

Oslo Stockholm Network Meeting and Study Visit May 2012



1 Introduction

From May 21-25 2012, the URBACT EVUE partnership held its sixth and final transnational meeting combining study visits in Oslo, Norway and Stockholm, Sweden with workshops on the final thematic results. This is a summary report of the meeting. The full presentations and links are available at www.urbact.eu/evue.

2. Oslo

As of April 2012 there are 6587 electric cars in Norway, making Norway the leading EV country in the world.

2.1 Civic welcome

Ola Elvestuen, Vice Mayor of Transport and Environment, formally welcomed the group in Oslo City Hall. He reported that Oslo is proud of its achievements in becoming the EV capital of Europe. The city has developed a comprehensive package of benefits for drivers, which, when combined with the national incentives such as tax-free EVs, means that it is practical and cost effective to own an EV. The challenge, he said, is to maintain these incentives and to generate confidence amongst potential and actual drivers that owning an EV will be beneficial in that future. (Following the visit, the Norwegian government confirmed that their incentives will remain until 2017).

Mr Elvestuen also talked about broader mobility policy in the city, and how measures are in place to encourage more use of public transport and less conventional car use. Public transport patronage has also seen a rise of over 30% following a recent fares review which are subsidised by the tolls on the city ring-road.

The city also plans to tackle ship based carbon emissions through the provision of high voltage connections on wharves to which ships can connect, rather than using their engines for electrical power.



He concluded by saying that Oslo is happy to be seen leading the way, to have OEMs and other cities visiting to find out about the success.

2.2 Green Car

Ole Henrik Hannisdahl presented the **Green Car** initiative, run by energy company Transnova. Put simply, the project aim is to have 200,000 EV and PHEV drivers in Norway by 2020.

EV policy has to mean that it makes sense financially to own an EV. The package of incentives in Norway means that take-up of EVs is high compared to other European countries.

Norwegian incentives:

- No Import Tax
- No VAT
- Very low annual registration fee
- Free parking in publicly owned parking spaces
- No road toll
- Access to bus lanes
- Free admission on national road ferries for the car (not the driver)
- Increased mileage allowance in public sector (NOK 4 / km instead of NOK 3.50 / km)
- Only 50% taxable benefit if used as a company car

Nordic weather conditions are difficult for the batteries. There is also a cultural issue that Norwegians like to visit their cabins in the mountains, and this is not yet possible with EVs due to the range requirement.

Ole Henrik posed the question: What does it take to get 200,000 consumers to choose an EV over an ICE car? His answers are:

- EVs that can compete with regular ICE cars on price, size, features and image
- Infrastructure that permits optimal use of available cars
- As cars evolve– so should the infrastructure

Ole Henrik concluded with some learning points from the Norwegian market:

- E-mobility versus "Just A Car"
- Just sell a car – not a revolution. This is especially true for marketing to individual consumers
- Should the customer be required to assess the state of the entire power system before buying an EV?
- Understate, and then over-deliver
- The car is bought and paid for by the customer, so business models need to be user-centric.



2.3 Zero Electric Vans project

Benjamin Myklebust of **Zero** presented 'Electric vans in Norway', part of an Interreg North Sea region e-mobility project. The successful EV policies in Norway are targeted at individual consumers. Electric vans have great potential in Norway but the incentives are lacking. Regulations specifying the minimum load dimensions of vans that trigger tax incentives mean that some electric vehicles are not eligible.

The Norwegian post office is cooperating in the project to test 10 electric vans in Oslo and 10 in Bergen. They will:

- test the hypothesis that many vans could become electric,
- gain an overview of which vehicles could be replaced in fleets
- report on what incentives are needed to encourage this.

Almost all of the post vans drive less than 100 km a day. Around 50% are used by service or craftspeople. Trips are 40 km in line service and 30 km in distribution and service. Feedback from users is that half of the electric vans could be electric. If they had 200 km range then all could become electric. Charging is more of a challenge than range.

