

Electric Vehicles in Urban Europe

Suceava Expert Seminar



November 2010

1. Introduction

The URBACT funded EVUE project aims to help cities make the transition to electric vehicles (EVs). Within the partnership, there is a wide variety of experience and knowledge that can be shared with cities just starting the journey.

EVUE's inaugural expert seminar was held in Suceava, Romania, on the October 13, 2010. The aim was to help the City of Suceava and their Urbact Local Support Group better understand the opportunities associated with EVs and help develop their future plans.

This was achieved through the support and assistance of Ole Henrik Hannisdahl from Grønn Bil and Hans Kvisle the President of Norstart. These two experts from Norway have over 20 years experience with EVs and have helped lead the development in their country.



Hans Kvisle (left) and Ole Henrik Hannisdahl in Suceava.

2. Norstart & Project “Green Car”

Hans Kvisle began the seminar introducing Norstart (Norwegian Electric Vehicle Association) and its aims.

Norstart's objective is to stimulate the use of zero- and low-emission vehicles in road transport, through the use of energy efficient vehicles using completely or partly electric motors – rechargeable vehicles.

Founded in 1995, Norstart has focused on lobbying for a good policy framework that is essential to the development of the electro-mobility.

Initially, Norstart organized the EV and energy industry to work together to achieve their common aims. It now has more than 1,000 members comprised of private EV owners and companies operating EVs.

It has progressed to where it employs two full time staff members who have a wealth of experience with EVs. As the industry has developed, Norstart now runs different projects on behalf of predominantly public authorities e.g., charging station databases

From its early beginnings, it is now focusing on its role as a consumer (EV-drivers) association securing rights and incentives, but with a large common interest with other stakeholders as producers, distributors, energy suppliers, infrastructure companies the public sector.

Ole Henrik Hannisdahl then discussed project “Grønn Bil” (“Green Car”).

Green Car was initiated by Energy Norway and has set a target of 200,000 EVs and PHEVs (plug in hybrid electric vehicles) by 2020.

It aims to achieve this by:

- Providing practical assistance and information for EV owners and users.
- Suggest improvements in the regulatory framework
- Showcase demand to attract EV and PHEV suppliers, and
- Be a driving force in the development of next-generation charging infrastructure



The project is overseen by a steering committee which includes Norwegian municipalities, environmentalists, Norstart transportation authorities.



3. EV's- The Norwegian Story

While most cities and countries are only now starting the introduction of EVs, Norway's history goes back to 1989.

An environmental organisation Bellona, together with interested engineers and others, such as famous musicians, imported the first EV to showcase them. From this starting point, they were able to initiate the technical and legal changes required to promote EVs.



The Norwegian EV pioneers

In the 1990's, an EV manufacturer "Think" started production and was supported by a range of high profile investors.

The government, while also responding to concerns about the local environment, saw the opportunity to support industrial development which a view to having a Norwegian car manufacturer.

How the Norwegian EV dream was realised

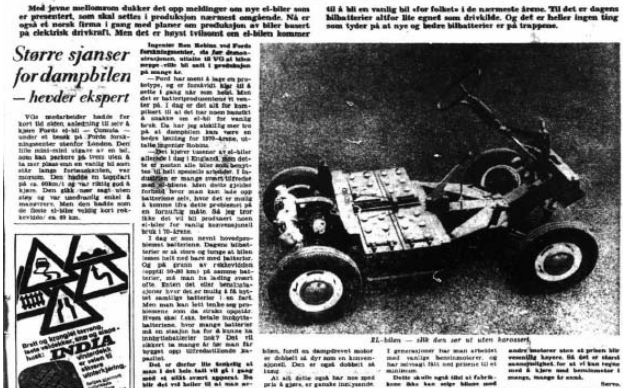
Non governmental organisations and industry supporting investors created the opportunity. This was combined with targeted lobbying highlighting the strong environmental arguments for EVs.

At the political level, the government responded with a willingness to stimulate the market through significant tax exemptions.

This enabled an initial number of early adopters to purchase EVs who could demonstrate the viability of this new technology.

Fundamentally however, a lot of patience was also required!

Minst 10 år før EL-BILEN blir VANLIG I TRAFIKKEN

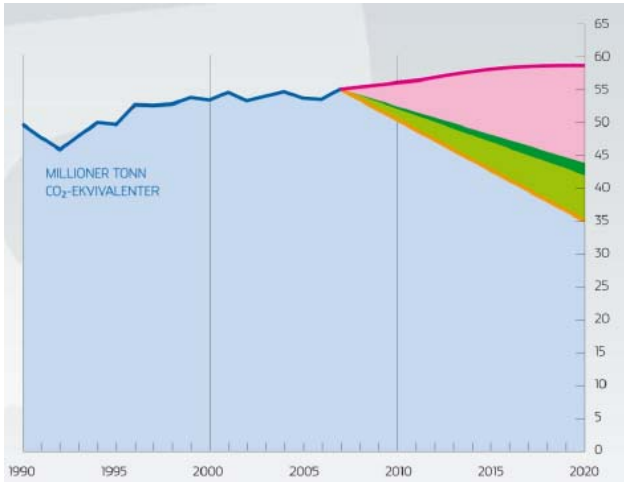


EV newspaper article from 1969 – EVs aren't new!.

