NORTH SEA REGION ELECTRIC MOBILITY NETWORK
e-mobility NSR

Mapping of public & private E-Mobility awareness needs in the North Sea Region.

REPORT

Cities Institute, Hertfordshire Country Council/London Met.

Høje-Taastrup Kommune – August 2013

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1. Introduction

This report with recommendations is completed as part of the Interreg IVB North Sea Region Programme "E-Mobility NSR" project.

As part of the "E-Mobility NSR" project Work Package 6:

Set up Transnational Electricity Mobility Information Centres (EMIC)

the objective with this report is to identify and map the main public and private information gaps and awareness needs an E-Mobility Information Centre (EMIC) will have to address and to help ensure that the final EMIC recommendations have a true transnational relevance for the North Sea Region.

The insights and learnings about the main information's needs will be used actively in the process of generating a set up guide for regional EMICs (Activity 6.8).

Please refer to the following homepages for further information about the Interreg IVB North Sea Region Programme and the "E-Mobility NSR" project:

- http://e-mobility-nsr.eu
- http://www.northsearegion.eu/ivb/home/

2. Methodology

As an initial preparation for this report the main beneficiary, Høje-Taastrup Kommune, engaged a consultant specializing in E-Mobility to prepare a desktop analysis of the main public and private information gaps and awareness needs a Danish E-Mobility Information Centre (EMIC) would need to address. The analysis is included in this report as Appendix 1.

The consultant concluded that the main public and private information gaps an EMIC would have to address could be divided into four main categories:

- Information related to driving and charging an electric vehicle
- Environmental information
- Information about E-Mobility options in the market
- Economical information

The above four categories (see chapter 4 Recommendations for elaborate descriptions of the four categories) where then used to form a questionnaire that was then forward to the following "E-Mobility NSR" project partners:

- Cities Institute, England
- Hertfordshire County Council

The rationale behind the questionnaire was to ensure the transnational relevance and the validity of the initial Danish study.

The data collection period was Jun – September 2012.

The unedited reply from Cities Institute (on behalf of both UK project partners) is included in this report in Chapter 3 and used together with the initial Danish analysis as basis for the recommendations in Chapter 4.

The map of public and private information gaps and awareness needs in this report highlights the most important information areas to be considered when designing an EMIC for the North Sea Region countries.

3. Questionnaire input from England

Information needs related to driving & charging an EV		Information needs related to environmentally friendliness of an EV	
Information description:	Source:	Information description:	Source:
• Concerns over 'range anxiety', both private drivers and fleet car drivers: in a UK-wide Demonstrator Project, with 340 ultra-low carbon vehicles, 100% of drivers were 'more worried about reaching their destination than in a petrol car', but after the 3 months trial this dropped significantly to 35%. Such increased confidence was 'in part due to better understanding of vehicle capabilities, driving techniques and journey planning'.	• Everett et al (2011) Initial findings of the Ultra Low Carbon Vehicle Demonstrator Programme, research for the Technology Strategy Board, UK	• Climate change and decarbonising transport: 'Electric cars are a key technology for transport…and should be developed as an option in the period to 2020… [and] widespread deployment [is] required to meet carbon budgets in the 2020s.	• UK Government Committee on Climate Change (CCC 2010: 23)
• Experience and adaptation to EV driving: the same study showed that learning how to use the vehicle was more straightforward than drivers had anticipated. At the end of the trial 95% of private drivers found they were no more difficult to drive than the cars they previously drove.	• Everett et al (2011)	• De-carbonizing the electricity system: in particular, EVs could provide an attractive use for night time power generation, and in the longer term intermittent generation from renewables such as wind through smart management of the electricity grid.	• Office for Low Emission Vehicles (OLEV (2011: 21)
• Performance: at the start of the trail, only 16% private drivers and 14% fleet drivers expected EVs to perform better than their normal car, but this improved by 24% and 26% respectively after 3 months.	• Everett et al (2011)	• Debate over 'well to wheel' energy supply: as yet, however, EVs are only as 'green' as the electricity that charges their batteries.	• Royal Academy of Engineering (RAE 2010)
• How far can they go? 'Source London', the main provider of EV charging infrastructure network in Greater London emphasizes: the average range of an EV is certainly enough to get you where you need to go in town. 'Did you know that 90 per cent of London car trips are less than six miles? In fact, although some days it feels like we're on the road for an eternity in London, less than 1 per cent of car trips are over 100 miles'.	• Source London www.sourcelondon .net	• Air quality in UK: targets for improving air quality are an important driver, especially under the EU Ambient Air Quality Directive2008/50/EC	• Office for Low Emission Vehicles (OLEV (2011: 22)
		• Air quality in Greater London: the benefits of reducing carbon emissions through increased use of EVs will particularly benefit Greater London, especially in badly polluted areas, notable inner/central London and around Heathrow airport	• Greater London Authority (GLA 2009: 41)
• What is a Plug-in Hybrid Electric Vehicle? The website also explains that Plug-in Hybrids (PHEVs) and range-extended EVs (RE-EV) are vehicles with both a plug-in battery and a conventional petrol or diesel engine: 'typical PHEVs and RE-EVs currently have a range of around 10 to 40 miles on the battery - sufficient to cover most urban journeys - after which the vehicle uses the conventional engine either in place of or to supplement the battery'.	• Source London www.sourcelondon .net	• Noise reduction in Greater London: benefits of quieter EVs in noise sensitive areas is seen as a particular benefit in London, but there remains some concern over possible danger to visually impaired people	• Greater London Authority (GLA 2009: 6)
• How to use charging points? The website provides clear advice on how to use charging points: at home, at work, and public charging points e.g. those that Source London provide	• Source London www.sourcelondon .net		
• Availability of public charging points in inner and Greater London: whereas the national 'norm' is that EV users charge from home, in Greater London only 33% households have off street parking, thus workplace and the public charging point network becomes essential, especially inner London.	• Greater London Authority (GLA 2009: 6)		
• Availability of public charging points in semi-rural Hertfordshire to the North of the capital: in contrast, Hertfordshire residents have higher levels of off street parking, but public charging points are also important in areas that are less built up where there may be gaps between charging points	• Hertfordshire County Council		