It is clear that stability of prices and incentives are important for the future. The questions for the future are to consider whether a further price incentive is necessary; to assess the potential of zero emission zones and time limits to get charging infrastructure support. Finally it is vital to get the message out that electric vans can make sense.

2.4 Move About EV Car sharing

Michael Eimstad, Managing Director of **Move About** presented the company's business model for electric car sharing.

Move About's vision is to provide the most convenient and cost-effective personal mobility in the city, while reducing:

- energy use,
- CO₂ emissions
- noise emissions, and
- use of public space.

In 2008 Move About launched the world's first EV corporate mobility on demand service.

In 2009 they launched a publically available car sharing service with electric vehicles in Oslo.

Michael argued that innovation doesn't happen in a vacuum, and if governments want innovation, they need to support positive local initiatives. Vision is important because until you get something that for the CUSTOMER is a better solution than what they have today otherwise it will not scale. You will only get the real enthusiasts

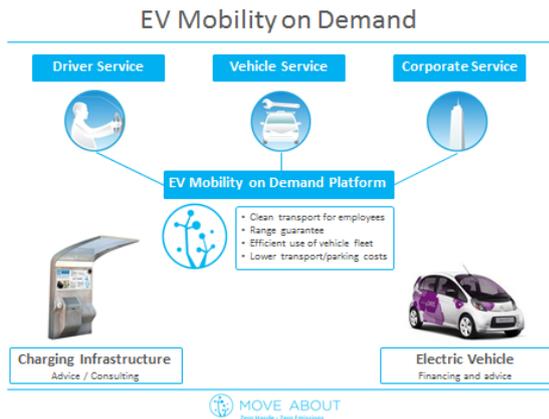
Out of a total of 2.3 million passenger cars, only 0.3% are electric. Part of the reason is that if you see an EV car as a product, it has to compete with ICE vehicles on fossil fuel terms, in the context of an infrastructure, and road network that is designed for fossil fuel usage. So the challenge in getting people to use EVs is to define an environment in which

its strengths become MORE important and its disadvantages become LESS important.

Move About sees mobility as a service, rather than looking at the car itself as a product.

A picture of sustainable mobility reduces all kinds of cars. The future of mobility in cities has to be based more on public transportation in combination with smart use of resources.

“We need to replace 10 fossil fueled cars with 1 EV. Then we can achieve real change.”



Move About reduces transportation costs by more efficient use of fleets, parking and public spaces.

Move About provides a vehicle and corporate service based on an e-mobility OnDemand platform. For the individual service the cars are booked online, then the driver goes to where the EV is stationed opens it and drives.

For corporate customers, Move About's booking and access system:

- allows each vehicle in the fleet to cover the transportation requirements of 30-50 employees,
- allows relatively few shared cars to replace many cars that are used by one person,
- studies show that each car sharing vehicle can replace 5-20 non-shared vehicles
- reduces the cost per mile compared to non-shared vehicles, and
- reduces the number of required parking spaces

The service to businesses includes regular reports to monitor key indicators, such as number of reservations, kilometres driven,

environmental operational and financial benefits.

The Move About business model incorporates three revenue streams: membership and vehicle rental, advertising and branding, and connectivity enabled services. The company is roughly breaking even now in Norway and is forecast to expand into new markets and become profitable. Part of its forward strategy is to partner with municipalities, transport companies, hotel chains, property developers and others interested in creating cleaner personal mobility.

2.5 EV User Association Norstart

Snorre Sletvold of the **Norstart the Norwegian EV users Association** explained the history of the movement, established over 20 years ago as a non-profit organisation. It now has 4000 members made up of EV users and buyers, both individuals and commercial partners.

Norstart has consistently engaged with politicians of all parties to create and maintain the best environment for EVs. Norstart also has good relationships with OEMs and importers. The association administers the scheme for the CP keys and display card that goes on EV windscreens. The website has 2000 hits per day and includes useful updates on products, services and comments from EV users. The NGO provides a useful OEM neutral and customer oriented perspective on EVs. It has played a crucial role in pushing policy makers to create the environment that has made Oslo so successful in becoming a leading EV city.