WHY EVs?

As environmental concerns were increasing, there was a political agreement to reduce CO2 emissions.

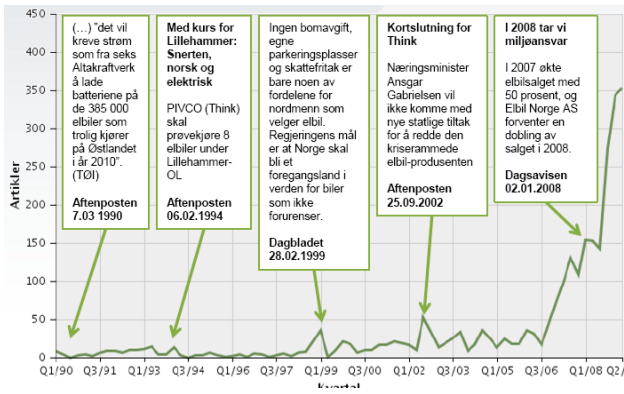
With road transportation producing approximately 19% of Norway's CO2 emission, there is significant potential to reduce this through electro-mobility.



The graph (above) shows CO2 emissions from 1990 to 2007 (blue line) with the pink line the extrapolated trajectory through to 2020. The target is to reduce this to 42-44 million tonnes of CO2 by 2020.

Norway also has an strong energy distribution system driven primarily by non-CO2 emitting hydro-power, which makes the electrification of transport a key solution.

The introduction of EVs has primarily been driven by CO2 reduction targets but other motivators include reducing local air pollution and employment opportunity around 'green' jobs.



The increase in media reporting of EVs between 1990 and 2009.

As environmental awareness and concerns have escalated since the 1990's and the oil costs have escalated, EVs have been gaining increasing attention.

4. EV's today

As of June 2010, there are over 3,000 EVs throughout Norway. This has been achieved with a range of incentives including:

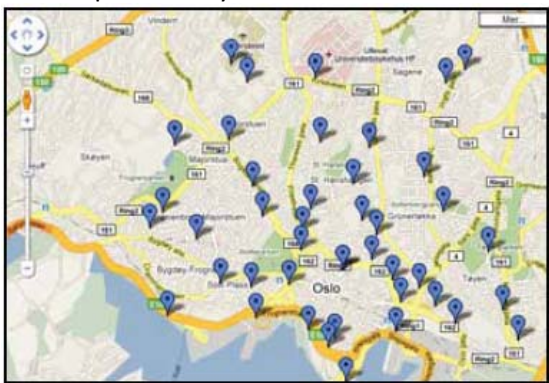
- No Import Tax
- No VAT
- Very low annual registration fee
- Free parking in publicly owned parking spaces
- No roadtolls
- Access to bus lanes
- Free passage on national road ferries for the car (not including the driver)
- Increased mileage allowance in public sector (NOK 4 / km compared to NOK 3.50 / km)
- Only 50% taxable benefit if used as a company car
- Cars less than 2.5meters can park sideways

At present, 75% of EVs are privately owned, 23% are owned by private companies and public organisations own 2%. This highlights a significant opportunity to increase their usage in publicly operated fleets.

Public Charging Infrastructure

Transnova is a public funded scheme that has budgeted 50 million NOK (€6 million) in 2009/10. This has led to approximately 1,900 charging points installed under this programme. However, with no central placement strategy, it has been on a 'first come, first served' basis.

Some cities have their own targets with Oslo aiming to 400 in operation by the end of 2011.



A map showing points in Oslo.





The distribution of EVs in Norway (June 2010)

By the end of 2010, it is envisaged that 2,700 charging points will be operational.

In June 2010, a new website was launched www.nobil.no which lists all charging points available for usage with a range of handy tools and maps.

5. The EV Future

The benefits of EVs are well known as they emit no local pollution and less noise resulting in cleaner and quieter urban environments. Through charging vehicles overnight, users can take advantage of cheap electricity and start the day fully charged.

As there are fewer moving parts, service intervals will be longer saving the owner time and money.

As emissions also move from the tailpipe to the power generating plants, any emissions can potentially be cleaned.

There are also significant opportunities for employment associated with EVs in a range of industries in steel and aluminium production, electricity generation and distribution, engineering manufacturing and IT systems.



Some important questions still remain

EVs and the framework in which they operate are still evolving. This means that while there are questions to be asked, there are opportunities as the issues are resolved.

- Fast charging standard
 - When?
 - Costs?
- Grid reinforcements
 - Grid owners and utilities
 - ...but regulations (grid income model) might need some reviewing
- What do future charging business models look like?
 - Who pays for infrastructure?
 - How to transfer costs to users in an acceptable way?
- Chicken and Egg scenario
 - Do we build infrastructure for cars that aren't yet on the road?
 - Who wants to buy cars that can't be charged?