• Availability of public charging points on routes to airports and ferry ports: in the sub-region of the East of England, routes providing these international links are one of five 'journey types' identified as an important focus for comprehensive infrastructure coverage	• East of England Plugged-In Place www.evalu8-ti.org		
Information needs related to economical aspects of EV's		**Info needs related to the availability of EV's and compl. products in the market**	
Information description:	Source:	Information description:	Source:
• Favourable tax regime for purchasing electric cars and vans: UK Government has provided £300m *for the 'Plug-In car grant'* (25% up to £5k for new vehicles) and a plug-in van grant (20% per cent towards the cost of the vehicle, up to a maximum of £8k) – both of which are being reviewed 2012. Other incentives include exemption from Vehicle Excise Duty (car tax)	• UK Department for Transport (2011 and OLEV (2011)	Where to buy an EV? On their website, Source London provide current information on a range of vehicles available online and in showrooms: 'Check out the current list of cars, vans, trucks and scooter models that are either on the market or expected to be available soon'. Leasing options: They also help promote leasing and identify a number of manufacturers that are offering 'long-term leasing options for the vehicle and/or battery. Some also include servicing and maintenance during the lease period'.	• Source London www.sourcelondon.net • Source London www.sourcelondon.net
• Economy of fuel costs: the Greater London Authority estimates a significant fuel saving for EV users, typically 3p per km, compared with about 10p per km for an equivalent petrol vehicle	• GLA (2009: 11)		
• Exemption from London Congestion Charge: EVs are also exempt from the Central London Congestion charge, typically worth around £2000 per annum	• GLA (2009: 12)		
• Economy of maintenance costs: uncertainty over true maintenance costs, battery replacement and depreciation. Nevertheless, Source London promote the lack of complex parts (no gearboxes or engine) can make EVs cheaper to look after. Providing the following table of overall running costs in London:	• Source London www.sourcelondon.net		

Type	Petrol/diesel cars average costs	Electric vehicle average costs
Fuel based on an average annual mileage of 10,000	£1,600	£300
Estimated servicing, maintenance and repair	£180	£158
100% discount from the Congestion Charge	£2,278*	free
Road tax for a typical family car in Band F	£125	free
Total average annual running costs	£4,183	£458

*This figure is based on the £9 Auto Pay daily charge

4. Recommendations

Based on the Danish analysis and the input from England it is recommended to include the following information in future EMICs in the North Sea Region:

Category:	Topic:	Information:
Information related to driving and charging an electric vehicle	EV range?	• Information about ECE-norm figures • "Rule of thumb" information about practical range in different scenarios • Information about factors that will influence range (e.g. heat, temperature, driving behaviour etc.)
	Is it safe/unsafe to drive an EV?	• Information about rules and regulations that EVs has to comply to • Information about handling of an EV in case of an accident • Recommendations about service and repairs (the use of qualified workshops)
	Battery maintenance, durability and warranty?	• Information about theoretical durability of EV batteries • Information about battery warranty including typical conditions • Information about "end of life" implications for EV batteries
	Cabin heating in an EV?	• Information about different heating solutions, their effect and their impact on range
	Charging an EV?	• Information about different charging technologies • Charge times • Charging security
	Where to charge your EV in public?	• Maps of public charging points (including information about charging technology)
	Is my private residence ready for EV charging?	• List of things to check related to different charging technologies • Recommendations for safe EV charging installations
Environmental information	What is the CO_2 emission for an EV?	• Explanation of "Well-to wheel" and "Tank-to-wheel" implications • CO_2 comparison calculations based on clear and transparent conditions between EV and ICE vehicles
	How does power production impact the EV CO_2 footprint?	• Factual information about the CO_2 emissions from relevant sources of power production • Information about the most CO_2 friendly charging time slots • Future SmartGrid solutions
	Is the EV battery toxic for the environment?	• Information about rules and regulations that EV battery has to comply to • Information about opportunities of recycling and/or proper handling of a used battery
	Why are EVs more favourable to the environment?	• Information about the energy efficiency of petrol/diesel and electric engines