One of their key achievements has been to ensure EV supporting policy is implemented to encourage uptake. It includes assessment of tax/revenue implications initially helping to remove opposition to such incentives.

2.6 City of Oslo Infrastructure

Marianne Mølmen, **City of Oslo**, presented the city's infrastructure strategy. There had been a target of 400 charging points in place in the city by the end of 2012. This was achieved and the city now wants to include another 100 charging points a year to continue extending the infrastructure.

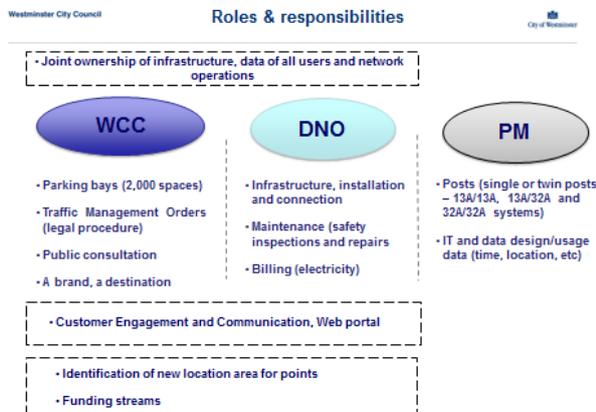
The study visit concluded with a tour of the two EV parking places in central Oslo: Aker Brygge, and Trekanttomta. Aker Brygge has with 50 places reserved for EV use only.



An ad hoc interview was conducted with a Nissan Leaf driver. He had bought the car six months ago and was very happy with it. The main benefit was that he is saving around seven hours a week commuting time by driving in the bus lanes. He uses the car regularly for family trips locally. He charges at home not in the central Oslo EV car park. His main concern is that the incentives stay in place to retain the benefits he is experiencing.

3 Thematic workshops

Thematic workshops were held to explore the final results for the EVUE reports. Christel Quellennec-Reid, Green Transport Project Officer of Westminster City Council presented a new approach to investment in infrastructure. The council is setting up a new company, in partnership with a network operator and the charging post provider, to develop public infrastructure.



4 URBACT Updates

4.1 EU Cohesion Policy

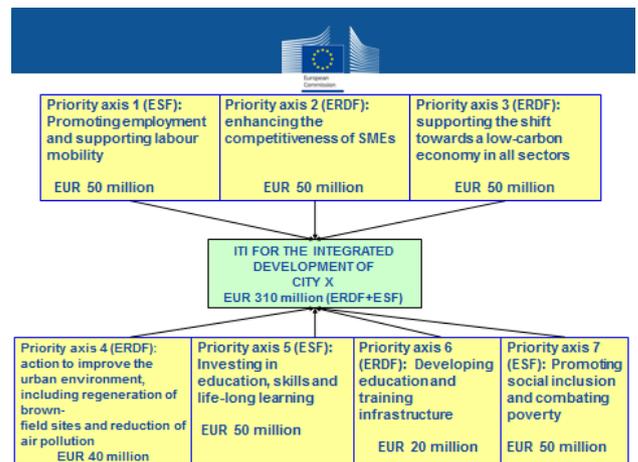
Iván Tosics, URBACT Thematic Pole Manager, presented the developing proposals for Cohesion Policy 2014-2020. The new Cohesion Policy regulations will have to be adopted by the end of 2012 to allow the new programming to get underway on time to start in 2014. Some of the key points are:

There will be increased funding for poorer regions and three new categories of regions

- Less developed regions with a GDP/head of <75% of EU average
- Transition regions with a GDP/head of 75-90% of EU average
- More developed regions with a GDP/head of >90% of EU average

There are a number of new mechanisms responding to urban planning needs:

- *Need for an overall integrated territorial approach*
⇒ **Territorial development in strategic documents**
- *Need for metropolitan governance*
⇒ **Integrated Territorial Investments**
- *Need for integrated interventions at neighbourhood and local level*
⇒ **Urban integrated development + Community-led local development**
- *Need for innovative approaches*
⇒ **Innovative urban actions**



