

## Contribution to the Public Consultation on the Communication on a Sustainable Future for Transport

*In Denmark a network has been established comprising most players that are involved in the process of taking electric vehicles (EV) to the market. The network includes the car industry, companies providing various technical solutions related to all aspect of the cars and the charging process as well as energy providers and distributors. It is our hope to contribute to the awareness of the benefits of electric vehicles, so that they will feature prominently in future discussions on how to create a sustainable future for transport. Please find enclosed a list of members of the network.*

### The Benefits of Electric Vehicles

The European Commission has presented trends and challenges for the transport sector in the "Communication on a Sustainable Future for Transport". The communication clearly pinpoints that one of the main challenges is that European transport is still not on a sustainable path on several aspects. We can add that the transport sector produces around a quarter of EU CO<sub>2</sub> emissions and it is the only major sector where emissions are increasing. Introducing the electric vehicle will be a key asset in the climate challenge facing the transport sector. Today EVs emit less than half as much CO<sub>2</sub> as ordinary cars<sup>1</sup>, and the CO<sub>2</sub> emissions will decrease further when the EU move towards fulfilling the target of 20 % renewable energy in 2020. It can even be claimed that there are no CO<sub>2</sub> emissions from EVs today. EVs use electricity which is covered by the cap under the Emission Trading Scheme, and shifting from petrol to electricity will eliminate the CO<sub>2</sub> emissions from petrol but not entail increased CO<sub>2</sub> emissions from electricity due to the cap. As a further environmental benefit, EVs will contribute to lowering other air pollutant emissions significantly such as particulates, nitrogen oxides and volatile organic compounds as well as noise.

Furthermore, security of supply is a challenge that is closely linked to transport. The vast majority of the energy consumed in transportation in the EU-27 derives from crude oil, and the EU is more than 80% dependent on oil imports to the transport sector. By shifting to EVs the transport

---

<sup>1</sup> In Denmark, with electricity produced by the present mix of coal, renewables etc., an electric vehicle will emit app. 56 gram of CO<sub>2</sub>/km. The average new car on petrol emits 154 gram CO<sub>2</sub> a kilometre.

sector will reduce the dependency on oil and lead to an *overall* decrease in energy consumed as EVs are three to four times more energy effective than cars.

One of the methods to increase the security of supply is a higher use of renewable energy, and the EU has set a target of 20 % by 2020. The increased use of wind power creates new challenges in balancing supply and demand on the grid. Electric vehicles can contribute to this balance. However, charging must be done intelligently. It is necessary that controls or optimization routines are introduced that take power production issues, highs and lows in electricity prices and constraints regarding power distribution capacity into consideration. And incentives to use such devices must be sufficiently strong. If such intelligent charging is applied, Denmark has sufficient wind on the average night to charge 20 % of the Danish car fleet – if the vehicles were electric.

Reducing energy imports would also result in economic savings and help to maintain the competitiveness of the European economy. Furthermore, EVs are without doubt a major future green technology, and a first mover advantage could place the European car industry in a central position in this new market.

It is our vision that the electric vehicle is the climate friendly alternative to cars with combustion engines, and that they can help us restore our energy security, not only by reducing our dependence on oil but also by balancing the increased use of wind energy and other renewables.

### The Challenge

The natural commercial development of a market for EVs will take too long in the light of the urgency due to climate changes. The biggest technical challenge is the battery, as current technology only allows for between 100 and 200 km of driving. Even though this is enough for the average drive of 47 km a day, longer ranges are needed and solutions such as battery change and fast-charging must be explored.

Policymakers at EU, national and local level must therefore help kick-start the market for EVs.

### Policy issues to consider for the White Paper on the Future of Transport:

#### *Infrastructure:*

Some of the infrastructure (distribution of electricity) for EVs is already in place, but we encourage further incentives to be considered by relevant authorities such as: supporting and facilitating installation of charging poles for EVs; allowing free parking for EVs in cities; and allowing EVs to use bus and taxi lanes etc.

*Funding and pricing:*

We agree with the statement in the Commission's Communication that the transition towards a low carbon economy will impose a substantial overhaul of the transport system, and that the polluter pays principle should be respected. Car taxation should thus reflect not only CO<sub>2</sub> emissions, but also the use of renewable energy, efficiency, other environmental benefits and the impact on security of supply.

*Technology:*

Research, development and demonstration are needed to get EVs to the market as fast as possible. We welcome the Green Cars initiative that was adopted as part of the European Economic Recovery Plan and reiterate that research and development, as well as, demonstration of electric vehicles and other technologies such as fuel cells should be prioritised in EU and national funding. Also, the EU must encourage the relevant institutions and car manufacturers to ensure that standards are agreed for infrastructure for charging electric vehicles.

*The legislative framework:*

There is a need for a common understanding of how to measure CO<sub>2</sub> emissions and efficiency of EVs to ensure that legislation can provide the best incentives for EVs. The Commission could present a proposal on how to allow the entire amount of electricity originating from renewable sources used to power all types of electric vehicles to be considered in the national targets for renewable energy according to directive 2009/28/EC (at present the calculation of electricity from renewable energy sources consumed by EVs are considered to be 2,5 times the energy content). Furthermore, a common assessment system for the CO<sub>2</sub> emissions attributable to electric vehicles would be beneficial for discussions on EVs and climate issues.

*Behaviour: educate, inform and involve:*

Lack of knowledge is often a barrier for the take-up of new technology, and we agree that citizens should be given better information and that the benefits associated with EVs and other relevant technologies need to be better explained. We would encourage EU-information offices such as Europe Direct to make information available on environmental aspects of various forms of private transport. Furthermore, we suggest that the EU institutions should set an example by including EVs in its own fleets.

\*/ Appendix. List of members of the network

ABB	NIC. Christiansen Holding
Afuture elbiler	A/S
Atkins Global	Nordania Leasing
Autolease	Nordjysk Elhandel
Better Place	NORTHERN NETWORK
Clean Charge	Nrgi
Cleantechmotors	Pendelmatic Production A/S
Danfoss	Peugeot
Dansk Autohjælp A/S	Realisator
Dansk Energi	Renault
Delta	Rittal
Dong Energy	SEAS-NVE
ECOMove aps	SerEnergy A/S
e-drive	Siemens
Elbil Danmark A/S	Sixt
Energimidt	SONLINC
Eurisco Aps	Sydenergi
Eveecars.dk	Sydfyns Elforsyning
Foreningen Energi Horsens	Teknologisk Institut
HEF	Tesla Motors
IBM	Toyota
kk-electronic a/s	TRE-FOR
LeasePlan Danmark A/S	Tryg
Lithium Balance	Veksø
Mitsubishi	Volvo
Move About	Østkraft

For further information please contact Ms. Lærke Flader; [lfl@danskenergi.dk](mailto:lfl@danskenergi.dk), tel +45 35300415.