		• Renewable energy and the EV d • (=0 emissions)
Information about E-Mobility options in the market	EV brands and models on the market?	• List of available EVs with featured specifications, price and links to more information
	Charging options?	• List of available charging operators and links to more information
	Service, repair and roadside assistance for EVs?	• List of available suppliers and links to more information
	Finance, leasing and insurance for EVs?	• List of available suppliers and links to more information
Economical information	What is the price of driving EV compared to ICE vehicles?	• Total cost of ownership calculator making it possible to compare EVs with ICE vehicles based on realistic and transparent conditions
	How should I finance an EV?	• Advice on financial opportunities including pros and cons
	Are there any specific economical factors regarding EVs?	• Information about "expensive to buy" but "cheap to drive" • Predictions about residual value • Pros and cons regarding battery rent/lease • Warranty issues to pay attention to

In addition to the above mentioned recommendations it is also recommended to present al information:

- As factual as possible – and to include both conditions and source where appropriate
- As unbiased as possible to reflect both positive and negative factors with EVs
- In a way that will ensure users that the EMIC is not in any way influenced by commercial interests

Appendix 1 – Danish study of E-Mobility information needs

WP6 EMIC

Analyse af E-Mobility informationsbehov

Notat om hvilke informationsbehov målgruppen for NSR E-Mobility WP6 EMIC-projektet må formodes at have, og hvordan det påtænkes at imødekomme disse behov.

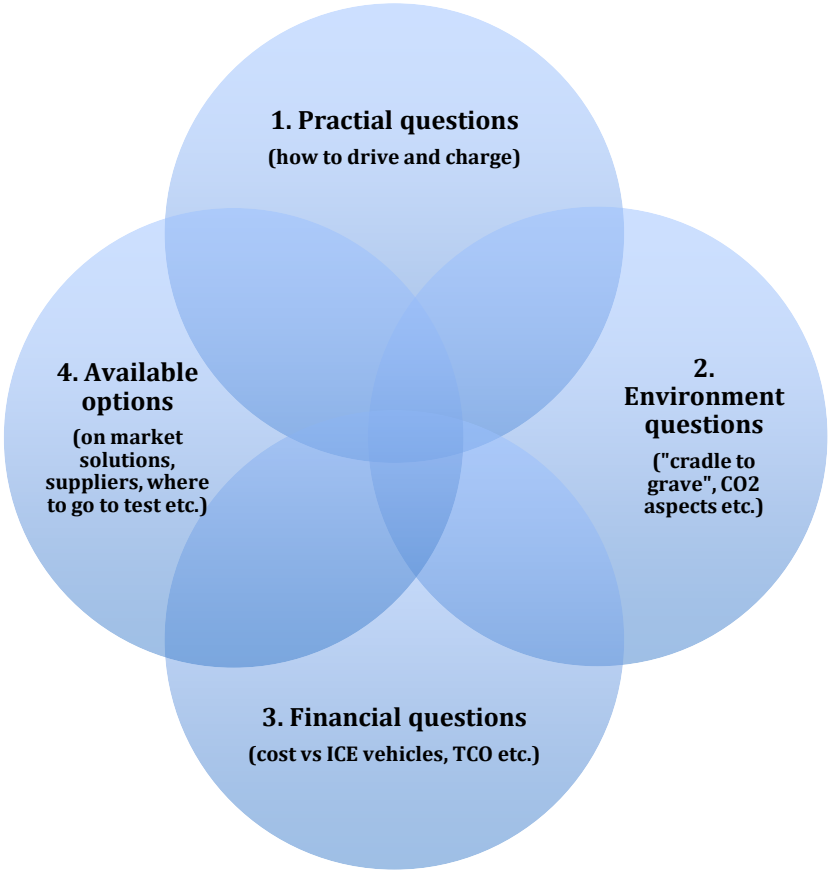
1.Summary

This analysis “Analysis of E-Mobility information needs” is made as part of the Interreg NSR E-Mobility project WP6 with the objective to support the development and deployment of E-Mobility Information Centres (EMIC) across the North Sea Region by:

- Defining how to structure target group relevant E-Mobility information
- Identifying and specifying the most urgent E-Mobility information needs
- Proposing how to address the need for E-Mobility information

The analysis is based on practical experiences with target group needs and expectations collected and analysed by an E-Mobility specialist consultant.

The mail findings as to the structure of relevant E-Mobility information were that it can be divided into four main categories (with small overlaps between the categories):