The opportunities for cities in the next framework are that there will be substantial additional resources managed directly by cities for integrated (ERDF and ESF) investments directed at sustainable development. The budget is sufficient to fund around 1000 initiatives of between 10 and 20 million euros each. The risks are that, in the face of massive expenditure cuts faced by cities, they will

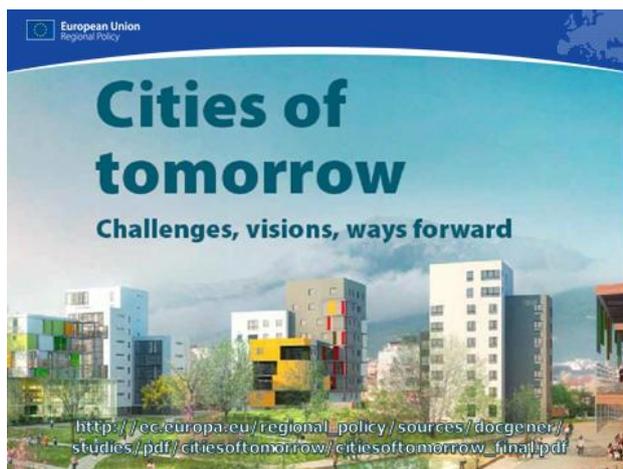
simply use the money as an additional funding in the most basic fields.

Member States have to define priority themes and/or types of urban areas for it is (Integrated Territorial Investments), indicative budgets for each fund, and mechanisms for selection (hopefully NOT lists of cities). These should be included in the Partnership Contracts and Operational Programmes to be approved no later than mid 2013.

4.2 Governance

Ivan also commented on key factors for success in metropolitan areas related to governance. He argued that the present government and territorial system of municipalities is unfit for the necessary integrated policies. „Europe has 21st century economy, 20th century governments, 19th century territorial systems.“ Innovative developments have to happen in the functional urban areas. The task is to combine top-down hierarchical framework (redistribution) organized by higher tiers of government and bottom-up cooperative incentives (win-win) for development: “Formal reorganisation of government is not the only factor for success but it might be important.”

4.3 URBACT Capitalisation 2012: Cities of Tomorrow



URBACT has set up 6 workstreams to be developed and discussed work at the Annual Conference in Copenhagen in December. They relate to the challenges for cities outlined in a report published by DG Regio in 2011 called Cities of Tomorrow:

- 1 Addressing the challenge of demographic decline (ageing, migration, mobility)
2. What cities can do to build more and better jobs (demand and supply)
3. Stimulating social innovation to address the challenge of social polarisation (people side: precarious groups, excluded groups; diversity as economic asset, etc)
4. Cities against spatial exclusion (spatial side: segregation, disadvantaged neighbourhoods; horizontal and area-based interventions)
5. Sustainable Mobility (public transport, intermodality, reduction in car use, connection to urban, regional national transport)
6. Housing and energy efficiency

More information on the workstreams and the conference is at www.urbact.eu.

4.4 Reflections on EVUE

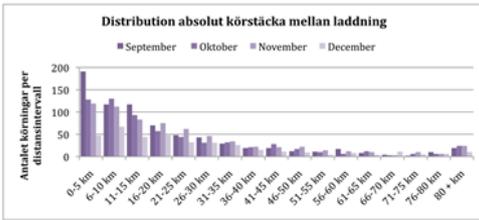
Ivan reinforced the need for all specialized transport solutions (Evs, active travel modes, etc) to be connected to an overarching strategy for mobility, developed on the basis of the functional urban area. Mobility strategies obviously depend partly on the size, morphology, and regional connections of European cities. The starting point could be a widely known integrated mobility tool, e.g. Sustainable Urban Management Plans (SUMP) as planning tool.

