GREEN CHARGE

Roadmaps to E-Mobility

DRAFT Report of Uptake Cities Internal Webinar #2

Webinar Date: 04 June 2020, 15:00 – 16:30

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Introduction

- The GreenCharge project coordinates an **Uptake Cities Group** (UCG). This document summarises the second webinar – on e-mobility roadmaps – of the five included as part of the Uptake Cities webinar e-learning programme
- One of the objectives of having cities involved in GreenCharge to is help them develop an **e-mobility roadmap** for their respective city
- In order to do so, the cities emphasised during the Uptake City study visit to **Bremen in October 2019** the need to have an introductory webinar on roadmaps
- With every city coming from a different starting point with regards to e-mobility, these webinars are designed to allow GreenCharge to **exchange expertise and learning** between a range of cities
- The information presented within this webinar will be useful during a later stage in the process when Uptake Cities produce a roadmap to accelerate the adoption of electric mobility solutions
- Whilst the webinar was held internally to aid the free exchange of ideas, this note summarises key learning points that are of wider interest

Main Participants

Invited Organisations

- City of **Zagreb**
- City of **Edinburgh**
- City of **Porto**
- City of **Burgas**
- City of **Budapest**, BKK
- City of **Krakow**
- City of **San Sebastian**
- City of **Oslo**
- City of **Bremen**
- Novadays
- IKEM
- GRUPOETRA
- Gewobag
- PNO
- US Environmental Protection Agency

GreenCharge Technical Partner Representatives

- Beate Lange (**City of Bremen**)
- Rebecca Karbaumer (**City of Bremen**)
- Reggie Tricker (ICLEI Europe)

Speakers

- Elma Meskovic (ICLEI Europe)
- Rainer Konerding (**City of Hannover**)
- Eva Sunnerstedt (**City of Stockholm**)
- Patricia Bellver Muñoz (GRUPOETRA – MEISTER project)

Acknowledgements

- We acknowledge the inputs and assistance from the City of Bremen in supporting the organisation of the webinar.




Structure of Report

This report summarises the proceedings of the one and a half hours of the webinar, which were each subdivided into

a) **Introductory roadmaps presentation** (Elma Meskovic)

b) **Example from Hannover** (Rainer Konerding)

c) **Example from Stockholm** (Eva Sunnerstedt)

d) **Q&A** regarding presentations (questions collected through a written form during webinar)

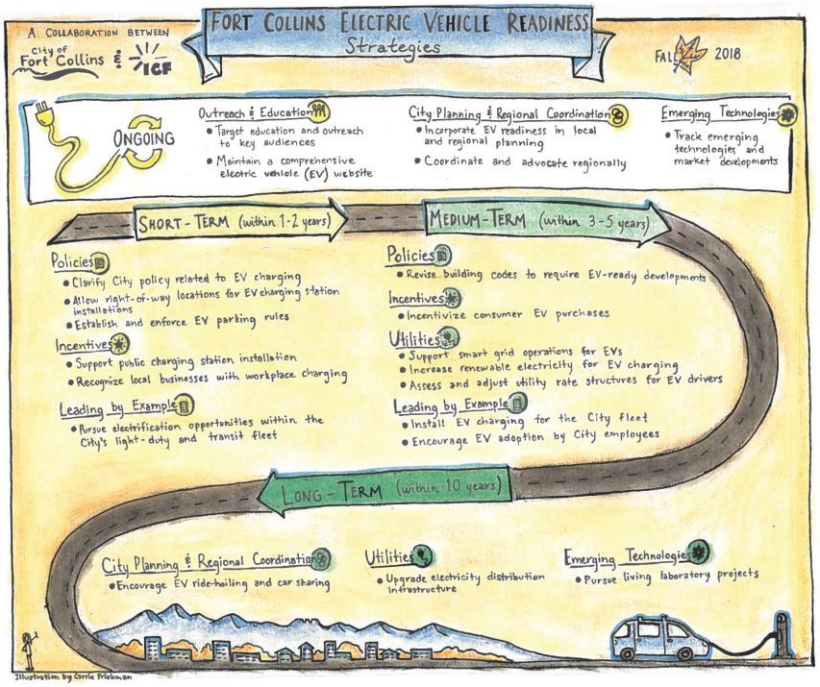
e) **Discussion including MEISTER** (Patricia Bellver Muñoz)

Introductory presentation:
What is a roadmap?