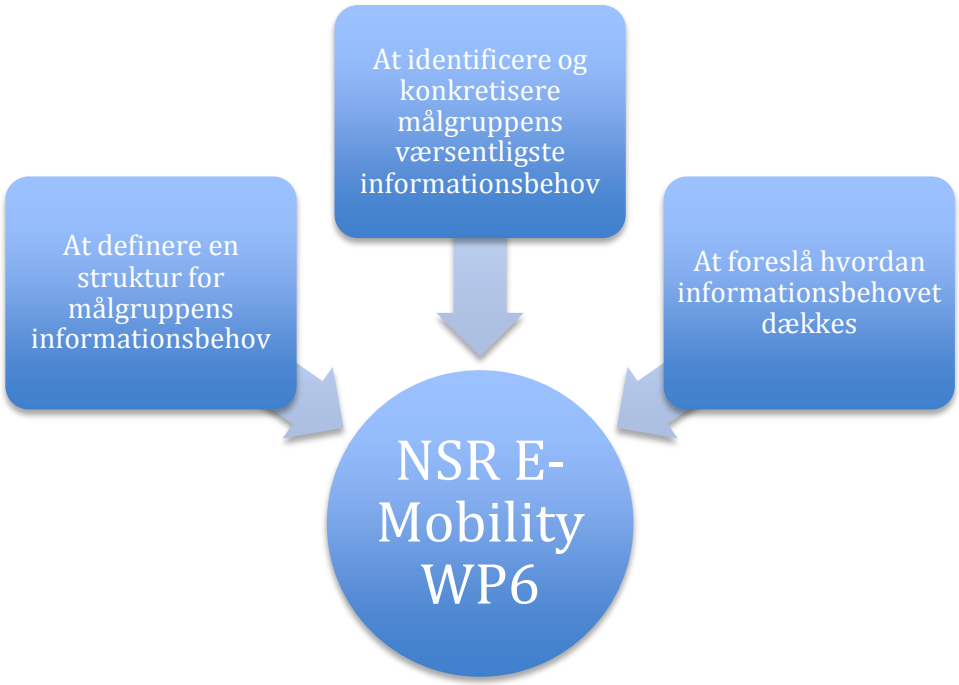


Based on the above defined structure the analysis highlights the typical target group questions related to each category and defines what kind of information an EMIC will have to supply in order to fulfil the information needs of the target group. The analysis moves on to propose the form best suited to convey the relevant information to the target group (e.g. “calculators”, personal guidance, video, links to other information channels etc.).

The analysis is conducted in Danish but can of course be delivered in English should there be a need to study the details of the findings and conclusions.

2. Formål med dette notat:

Dette notat er udarbejdet som en del af Interreg NSR E-Mobility-projektets WP6 med følgende formål:



Figur 1

Målet er, at notatet skal:

- Skabe et strukturelt grundlag for det videre arbejde med indledningsvis det virtuelle EMIC (E-Mobility Informationshjemmesiden)
- Tjene som indledende kravspecifikation ved dialog med potentielle leverandører af informationsløsninger.

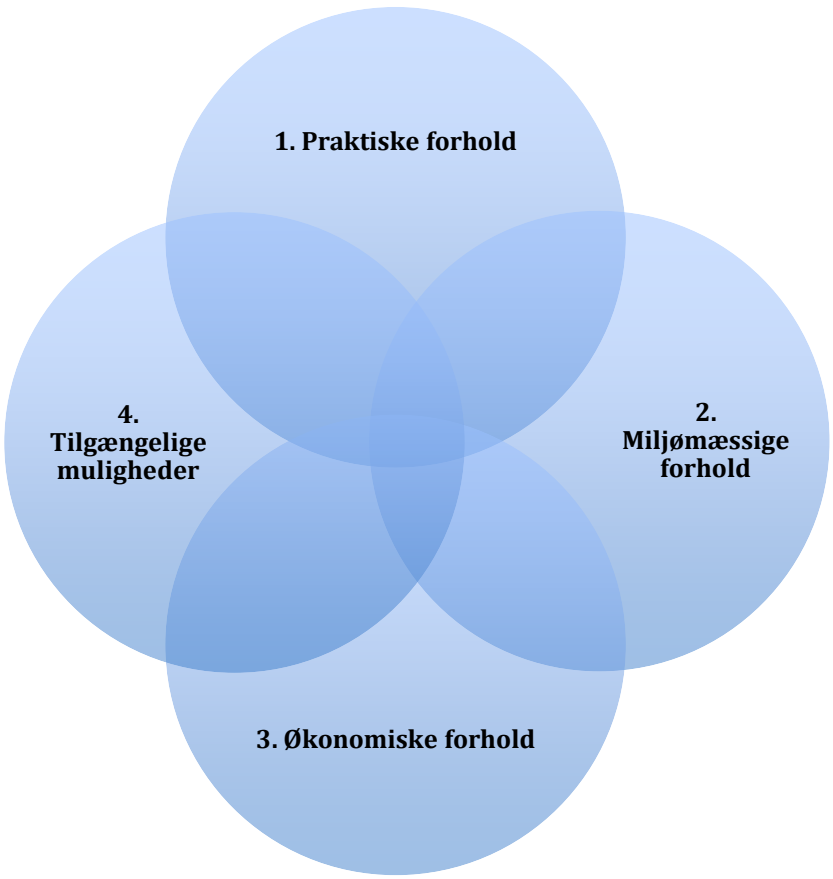
3. Afgrænsninger

I forbindelse med udarbejdelsen af dette notat er der foretaget følgende afgrænsninger/prioriteringer:

- Notatet beskæftiger sig udelukkende med de E-Mobility informationsbehov som betragtes som væsentlige for hovedparten af målgruppen (som beskrevet i projektets projektbeskrivelse). Notatet beskæftiger sig ikke med informationer, som udelukkende vurderes at være af interesse for en mindre del af målgruppen.
- Notatet kigger udelukkende på de E-Mobility-informationer, som det vurderes, at EMIC skal levere og opdatere. Notatet beskæftiger sig derfor eks. ikke med indholdet på hjemmesider, der henvises til.

4. Overordnet kategorisering af E-Mobility informationsbehov.

E-Mobility defineres i denne sammenhæng som alle former for eldrevne køretøjer samt komplementære produkter. Erfaringsmæssigt kan målgruppens informationsbehov helt overordnet inddeles i 4 kategorier:



Figur 2

I det følgende konkretiseres indholdet i de fire kategorier.

