generated emissions are degrading air quality up to the point where the physical health of the citizens is directly threatened. Several cities already had to recur to drastic traffic restrictions.

The Electric Vehicle stands for clean air, as it is effectively zero-emission at its point of use. Besides, the emissions due to the generation of electricity are significantly lower than those of corresponding ICE vehicle emissions, due to the high efficiency of today's power stations.

Mobility and congestion

Today's urban traffic is grinding to a halt. Thousands of passenger cars and lorries are stuck in traffic jams which become worse and worse, leading to loss of time and energy, as well as producing extra pollution.

The electric vehicle is ideally suited to be integrated in new traffic management concepts, such as automatic rent-a-car systems and goods distribution centers, which emphasise the complementarity of transport modes and which contribute to the relief of traffic congestion.

Cultural Heritage

Our European cities have a history of many centuries and can be rightly proud of a unique cultural and architectural heritage. Since last century however, they have been aggressively invaded by the motorcar which through its emissions and through the traffic problems it causes, is forming a real threat to their conservation.

What is being done around us?

Incentives:

- USA: - 7,500 USD purchase subsidy
- Japan: - 2,600 USD purchase subsidy
- Germany: - Berlin announces eMobility: 500 EV charging stations in 2009
- National plan to develop electro mobility (study)
- 1Mio.EV's and HEV's in 2020, 5Mio.EV's & HEV's by 2030
- No more vehicles with ICE's in inner-cities by 2050
- Charging points are being installed in several cities
- 5.000 Euro purchase subsidy for EV's (€500Mio. Budgetted)
- Italy: - 3,000 Euro purchase subsidy for EV's
- 10% EV's by 2020 (230.000 ex.)
- ESB commits to supplying charging infrastructure
- Extra VAT deduction for companies
- Cyprus: - 700 Euro purchase subsidy
- Netherlands: - 23/02/09 Planning buro for environnement published:
Driving electric: Great potential for electric car.
- Objectif: 1 to 2 Mio. EV's by 2020, 100% by 2040
- 1300 Charging points in more than 20 cities by end 2011
- Exemption of registration and road-tax
- Free and reserved parking spaces
- 8.000 Euro Purchase subsidy for companies
- 20% Fiscal support for investements in charging infrastructure
- Whole fleet (2000) of City of Amsterdam to be EV's by 2015
- France: - 5,000 Euro purchase subsidy (Ademe)
- Free parking and charging
- France has a target of 100,000 EVs on the road by 2012.
- Charging stations at 51 locations in Paris already
- Auto'lib: 4000 EV's, 700 charging stations + 200 Underground
- 5 Mio. Charging points within 3 years/ 5-600.000 EV's by 2010
- 6-7 Large enterprises commit to buying 100.000 EV's by 2012
- Portugal: - 180.000 EV's and more than 25.000 charging points by 2020
- 1.300 charging points in more than 20 cities by end 2011
- Free parking and use of buslanes allowed

- Norway:
- Use of bus lanes in Oslo
 - No import duty (6.5%)
 - No VAT (24%)
 - No vehicle registration tax
 - Exemption from tunnel tolls
- UK:
- Exemption from London Congestion Charge (£8 / day)
 - 96% discount on London parking (£6,000 / year)
 - No annual Vehicle Excise Duty (up to £400 / year)
 - Low rate of company car tax (9%)
 - 100% year 1 tax write down for business purchases
 - Elektrobay plans 250 on-street EV-charging points in London
 - Evoasis fast charging station planned for London, summer 2009 (designed to replace London's red telephone boxes)
 - 25.000 Charging points in London by 2015
 - Target to have 100.000 EV's on the road ASAP.
- Spain:
- By 2020: 180.000 EV's and 25.000 charging points
 - 1.300 Charging points in over 20 cities by end 2011
 - Use of bus lanes and free parking
 - 280 Ev's in the fleet of the City of Barcelona by 2011
 - 200 Charging points in Barcelona
 - Upto €20.000 subsidy for individuals, public & priv.companies.