Points from presentation on roadmaps

- Roadmap as a strategic plan that defines how a **desired future scenario** can be achieved over a specific timeframe and within a particular area, such as an urban context
- Roadmaps can take different forms
- Roadmap Example 1: **City of Fort Collins** (Colorado, US) developed roadmap to identify measures and related actions that it could implement to increase the use of electric vehicles throughout Fort Collins as well as Northern Colorado
- Roadmap Example 2: **i3-food project** developed a roadmap for the rapid and easy market uptake of a food processing technology
- Important to remember that we can only predict the future up to a certain point. Due to the Covid-19 situation, we cannot say anything about electric vehicle growth with **certainty**
- Roadmaps present complex and interrelated information in a **single image**, and support strategic communication both within local authorities and the public
- A **vision** provides a foundation for a roadmap, not only does it describe a desirable future, but in doing so, it provides a direction to move towards
- Once a roadmap is developed, it should be **revisited periodically** to monitor progress and adjust it to a potentially evolved landscape

A road-mapping process usually results in a graphical representation that links a current situation with a desired future one via technologies, products, policies, and knowledge



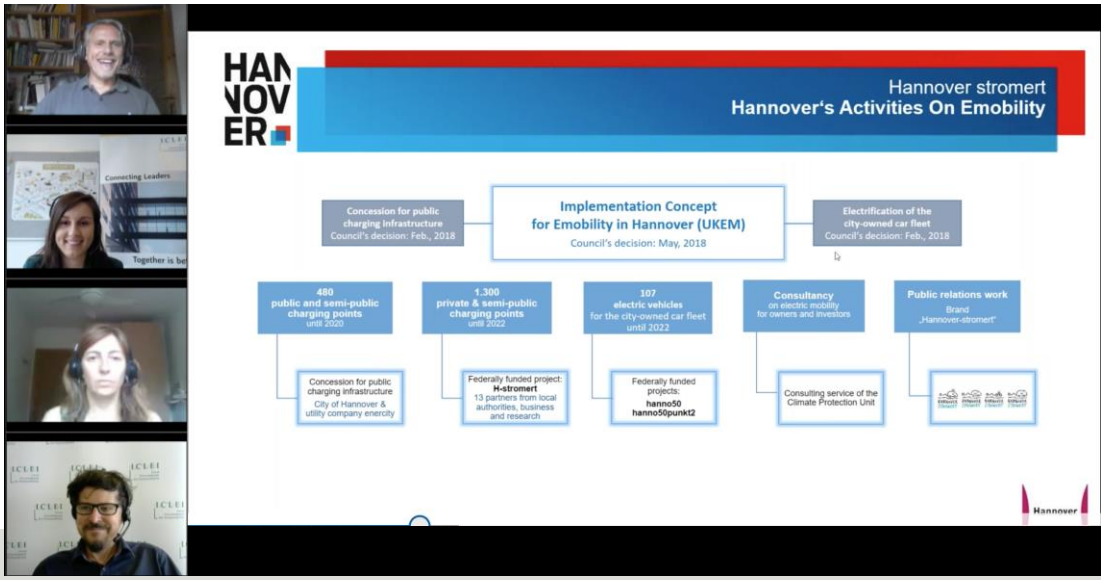
References

- Doll, C., E. Dönitz, D. Fiorello, D. Jaroszweski, A. Ulied, O. Biosca, F. Jürgens. A. Klečina, A. Peters, J. Köhler, A, Kühn (2015): The LivingRAIL Railmap 2050. LivingRAIL Deliverable 5.1. EC FP7, Fraunhofer ISI, Karlsruhe.
- C. de Stasio , D. Fiorello, F.Fermi, G. Hitchcock, S.Kollamthodi (2016): Study On European Urban Transport Roadmaps 2030: Urban transport policy roadmaps
- Fort Collins e-mobility roadmap: City of Fort Collins (2018): Electric Vehicle Readiness Roadmap
- Food processing roadmap: B. Moller, E. Dönitz, P. Jung-Erceg (2018): Roadmap Pulsed Electric Field (PEF) Preservation