1. Praktiske forhold
Spørgsmål og informationsbehov relateret til praktiske forhold omkring E-Mobility beskæftiger sig med brugen af det eldrevne køretøj. Herunder i særdeleshed forhold som faktisk adskiller det eldrevne køretøj fra et tilsvarende konventionelt køretøj. Men også praktiske forhold som målgruppen forestiller sig kunne være anerledes – selvom det reelt ikke er tilfældet – skal belyses her.

2. Miljømæssige forhold
Spørgsmål og informationsbehov relateret til miljømæssige forhold vil typisk dreje sig om et givet elkøretøjs miljømæssige belastning samlet set "fra vugge til grav" og i relation til forskellige del-elementer under nogle givne forudsætninger. Samtidig vil der ofte være behov for at sammenligne miljøbelastningen med tilsvarende konventionelle køretøjer.

3. Økonomiske forhold
Spørgsmål og informationsbehov relateret til økonomiske forhold vil ofte være indledningsvis være relateret til elkøretøjets vejledende udsalgspris eller finansieringspris. Der ligger imidlertid også en opgave i at udbrede konceptet omkring "samlede købs- og ejerskabsomkostninger" til målgruppen, således at det bliver synliggjort hvordan eks. afskrivninger og driftsomkostningerne påvirker det samlede regnestykke. Også her er der ofte behov for at kunne sammenligne med tilsvarende konventionelle køretøjer.

4. Tilgængelige muligheder
Spørgsmål og informationsbehov relateret til tilgængelige muligheder sigter mod den del af målgruppen som har fået dækket deres indledende informationsbehov i kategori 1 -3 og nu er klar til at træffe et kvalificeret valg. Her opstår så et behov for at skabe sig et indledende overblik over til E-Mobility-leverandører, der vurderes at være relevante, hvorefter den egentlige købsproces kan påbegyndes (ikke en del af EMICs rolle jf. projektbeskrivelsen).

Konkrete eksempler på målgruppens mulige E-Mobility-relaterede spørgsmål og informationsbehov opdelt i ovennævnte 4 kategorier gennemgås i Bilag 1.

5.Mulige informations-virkemidler.

Overordnet set skal EMIC kunne levere information og vejledning via to informationskanaler:

- Et "virtuelt" informationscenter – i praksis en hjemmeside plus en smartphone app.
- Et "fysisk" informationscenter – i praksis baseret på interaktive touch screenes (med samme indhold som for det "virtuelle" EMIC) suppleret med vejledning fra en person og mulighed for at prøve forskellige E-Mobility-løsninger (elbiler, elcykler, elscootere o.lign.).

Målgruppens behov for E-Mobility-information og -vejledning skal altså som udgangspunkt dækkes indenfor disse rammer. Hvilke konkrete informations-virkemidler, der vælges indenfor disse rammer, afhænger af flere forskellige faktorer

(eks. informations-arten, samt tekniske og økonomiske muligheder og begrænsninger).

Her anbefales følgende mulige informations-virkemidler:

- **Beregnere** – værktøjer, der gør det muligt at informere målgruppen om en beregnet konsekvens baseret på et sæt forudsætninger (kan være både pre-definerede og bruger-bestemte forudsætninger).
- **Personlig vejledning** – gives til målgruppen "face to face" i det fysiske EMIC. Kan også være i form af "real time chat" (hvor en bruger på hjemmeside kan chatte direkte med en medarbejder i det fysiske EMIC) eller med brug af mail og/eller telefon.
- **Tekst/grafik** – statisk informationsdækning i skrift og grafik. Kan have form som "klassiske" hjemmesider og/eller evt. i form af "Spørgsmål & svar".
- **Video** – levende billeder som illustrerer et relevant emne. Kan være i form af reelle optagelser eller i form af animeret video/flash.
- **Links** – mulighed for med et klik at bliver forbundet med andre relevante hjemmesider (eks. relevante E-Mobility-leverandører, mere detaljerede informationer o.lign.).
- **Blog** - giver mulighed for at målgruppen kan udveksle praktiske erfaringer omkring E-Mobility.
- **QR**-koder – giver mulighed for nem tilgang til informationer m.v. Kan eks. bruges på trykte materialer fra EMIC, i forbindelse med events, når der er specielle informationskampagner o.lign.

De nævnte informations-virkemidler kan bruges enkeltvis eller i kombination for at understøtte konkrete informationsbehov hos målgruppen. Eksempler på dette gives i Bilag 1.

6. Konkrete E-Mobility informationsbehov hos målgruppen.

Med udgangspunkt i afsnit 3 ("Overordnet kategorisering af E-Mobility informationsbehov") og afsnit 4 ("Mulige informationsvirkemidler") kan der opstilles en matrix, der kan bruges til at strukturere relevante E-Mobility spørgsmål og informationsbehov kombineret med de relevante informationsvirkemidler for de pågældende spørgsmål/informationsbehov:

Spørgsmål	Info-behov	Beregn-ere	Pers. vejl.	Tekst/grafik	Video	Links	Blog	QR-koder
Praktik:								
Hvor langt kan en elbil køre?	Info om ECE-norm og prak-tiske for-hold, der påvirker rækkevidde		X	X		X	X	
Økonomi:								
Hvad koster det at køre X antal km i en elbil	Info om km/kWh kombineret med prisen på strøm	X		X				
Miljø:								
Hvor meget CO2 udleder en elbil?	Info om CO2 udledning ved elprod. kombineret med km/kWh	X		X				
Muligheder:								
Hvilke elbiler findes på markedet?	Overblik over mulige leverandører af elbiler		X			X	X	X

Ovenstående er matrix er suppleret med 4 eksempler på, hvordan spørgsmål kan kategoriseres i de 4 hovedkategorier, hvilke informationsbehov, der er relateret til de pågældende spørgsmål og hvilke informationsvirkemidler, man med fordel kan benytte til at dække de pågældende informationsbehov.