Subsidies change behaviour of users. If too much subsidy is given to EVs compared to other, less socially selective transport modes (public transport, active mobility modes, etc.) then public money will increase social differentiation within local residents. In mobility the problems of fossil fuel use and carbon emission emerge. These can be handled by EVs, depending upon the source from which electricity is produced.

5 Feedback from EVS26

EVUE had been well represented at the Electric Vehicle Symposium 26 in Los Angeles in May. Eva Sunnerstedt and Marianne Mølmen presented the Stockholm and Oslo experience during poster sessions and workshops. Sally Kneeshaw presented EVUE to the workshop session on Improving Public Policy. Lisbon won the AVERE E-visionary city award.

Driving Distance – Accumulated electric-kilometres



- 90 % of the trips < 50 km
- 80 % of the trips < 40 km
- The share of trips between 0-5 km decreases with time
- The share of trips between 16-40 km increases with time
- Total of 55 400 electric-kilometres = savings of around 6 tonnes CO₂

The 50 cars are in use across the whole of Sweden. All drivers have gained access to the electric car through their employer and have used it in their work, mainly for visits to urban areas or city outskirts. The electric vehicles are mainly charged at permanent overnight parking space. All models except Fiat 500 EV can be charged at all amperages.

Driver satisfaction is high. A small number of EV related problems have been reported:

- Electric drive line – motor breakdown while driving
- Heat, comfort – unsatisfactory comfort inside the compartment
- Heat vs cruising range – the driver has deliberately lowered the compartment comfort to achieve the necessary cruising range
- Features – Features that does not function properly, e.g. defrosting of windows

Further follow up evaluations will be undertaken to monitor EV use and satisfaction.

Eva is also involved in a project funded by the energy agency Norden on how to get started with EVs and smart logistic solutions. Good emerging examples from Denmark have shown a potential for 25% cost savings on vehicles, and the possibility to introduce 10% EVs without an increase in costs. Some vehicles were used so little that they were actually not needed. - car-pool, taxi, bicycles etc could be used instead

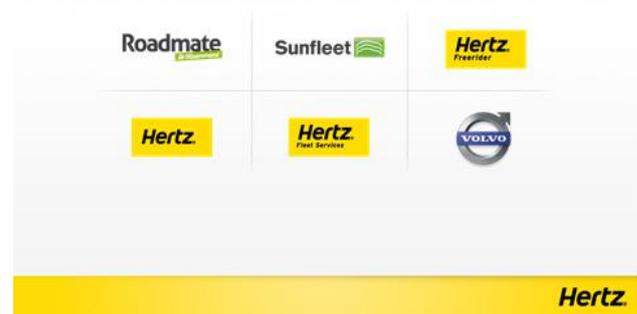
From the experience of the test EVs introduced into the City of Stockholm they had succeeded in inspiring appetite for more EVs in the city fleet. 80 % of the

organisations testing a car have ordered an EV.

7.2 Hertz Mobility Management

Nicklas Steorn of **Hertz** reported on the potential business opportunity to integrate all services into one called Mobility Management. Hertz can help a large fleet operator to reduce the vehicle fleet and still have flexibility in personal mobility by car. Both companies and public authorities can supply citizens with mobility without them owning a car.

Mobility Management



None of Hertz's competitors has car sharing, car pooling or free transfer services.

Hertz has focused on sustainable business development to find new segments, new ways of doing business and transforming the car rental affair to a mobility affair. For Hertz the benefits are:

- Competitive advantages by being the first on the Swedish market, even the first globally.
- Great interest for the ideas from several customers, for example Lerum, Nacka, Linköping, Wallenstam, Vattenfall, ABB.
- Great potential to grow and be an integrated system for mobility including public transportation, web conference suppliers, taxi, bi cycle renters, trains etc.

Nicklas concluded that sharing has become a large trend due to climate action. "Second hand is no longer for the poor -it is for trendy people. Owning stuff is 19th century. The 21st century is about sharing and consuming services."

7.3 Hertz Sunfleet Car sharing in Stockholm

Jesper Sundblad presented **Hertz Sunfleet Car sharing**, the largest car-sharing company in Sweden. Established in 1998 as collaboration between Volvo and Hertz it became an independent company in 2011.