Public transport "E-busses":

- Italy 740 electric busses
- France 70 electric busses
- Spain 31 electric busses

Government supported projects:

- Paris • 4,000 EV rental scheme 2010
- Berlin • 500 EV charging stations 2010
- London • 250 EV charging stations 2010
- 100 EV home trial end 2009
- Dublin • 50 EV trial project end 2009 (tbc)
- Austria • 100 City-EV's demonstration project
- Barcelona • 100 EV business trial project 2010 (tbc)
- Sweden • 3,000 EV municipality trial project
- Rome, Milan, Pisa • 400 charging points & 100 BEV's.

European Investment Bank

- 7 billion Euro fund for assistance to auto companies to develop green technologies, available until June 2009

Green car initiative:

- EC memo - 26 March 2009. The European Green Cars Initiative is one of the three PPP included in the Commission's recovery package. The envelope for this initiative is foreseen at 5 billion Euro to boost the automotive industry in a time of economic hardship, and support the development of new, sustainable forms of road transport. R&D support to the development of electric and hybrid vehicles will be part of it.

Research is the way to develop the sustainable transport methods we need. Such "eco-innovation" will serve both to protect the environment, and to offer competitive advantage to those seeking to create new innovation-driven markets.

The European Green Cars Initiative contains three streams of action:

- R&D, mainly through FP7 grants for research on greening road transport. Budget: 1 billion Euro, of which € 500 Mio. from the Commission, matched by € 500 Mio. from industry and Member States
- Support to industrial innovation through EIB loans. Budget: € 4 billion (in addition to existing loans)
- Demand side measures & public procurement, such as reduction of circulation and registration taxes for low-CO2 cars

Can Belgium follow these examples or even do better?

Belgium's initiatives so far:

- 75% for Walloon local authorities (on hold)
- 30% for Flemish local authorities for eco-cars (based on Ecoscore)
- 50% for Flemish local authorities for light and heavy e-quadracycles, e-motorcycles, e-mopeds, e-bikes, bikes.
- 40% of 20% extra cost (eq. 8%) Flanders subsidy for companies
- Federal Eco-Bonus for individuals

Guidelines for future initiatives:

- Create incentives and infrastructure for individuals like:
 - Follow-up on Clerfayt proposal (proposed: 33% subsidy, cap. 6.000 Euro)
 - Subsidy by rebate on invoice
 - Road tax-exemption for EV's
 - On-Street charging infrastructure
 - Free parking
 - Free charging on public parking places
 - Implementing EV's in car-sharing programs
 - Use of bus lanes
- Create incentives and infrastructure for SME's and large industry like:
 - 100% year 1 tax write down for business purchases
 - Create Government support to encourage EV-investments
 - Low rate of company car tax for e-vehicles
- Organise Nationwide demos and test-projects for analysis and determining best-practice
- Help create an EV-industry:

Several Belgian utility companies are looking for specific eco-vehicles that can drive electric within city-perimetres and hybrid-electric for longer hauls.

What is the ASBE?

ASBE, the Belgian chapter of AVERE, together with Febiac and Federauto (members of the ASBE) jointly propose the above guidelines for speeding up deployment of an EV-favourable climate.

The ASBE was chosen as primary communication channel for all Hybrid, Plug-in Hybrid and Battery Electric Vehicle, infrastructure, regulation, education and press-related matters.