I Bilag 1 er samme metodik benyttet og suppleret med en lang række konkrete spørgsmål/informationsbehov og anbefalinger af, hvilke informationsvirkemidler, der kan dække disse informationsbehov.

7. Opdatering af informationsvirkemidler.

Grundlæggende vil der være behov for opdatering af EMIC på to områder:

- **Opdatering af informationsbehov** – det informationsbehov EMIC indledningsvis dækker er ikke nødvendigvis fyldestgørende over tid. Nye spørgsmål og nye informationsbehov vil dukke op i takt med at E-Mobility-markedet modnes.
- **Opdatering af informationsvirkemidler** – de informationer som videregives til målgruppen – og måden de videregives på (informationsvirkemidler) - skal naturligvis løbende holdes ajour for at være troværdige, relevante og brugbare for målgruppen.

7.1. Opdatering af informationsbehov

For løbende at kunne modsvare målgruppens E-Mobility-informationsbehov kræves der, at målgruppen får adgang til at efterspørge information, der ikke umiddelbart kan findes/fås.

I det virtuelle EMIC bør målgruppen have adgang til kommunikation med en "web-master" som enten via live chat eller via mail/telefon kan assistere.

Når en direkte henvendelse forekommer skal web-masteren være instrueret i at vurdere, om der er tale om et informationsbehov, som ikke er dækket i det eksisterende EMIC. Hvis dette er tilfældet registreres henvendelsen og henvendelserne vurderes samlet med fast interval (eks. kvartalsvis) med henblik på at afdække et mønster.

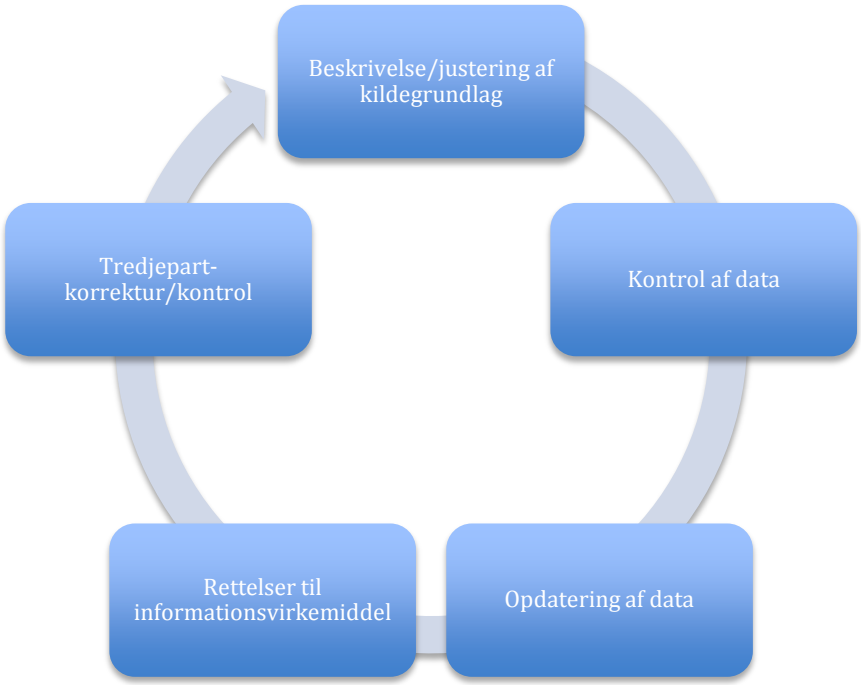
Såfremt det vurderes, at der er tale om et mønster, hvor et konkret informationsbehov er registreret flere gang, forelægges behovet for en EMIC Udviklingskomite som tager stilling til, om og hvordan informationsbehovet skal dækkes indenfor de økonomiske rammer, EMIC arbejder indenfor.

7.2. Opdatering af informationsvirkemidler

Alle informationsvirkemidler er som tidligere nævnt baseret på data/viden. Data/viden som naturligvis løbende skal kontrolleres og opdateres for at sikre, at EMIC tilbyder målgruppen E-Mobility information på et højt niveau.

Det anbefales derfor at man i forbindelse med hvert enkelt, konkrete informationsvirkemiddel nøje kortlægger kildegrundlaget for det pågældende virkemiddel og på forhånd tager stilling til med hvilke intervaller kildegrundlaget skal kontrolleres og evt. opdateres. Og hvem der har ansvaret for den pågældende opgave.

I den forbindelse foreslå følgende proces for hver enkelt informationsvirkemiddel:



Figur 3

Altså en fastlagt kontrol-/revisionsproces som gentages med faste mellemrum og efter behov såfremt der forekommer væsentlige ændringer mellem to fastlagte kontrol-/revisionsprocesser.