City Focus:
Spotlight on Hannover

Points from presentation on electric mobility in Hannover

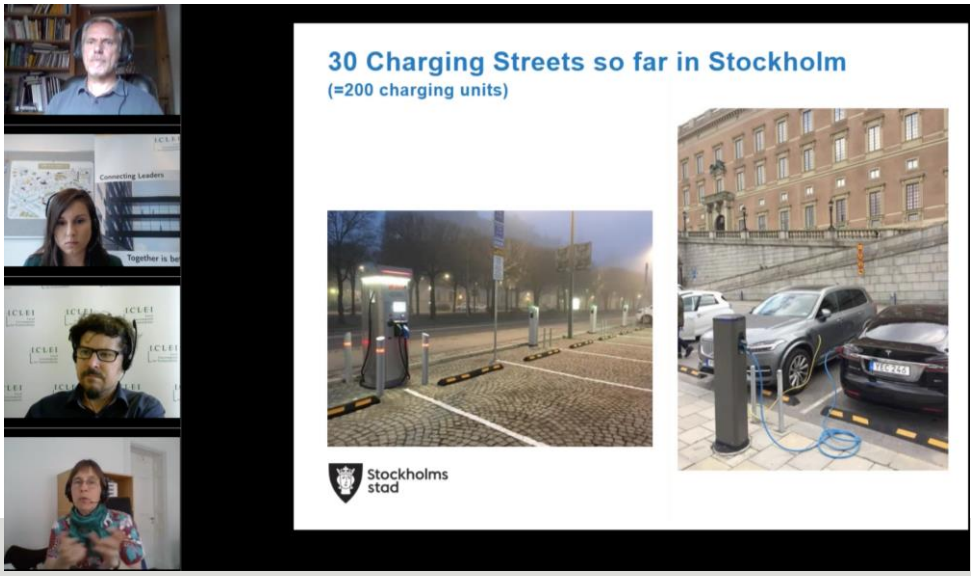
- Hannover has a long tradition of climate protection, **going back to the 90s**
- In the process of creating third climate action plan, this time for 2030
- Developed an e-mobility action plan in 2017, in part due to the fact that this was financially **supported by the national ministry for the environment**
- Public transport is planned by the region, not the city. The city is ahead when it comes to having an e-mobility plan, and the region is presently working on one
- The public transport provider – ÜSTRA – is running 7 electric buses and 60 hybrid buses in the city. The provider expects to increase the number of electric buses to 51 by 2023. The **federal government has given subsidies** for these buses
- E-mobility concept is divided into 3 main chapters:
  - **how to bring charging infrastructure into the city**;
  - **how to place the municipality itself at the forefront of e-mobility** (e.g., allow for staff charging at the workplace); and
  - **creating awareness among individuals and companies** about the benefits of electric vehicles
- In 2018, launched an EU tender for a **concession** on public charging infrastructure, demanding the installation of 480 charging points in public and semi-public spaces. A local utilities corporation, energy AG, won the concession. The cost, approx. 10 million Euro, will be covered by the utilities
- The **city fleet** is currently comprised of 40 electric cars. The target is to increase this to 100-300 electric cars by 2025
- As a result of a Funding project 2018-2022, 1,300 private and semi-public **charging points** will be installed by 2022. The Federal Ministry for Economic Affairs and Energy awarded the city 16 million Euros for this purpose



City Focus:
Spotlight on Stockholm

Points from presentation on electric mobility in Stockholm

- 50,000 cars in Stockholm Municipality (over **20,000 of these being electric**)
- Number of electric vehicles **increased by 35%** since 2018, and the number of charging secessions increased by 46%
- First electric vehicles to city fleet were purchased in **1994**, and even 4 fast chargers were installed in the 1990s
- **In 2009, wrote EV strategy (e-mobility roadmap)**
- Started national EV **procurement** with other municipalities in Sweden and with private companies in 2010. As a result, purchased over 1000 electric vehicles
- **2014** started with on-street charging. City has charging streets, which refers to several charging units that are located side-by-side. At the moment, 200 on-street charging units are in operation
- Another 5,000 **possible locations** for on-street charging have been identified. City has signed agreements with 5 different actors to put up charging units
- City's short-term **goal** is to have 4,000 public charging units by 2022, the long-term strategy is to achieve a state in which access to public charging does not hinder the transition to fossil-free vehicles
- **Stockholm Parking Company** runs a lot of parking facilities - have around 1300-1400 charging units indoors in parking garages, schools, sports arenas, etc. When building a new facility, ensure that at least 20% of it includes electric charging
- **Access Right Agreements** are signed with private actors, who then put up charging infrastructure at their own expense
- **Home charging is most appreciated and liked by electric vehicle users**, partially due to the time saved by not having to go to a filling station. There is now state funding available for the installation of home charging



Q&A round

E-buses also utilise the tram power source. Assuming that both modes serve different routes, does such charging occur at bus/tram interchanges?

- *Rainer: There is a grid for the trams. At certain stations, the buses meet the trams. At one of these, where there is a terminal point for the buses, there is a pantograph station. Here, the buses take the direct current electric power from the grid of the trams. The next step for Hannover is to make some fast charging stations for the public to be used there, as well. The city is in cooperation with utility provider on this and hopes that these fast charging stations will run in some months.*

What was the main driver for the early City fleet development in Stockholm?