Today it is operating in 34 cities, has 20 000 members and counts around 11 000 journeys/month and 132 000 journeys/year. The biggest cities (as of April 2012) are:

- Gothenburg: 166 vehicles 65 pick-up points
- Stockholm: 132 vehicles 48 pick-up points
- Malmö: 74 vehicles 43 pick-up points

In total in Sweden there are 650 vehicles and 242 pick-up points.

Sunfleet will introduce EVs into the car sharing service in April – May 2012 with the Volvo C30 Electric then in 2013 the Volvo V60 Plug-In Hybrid.



The EVs will be located as follows:

- Stockholm: 4 cars
- Gothenburg: 2 cars
- Malmö: 2 cars
- Helsingborg: 1 car
- Total: 9 electric cars

The private & Company Prices will be
79 SEK/hour
22 SEK booking fee

There will be the same online booking system, with time blocked out for re-charging in the first phase

Sunfleet is marketing the advantages of this business model as suited for :

- Urban areas
- Short driving distances
- Caring for the environment
- Less noise
- Cleaner air

- Forward thinking
- New technology
- Availability
- Easy for everyone

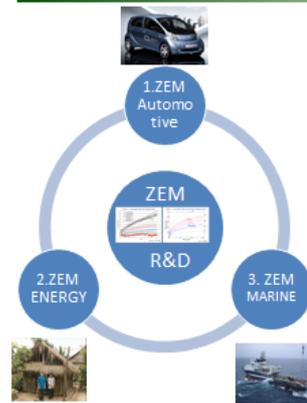
7.4 Fortum the Royal Seaport

Erik Hjelm of Fortum presented the company's vision for a new neighbourhood development in Stockholm incorporating intelligent buildings, grid connection and energy use.

7.5 Zero Emission Mobility

Dr. Jan-Olaf Willums, Chairman, Zero Emission Mobility (ZEM) briefly presented his work in automotive energy and marine research and applications. The aim is to optimise the use and model the degradation of Lithium Ion batteries in order to lower the cost of electric vehicle operations.

Zero Emission Mobility (ZEM) Alliance

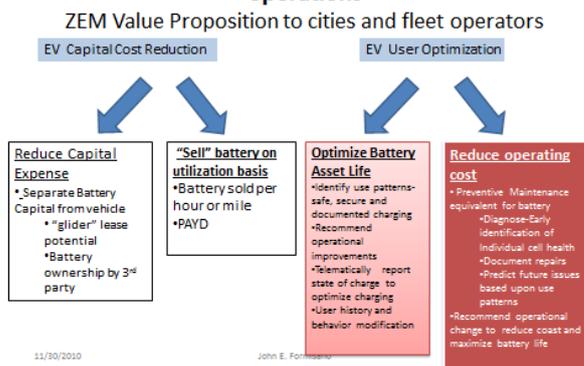


To provide services that are based on several years of research and technology development and has unique modeling competence developed with DnV. ZEM is heading or participating in 7 international R&D programs, that provide the foundation for services in three interconnected areas, with this priority:

1. AUTOMOTIVE APPLICATIONS:
2. STATIONARY ENERGY SERVICES
3. MARITIME USES

They have a focus on lowering the cost of EV operations by optimising battery life and re-using batteries. ZEM Alliance works in partnership with many other organisations in a number of projects around the globe

How to lower the cost of electric vehicle operations



7.6 Zero emission commuter boat study

Joachim Skoogberg presented Echandia Marine, a Swedish company specializing in complete systems in electric powertrains. They are conducting a demonstration project to show how electric boats can provide zero emission commuter traffic. They have done a pre study on cost and environmental benefits based on two routes- one in Goteborg and one in Stockholm. The results so far show a massive reduction in energy and emissions that start to make the business case over the lifetime service delivery.

8 Electric buses in cities

Kirsten Anlauf from TraffIQ, public transport agency in Frankfurt gave an update on a trial of a BYD electric bus which found the safety and comfort standards of the vehicle are not yet sufficient for public use.