I særlige (eller evt. alle) tilfælde anbefales at indføre en "Tredjepart-korrektur/-kontrol", så det ikke er en enkelt person, der har det fulde ansvar for opdatering. Det kan eks. være i form af en uvildig ekspert, en interesseorganisation, en relevant styrelse e.lign.

Det altafgørende for et velfungerende EMIC er, at information og vejledning er baseret på et kvalificeret datagrundlag. Opdaterings-processer skal derfor spille en meget aktiv rolle allerede i EMIC-etableringsfasen.

BILAG 1 Spørgsmål	Info-behov	Beregnere	Pers. vejl.	Tekst/grafik	Video	Links	Blog	QR-koder
Praktik:								
Hvor langt kan en elbil køre?	Info om ECE-norm, "tommelfinger-regler" og praktiske forhold, der påvirker rækkevidde samt instruktioner i, hvordan man kan køre længst muligt. Mulighed for at se hvorvidt et konkret elkøretøj kan klare en bestemt køretur.	X	X	X	X	X	X	
Er et elkøretøj farligt?	Info over de sikkerhedsmæssige aspekter ifm. med almindelig brug, service/reparation og ulykker med et elektrisk køretøj.		X	X	X	X		
Hvor længer holder batterierne i et elkøretøj?	Info om batterigaranti, forhold som påvirker levetiden for batterier, praktiske erfaringer med levetid etc. Desuden info om, hvad der sker, når batteriet ikke længere kan bruges i elkøretøjet.		X	X			X	
Hvordan får man varme i en elbil?	Info om varmeløsninger i elbiler og konsekvens for rækkevidden ved brug af disse.		X	X			X	
Hvordan oplader man et elkøretøj?	Info om de forskellige opladningsmuligheder, praktik, sikkerhedsmæssige krav og tidsmæssige implikationer.	X	X	X				
Hvor kan man oplade sit elkøretøj?	Info om muligheder for offentlige/semi-offentlige lademuligheder, priser/abonnementskrav, ladestyrke og tidsperspektiv. Evt. kombineret med interaktivt kort, der beregner hvor lang tid, det vil tage en elbil at køre fra a – b via en rute, der gør det muligt at lade op/skifte batteri undervejs.	X	X	X		X		
Hvor lang tid tager en opladning?	Info om de forskellige opladningsmuligheder og tidsmæssige implikationer. Evt. mulighed for at beregne hvor lang tid det tager at få strøm til X-antal km's kørsel med et konkret elkøretøj via forskellige lade-stationstyper/batteriskifte.	X	X	X				
Er mit hus "elbil-parat"?	Tjekliste (evt. interaktiv i "beregner-form") over krav til elinstallationer for at kunne benytte de forskellige ladeteknologier.	X	X	X				
Økonomi:								
Hvad koster det at køre X antal km i en elbil	Info om km/kWh kombineret med prisen på strøm	X		X				
Hvordan ser de totale købs- og ejerskabsomkostninger for en elbil ud ift. En tilsvarende almindelig bil?	Total Cost of Ownership beregningsmuligheder for alle elbiler på markedet og et bredt udvalg (gerne alle) konventionelle biler på markedet baseret på grundlæggende markedsbestemt forudsætninger og individuelle faktorer (eks. km/år, antal år etc.).	X		X				
Hvordan skal jeg finansiere mit elkøretøj?	Gennemgang af mulighed (kontantkøb, lånefinansiering, leasing og	X	X	X				

	abonnementsmodeller) med fremhævning af fordele og ulemper ved de forskellige muligheder. Mulighed for at få beregnet økonomiske konsekvenser ved forskellige finansieringsmuligheder.						
Hvordan forventes det, at prisen på elkøretøjer udvikler sig?	Information om den historiske udvikling på elkøretøjer generelt og batterier specifikt – suppleret med forventninger til den fremadrettede prisudvikling (med tydelig kildeangivelse og forbehold).						
Vil det være praktisk muligt og økonomisk fornuftigt at skifte mit batteri ud efter nogle år?	Information om mulighederne for udskiftning af batterier og de forventede prismæssige implikationer baseret på producenternes udmeldinger.						
Hvordan er det lige med garanti på elkøretøjer?	Gennemgang af Købelovens generelle bestemmelser omkring reklamationsret og garanti samt specifik gennemgang af relevante garantiforhold for elkøretøjer (eks. "drivlinjegaranti" og garanti på batteripakken).						
Miljø:							
Hvor meget CO2 udleder en elbil?	Info om CO2 udledning ved elprod. kombineret med km/kWh. Kort forklaring af "tank til hjul" og "kilde til hjul" problemstillingen ved CO2-sammenligning mellem elkøretøj og almindelige køretøjer.	X		X			
Hvad sker der med CO2-udledningen fra kraftværkerne når/hvis, der kommer mange elbiler?	Faktuelle informationer om strømproduktion ved forskellige scenarier (fra Energinet.dk) samt info om CO2-kvotesystemet og perspektiverne ved intelligent opladning/Smartgrid-løsninger.			X			
Hvornår det bedst for miljøet at lade sit elkøretøj?	Faktuelle informationer om CO2-udslippet ved strømproduktion på forskellige tidspunkter og eksempler på forskellen i CO2-udslip ved forskellige ladeprofiler (eks. primært aften/nat, nat, formiddag, eftermiddag).			X			
Er batteriet giftigt, og hvad sker der, når det ikke længere kan bruges?	Info om miljøpåvirkningen fra forskellige typer batterier – inkl. genanvendelsesmuligheder.		X	X			
Hvorfor er elkøretøjer en miljømæssig gevinst?	Sammenligning af energi-effektivitet mellem eldrevne køretøjer og køretøjer med forbændingsmotor. Relationen mellem eldrevne køretøjer og vedvarende energi.		X	X			
Muligheder:							
Hvilke elbiler findes på markedet?	Overblik over mulige leverandører		X		X	X	X
Hvilke elcykler findes på markedet?	Overblik over mulige leverandører		X		X	X	X
Hvilke elscootere o.lign. findes på markedet?	Overblik over mulige leverandører		X		X	X	X
Hvilke delebilordninger med elbiler findes på markedet?	Overblik over mulige leverandører		X		X	X	X
Hvilke service-/reparationsmuligheder til elkøretøjer findes på	Overblik over mulige leverandører		X		X	X	X