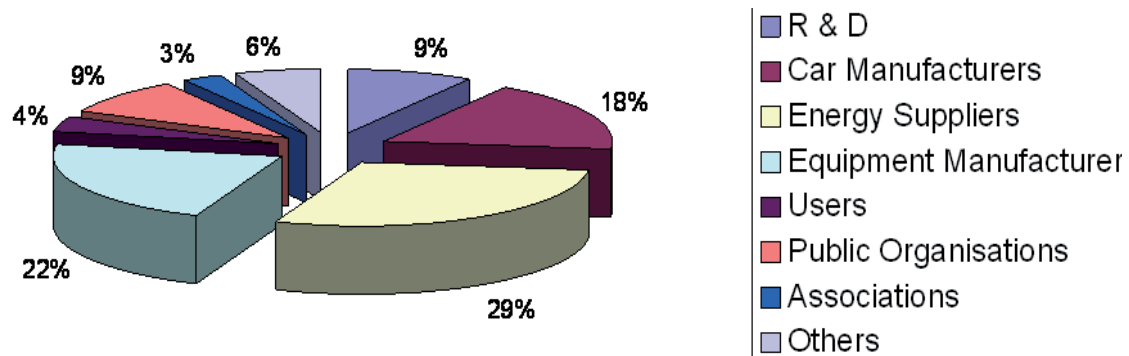
ASBE and AVERE are non-profit associations, founded in 1978 under the aegis of the European Community, as a European network of industrial manufacturers and suppliers for electric vehicles. The Association's goal is to promote the use of Battery, Hybrid and Fuel Cell Electric Vehicles and to rationalize the efforts of its member companies in the scientific and technological developments.

It is composed of National Associations, 12 up to now, indirectly representing over 500 companies active in the field. With EDTA, covering the Americas and EVAAP, covering Asia Pacific, we form the World Electric Vehicle Association or WEVA

AVERE is associated with CITELEC, the Association of European Cities interested in Electric Vehicles and EURELECTRIC, the Association of the Electricity Industry in Europe.

With more than 500 members, AVERE represents the whole European Electric Vehicle industry and is an important force for the promotion of Electric Vehicles.

The Industrial world is mainly present with 400 members, but AVERE is nevertheless linked with the other economic agents (Users, Public Organizations...)



AVERE organizes conferences, meetings and workshops so that everyone involved in electric vehicle production can keep abreast of changing technology and evolving markets. In particular EET, the European ELE-DRIVE Transportation Conference, or EVS, the Worldwide International Battery, Hybrid and Fuel Cell Electric Vehicle Symposium & Exhibition are to be mentioned. This latter event is jointly organized by AVERE and its two sister associations EDTA and EVAAP and is attended by more than 1,500 people involved in the world electric vehicle market.

The ASBE was restarted beginning this year. A mix of new EV-entrepreneurs together with scientists and big industry make up the new board of the ASBE:

- Chairman:	Joeri de Ridder	Electric-Drive
- Vice-Chairman:	Arnaud de Viron	Green Mobil
- Secretary:	Joeri Van Mierlo	Prof.Dr.ir. VUB
- Treasurer:	Peter Van den Bossche	Prof.Dr.ir. EHB/VUB
- Board Member:	Francis Wolters	GDF/Suez
- Board Member:	Johny Lanckriet	MIVB
- Board Member:	Pol Michiels	Febiac
- Board Member:	Andrzej Chmura	Nissan Mcy. GB.
- Board Member:	Frederic Vergels	Dir.Adj. RBF.

Expectations

Political authorities at the European, national and local levels should take all necessary actions to favour the market of Battery Electric and Plug-in Hybrid Vehicles as they are part of the solution to major present and future concerns on environment, energy and employment.

European industrial stakeholders are expecting clear and strong signals from political authorities at all levels. A wide spectrum of incentives and other measures are necessary to speed up the market penetration of Battery Electric and Plug-in Hybrid Vehicles as well as the development of associated components technology. These actions are needed also in order to maintain the European technological level at the edge and to ensure employment in its region.

Joeri de Ridder
ASBE Chairman

Prof. Dr. ir. Joeri Van Mierlo
Secretary of the Board

ASBE
info@asbe.be
<http://www.asbe.be>

ASBE
c/o VUB-FirW-EETEC
Pleinlaan 2, 1050 Brussel