- *Eva: In a 90s, it was air quality and noise. Now it is CO2, air quality and noise. Energy efficiency, of course, as well.*

Are there human considerations (like proximity to services, etc) for the charging streets or is it just infrastructure?

- *Eva: In Stockholm, everything is close. When the city was carrying out street mapping, the city looked more into where does the infrastructure work from a traffic point of view (e.g. looking out for pedestrian lane).*

What model was used for Stockholm's car parking company: Private company working to a contract? Municipality-owned company? Also, did the parking spaces/buildings already belong to the municipality?

- *Eva: Stockholm parking company is 100% owned by the city. Their purpose of the company is to provide parking spaces – and they also now provide charging with the parking places. The company is required to give revenue to the city. They need to work on a commercial basis, so they cannot rebate. They should function as any other company, and they have to play on the market like everyone else.*

How does this relate to practice in the USA?

- *Diana Galperin (US EPA): Localities are experimenting and doing interesting things. The mass concentration of electric vehicles in one space in the cities highlighted in Europe is interesting for us, to see a window into the future of what could happen.*

Sister project: MEISTER

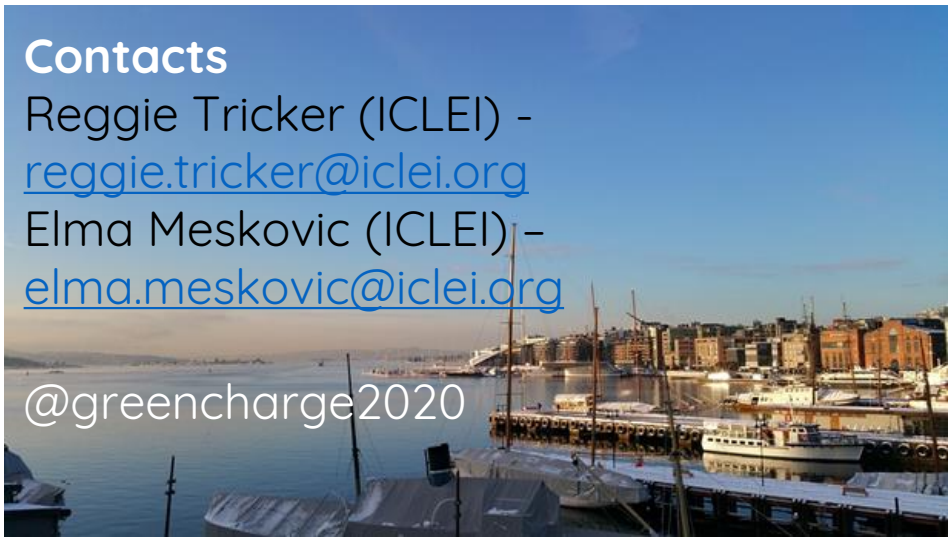
Points from presentation on MEISTER project

- Coordinated by ETRA
- Pilot cities: Stockholm, Malaga, and Berlin
- 4 main objectives:
  - Define **sustainable business models** for e-mobility;
  - Develop **e-mobility, interoperable platform**;
  - **Integrate e-mobility into city Sustainable Urban Mobility Plans** (SUMPs); and
  - **Integrate electric vehicles into smart grids**
- Core product is the **eMobility Expertise Centre (EeMEC) and eSUMPS knowledge base**. EeMEC is a technical, legal, and financial support centre that will enable the transferability of best practices and successful solutions from the pilot cities to others, and will enable the assessment of local governments in the eSUMPs process and urban planning
- One can be part of EeMEC via memberships, and special membership will be offered to cities
- **To learn more about EeMEC and read up on MEISTER more generally, visit https://meisterproject.eu**

Next Steps for Uptake Cities in GreenCharge

Autumn & Winter 2020/2021

- The next physical **study visit** is proposed to be in Oslo in January 2021, with a focus on e-mobility in Winter. This will be a great opportunity to demonstrate different approaches taken by Oslo, and Norway as a whole, to ensure that electric cars, bikes, and buses are able to run all year round
  - This is tentative, nothing is yet confirmed. In the event that a face-to-face meeting is not possible, the study visit may take the form of an on-site remote webinar
- **ACTIONS:** Uptake Cities to share vision and goals that their city has developed for e-mobility. If the city does not yet have these, share ideas of what the vision and goals for e-mobility would contain if it did
  - The vision and goals will be shared during webinar #3, the date and topic of which are still to be confirmed



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