markedet?					
Hvilke forsikringer til elkøretøjer findes på markedet?	Overblik over mulige leverandører	X	X	X	X
Hvilke finansieringsmuligheder for elkøretøjer findes på markedet?	Overblik over mulige leverandører	X	X	X	X
Hvilke vejhjælpsprodukter til elkøretøjer findes på markedet?	Overblik over mulige leverandører	X	X	X	X
Hvilke opladningsnetværk findes på markedet?	Overblik over mulige leverandører	X	X	X	X
Hvilke "Grøn strøm" muligheder findes på markedet?	Overblik over mulige leverandører	X	X	X	X

Appendix 2 – Introduction and questionnaire

WP6 Activity 6.6

To:

- Cities Institute
- Hertfordshire County Council

Subject: E-Mobility NSR Activity 6.6: Call for information

Dear E-Mobility NSR WP6 partners.

As Responsible Beneficiary for E-Mobility NSR Work Package 6 "Set up Transnational Electric Mobility Information Centres (EMIC)" we would like to draw your attention to **Activity 6.6**:

Mapping public & private gaps and awareness needs.

Activity 6.6 aims at identifying the main information needs an EMIC needs to address and to help ensure that the final EMIC recommendations have a true transnational relevance.

In your role as an Activity 6.6 Beneficiary we need to call for information from your country about:

- The most frequent public and private user/potential user questions about EV's
- Typical debates regarding EV's
- Classic EV misconceptions
- And any other information you find of importance for a potential EV user and therefore relevant addressing by the future EMIC

We are not at this stage looking for answers neither to all the questions nor deep factual feedback. At this stage we simply want to map the key areas of information an EMIC needs to cover to fulfil its role towards potential public and private users.

In order to structure your feedback and to guide you further, please find enclosed a questionnaire, which we kindly ask you to complete.

Deadline for submitting the questionnaire (plus relevant documentation) to SteenOle@htk.dk: 24/08/2012.

In advance, thank you for your kind assistance. We will of course share the collective outcome of Activity 6.6 as soon, as soon as all input has been compiled in a report.

Yours faithfully,

Steen Olesen
Project Manager

Høje-Taastrup Municipality
E-Mobility NSR WP6 Lead Beneficiary

Questionnaire for E-Mobility NSR Activity 6.6

Beneficiary:

Name of Beneficiary:		Cities Institute
Country:		UK
Contact person:	Name:	Dr Stephen Shaw
	E-mail:	s.shaw@londonmet.ac.uk
	Phone:	0044(0)207-133-3362

Guide for questionnaire:

- Please focus on potential public & private EV user (in particular private citizens, small & medium sized private companies and public organizations (e.g. municipalities).
- The main objective of the EMIC is to make it possible for the above mentioned target group to make a qualified decision when considering to buy one or more EVs.
- Please consider the questions and information relevant for the target group in your country, based on objective sources available (reports, articles, books, web pages etc.). However, subjective experience will also be relevant.
- To structure your input, we have decided to divide both public & private information needs into the following four main categories:
    - Information needs relating to driving & charging an EV
    - Information needs relating to environmentally friendliness of an EV
    - Information needs relating to economical aspects of EVs
    - Information needs relating to the availability of EVs and complementary products in the market
- Feel free to enter target group information needs, any way you like within the four categories. Should you think that some information is only relevant to part of the target group, please make a note on this.
- Please always state the source of your information, (even if the source is referred to as “Experience”), to enable us to validate our final report.
- After completion please E-mail the questionnaire to SteenOle@htk.dk. Deadline: 24/08/2012.

E-mobility NSR 6.6 questionnaire:
Mapping public & private gaps and awareness needs.

Information needs related to driving & charging an EV		Information needs related to environmentally friendliness of an EV	
Information description:	Source:	Information description:	Source:
Information needs related to economical aspects of EV's		**Info needs related to the availability of EV's and compl. products in the market**	
Information description:	Source:	Information description:	Source:

When writing the boxes will automatically expand to the needed size – however please make sure "Information description" and "source" is horizontally aligned in each case.