Next Steps

Green Cars activities for the next 12 months will be focusing on the following:

- Users (predominantly fleet owners)
 - Municipalities and energy companies
 - Facilitate sharing of success stories and best practice
 - Create enthusiasm: EVs are the way of the future!

- Coordinate order placement to showcase volume
- Driving schools
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- Vehicle Manufacturers:
 - Showcase Norway and the Nordic region as an attractive market
 - Track available volumes in the Norwegian market
 - Build and maintain close contact with importers, vendors and manufacturers
- Infrastructure:
 - Fast-charging standards
- Regulatory framework
 - Import scheme for PHEVs
 - National budget treatment and funding of EVs
 - Remove VAT on EV leasing, operations and services
 - Emphasise that EVs are the way of the future – not just a tool for reducing CO2 emissions in 2020!

Norstart will be focusing its activities on working with the government on producing an integrated strategy that will deliver a long term plan to secure a stable and predictable EV-policy environment until at least 2020. This will enable consumers, companies and investors to have certainty when making purchasing decisions.

As the range of EVs models and availability is increased, costs will also be reduced further expanding the market.

Currently, all parties and politicians support promotion of EVs. Now the focus is on making the Norwegian dream a reality



6. The Suceava Opportunity

Following the introduction and discussion of the Norwegian experience, Mr Hannisdahl and Mr Kvisle discussed the opportunities for Suceava in a round table discussion with members of the USLG.

With the recognition that EVs do require a supportive environment a 'Readiness Index' was developed to identify the readiness for introducing EVs and important drivers.



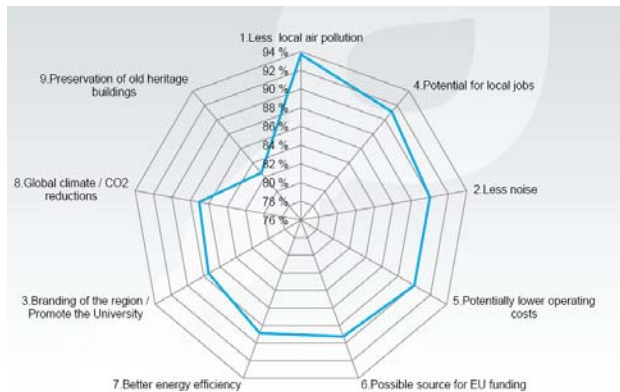
Suceava USLG members

The drivers for change may include:

- Global Warming awareness
- State of public finances
- Local air pollution
- CO2 –emissions per kWh produced by local power plants
- Availability of public transportation
- Relative price of ICE car and comparable EV today
- Percentage of households with 2 or more cars
- Households' relative economic strength
- Percentage of population with access to home charging
- Anxiety of fossil dependency and availability of alternative energy
- National business opportunities for industrial development
- Level of unhealthy noise
- Demand of taking care of heritage as old buildings, towns etc.
- Availability of providers of EVs – distribution and after market services
- Practical advantages
- Charging infrastructure

Following a presentation and discussion on the likely drivers, the USLG members undertook a targeted version of the readiness index based on the following drivers.

1. Less local air pollution
2. Less noise
3. Branding of the region / Promote the University
4. Potential for local jobs
5. Potentially lower operating costs
6. Possible source for EU funding
7. Better energy efficiency
8. Global climate / CO2 reductions
9. Preservation of old heritage buildings



Spider diagram showing the readiness results

The trial of the readiness index was very helpful in starting to draw out the main drivers for electromobility in Suceava. Reducing local air pollution and the possible employment opportunities were the most important followed by the reducing noise and transport related costs.

7. Conclusions

The purpose of the Suceava EVUE expert seminar was to help share the knowledge and experience available with partners starting their electromobility journey.

Suceava has a number of key challenges facing the city as it tries to develop this new field but by learning and discussing how other countries and cities have undertaken this journey, they can realise it may be difficult but not daunting.

The key lesson from the Norwegian experience is that it cannot be done alone. Only by bringing together industry, politicians, local citizens and

business can the transition to electric mobility be secured.

This was the first step in Suceava's e-mobility development and they will be now working on a local action plan to take this forward.

The best summary of the outcomes from the visit was with Perseverance and Patience, the dream can be achieved.

"It is a difficult time for us to talk about such a bold initiative. But the future is green, the technology will become cheaper, it will become possible."

Narcisa Nenec, Municipality of Suceava



Ole Henrik Hannisdahl, Hans Kvisle, Narcisa Nenec, Dan Dura and Matthew Noon.

Matthew Noon
October 2010
www.urbact.eu/evue

URBACT II

URBACT is a European exchange and learning programme promoting sustainable urban development. It enables cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal challenges. It helps them to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. It enables cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT is 181 cities, 29 countries, and 5,000 active participants

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