Sergio Fernandez reported on a trial in Madrid of the large electric bus produced by Chinese manufacturer FOTON, (model BJ6123EVCA). The test had taken place without passengers, with simulated conditions of stopping and starting, opening the doors and charging. A number of technical and practical issues were reported back to the manufacturer relating to battery operation, complexity of charging procedure, comfort levels for passengers.

Hybricon AB

Hybricon is innovative, award winning company based in Umea in the north of Sweden developing hybrid electric bus services. The Chief Executive Pär Jonsson presented the concept for the rapid charge electric bus with hybrid backup, now in operation in Umea.



Finally, the **Stockholm city study tour** included site visits to fast charging, different normal charging units indoors and outdoors with different paying systems, including Fortum's mobile phone operated CPs pictured above. Preem, Sunfleet, Hertz, Nissan, Fortum, Stockholm Parking Authority all showed their facilities. Participants were able to test drive Volvo C30, Citroen C Zero and Mitsubishi iMiEV.

9 EVUE Planning

The EVUE Final Event will take place in London in October 2012.

10 Learning and Reflections

Reflections from participants at the Oslo Stockholm study visits were collected, in their own words, in a post event survey.

- Interesting points for me were the power of a strong users association and the "not intelligent" CP approach of Oslo.
- The Stockholm CP system using mobile phone is great
- It was interesting meeting the one EV driver in the parking lot in Oslo - Him saving 7 hours in a week of less travel time due to the possibility of driving in bus lanes and the fact that he did not spread the word because he was afraid there would be too many Evs then.....

- Regulations on new developments (housing, parking, shopping etc) how a city can demand a certain amount of charging in new establishments - this is what we are looking into in Stockholm and it was interesting to know from others as well
- In the beginning, keep it simple.
- Involve all parts of civil society in the issue, everyone should have an opinion.
- Use friendly communication messages in EV's and Charging Infrastructure to show How, what and where Ev's look like.
- Since I'm always interested in the charging points, seeing the way they had constructed a CP protection guard (a mini guard-rail) to protect it from being run down, may be less expensive than the solution we were thinking of testing in Oslo
- These 2 cities have developed projects related to green energy
- The City Hall is involved in EVs promotion, providing facilities that proved to be attractive for EV users

11 Links

Zero

http://www.zero.no/?set_language=en&cl=en

North Sea Region Interreg project

<http://e-mobility-nsr.eu/home/>

Green car www.gronnbil.no

Move About www.moveabout.net

Norwegian EV users Association www.elbil.no

Norden EV SAFE project

www.energyandtransport.net

Sunfleet www.sunfleet.com

Hybricon <http://www.hybricon.se/>

Zero Emmissions Mobiloity

www.zemenergy.com

Echandia Marine www.echandiamarine.com

Hybrid cars spoof advert

<http://www.youtube.com/watch?v=meEIIjt6R2o>

Cities of Tomorrow, DG Regio

http://ec.europa.eu/regional_policy/conferences/citiesoftomorrow/index_en.cfm

Cohesion Policy updates

http://ec.europa.eu/regional_policy/what/future/index_en.cfm

Electric Vehicle Symposium 26

<http://events.ntpshow.com/evs26/public/enter.aspx>

World EV cities and ecosystems conference reports

http://campaign.r20.constantcontact.com/render?llr=65ajzjdab&v=001BqdIkAG71q5BUwnkqdsCoO-Owprp_czxAsD0-ZXPhOQ95hyJ6g7IEZQ9SAPsaGxWGE_Owoy_DhzaQIC2gnSzB4Fok_1S7rqMYzIRYt2gD-vC70c9xW5t19yC9VvLR40RbhDYRG89AzKSJvH7F-CPW1R6aYbTj_c3HoYvBv16E6SXJxDHAgmif2PhXSIJDDJTsqjB_cf-2Ynma2Mnz8PShyckVjzEZjh

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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

www.urbact.eu/project

