greencharge2020.eu

GreenCharge Project Deliverable: D8.4

Newsletters

Authors:

Reggie Tricker, ICLEI European Secretariat GMBH; Joe Gorman, SINTEF; Arno Schoevaars, PNO; Beniamino Di Martino, Universita Degli Studi Della Campania Luigi Vanvitelli; Jürgen Werneke, Hubject; Arjun Subramanian, Hubject; Shanshan Jiang, SINTEF; Jacqueline Floch, SINTEF.

www.civitas.eu

About GreenCharge

GreenCharge takes us a few important steps closer to achieving one of the dreams of modern cities: a zero-emission transport system based on electric vehicles running on green energy, with traffic jams and parking problems becoming things of the past. The project promotes:

Power to the people! — The GreenCharge dream can only be achieved if people feel confident that they can access charging infrastructure as and when they need it. So GreenCharge is developing a smart charging system that lets people book charging in advance, so that they can easily access the power they need.

The delicate balance of power — If lots of people try to charge their vehicles around the same time (e.g. on returning home from work), public electricity suppliers may struggle to cope with the peaks in demand. So we are developing software for automatic energy management in local areas to balance demand with available supplies. This balancing act combines public supplies and locally produced reusable energy, using local storage as a buffer and staggering the times at which vehicles get charged.

Getting the financial incentives right — Electric motors may make the wheels go round, but money makes the world go round. So we are devising and testing business models that encourage use of electric vehicles and sharing of energy resources, allowing all those involved to cooperate in an economically viable way.

Showing how it works in practice — GreenCharge is testing all of these innovations in practical trials in Barcelona, Bremen and Oslo. Together, these trials cover a wide variety of factors: *vehicle type* (scooters, cars, buses), *ownership model* (private, shared individual use, public transport), *charging locations* (private residences, workplaces, public spaces, transport hubs), energy *management* (using solar power, load balancing at one charging station or within a neighbourhood, battery swapping), and *charging support* (booking, priority charging).

To help cities and municipalities make the transition to zero emission/sustainable mobility, the project is producing three main sets of results: (1) *innovative business models*; (2) *technological support;* and (3) *guidelines* for cost efficient and successful deployment and operation of charging infrastructure for Electric Vehicles (EVs).

The *innovative business models* are inspired by ideas from the sharing economy, meaning they will show how to use and share the excess capacity of private renewable energy sources (RES), private charging facilities and the batteries of parked EVs in ways that benefit all involved, financially and otherwise.

The *technological support* will coordinate the power demand of charging with other local demand and local RES, leveraging load flexibility and storage capacity of local stationary batteries and parked EVs. It will also provide user friendly charge planning, booking and billing services for EV users. This will reduce the need for grid investments, address range/charge anxiety and enable sharing of already existing charging facilities for EV fleets.

The guidelines will integrate the experience from the trials and simulations and provide advice on localisation of charging points, grid investment reductions, and policy and public communication measures for accelerating uptake of electromobility.

For more information

Project Coordinator: Jacqueline Floch, Jacqueline.Floch@sintef.no

Dissemination Manager: Reinhard Scholten, reinhard.scholten@egen.green

Executive Summary

This deliverable packages together the six newsletters that have been produced for the GreenCharge project between February 2019 and February 2022. Each newsletter has featured a dedicated theme:

- Issue 1 – Introduction to the GreenCharge project and Pilot cities
- Issue 2 – Business models and prototypes for cities
- Issue 3 – Evaluation and simulation
- Issue 4 – Roaming
- Issue 5 – Reference architecture
- Issue 6 – Summary and recommendations

The newsletters have been disseminated via the channel of the Informed Cities newsletter produced by ICLEI. This has meant the newsletter has been received by at least 1,000 recipients. Issuance of newsletters has been promoted via GreenCharge's own communication channels, such as social media, and an archive of the newsletters have been made available on the GreenCharge website (https://www.greencharge2020.eu/newsletters/).

The newsletters have contained common features, including internal project updates and e-mobility news from around Europe happening outside of the project (reflecting the important relationship with D1.3 on innovation). The structure of each newsletter has been based around the following template:

- Introduction from the coordinator or a workpackage leader
- Feature News Article
- World News
- Uptake Cities Profiles
- In Brief, e.g.:
    - Links to further News Stories on website
    - Latest Project Publications
    - Project Diary
- Puzzle
- Link to website and social media channels
- Contact details

Newsletters, available as PDFs on the GreenCharge website, provide an ongoing, easy-to-read summary of some of the the main aspects of the project for readers as a legacy after the project.

Table of Contents

List of Tables

1 About this Deliverable

1.1 Why would I want to read this deliverable?

This deliverable contains a valuable archive of condensed information describing, in an easy-to-read and public-facing manner, project activities and the achievement of key project milestones via a series of GreenCharge newsletters. These also contain an historical record of news and thinking that was current at the time of the project work being undertaken.

At the time the newsletters were produced, they formed a key channel for bringing together the latest project updates and communicating them in a bite-size form to key stakeholders, highlighting new deliverables and other content on the project's website of greatest value for them to read.

1.2 Intended readership/users

The newsletters contain meaningful content for practitioners as well as assisting in promoting the GreenCharge brand and concept. The newsletter content was less focused on experts in the field but more focused on building a general understanding and acceptance of e-mobility, priming actors to be more involved in this field in the future (such as those involved in transport planning but without detailed e-mobility plans) as well as others in adjoining sectors (such as building, technology and planning) who could be more involved in enabling the effective delivery of e-mobility measures if their overall knowledge and competence was greater.

For detailed and complex project findings and information, the newsletters refer to deliverables hosted on the website and other sources of information. The newsletter itself was not intended to be a technical document, and this is reinforced by the fact it used the broad Informed Cities newsletter as a springboard for its dissemination. This is an important point for ICLEI's existing Informed Cities audience – many subscribers are not in the field of mobility, but rather broadly interested in sustainable development.

1.2.1 Dissemination Channels

The GreenCharge newsletter was disseminated as follows:

- Via a link contained within Informed Cities newsletters
- Via links on social media
- Via direct 'ad hoc' emails to professional contacts of the Consortium partners
- Via passive browsing on the Newsletter page of the GreenCharge website

1.2.2 Role of the Informed Cities Newsletter

As referenced in the Grant Agreement, GreenCharge did make use of the Informed Cities newsletter (run by ICLEI), which acts as the carrier for the GreenCharge newsletter and is received by over 1,000 subscribers. In each relevant edition of the Informed Cities newsletter, GreenCharge has been profiled (alongside other mobility projects), but with a click-through to a separate and specific PDF GreenCharge newsletter which is branded separately and contains a fuller range of stories dedicated to GreenCharge. Both the Informed Cities Newsletter and the GreenCharge Newsletter editions are linked to in following sections and past issues remain available online.

1.3 Data Protection and Privacy

1.3.1 Management of Contacts

A protocol was developed to ensure data relating to contacts collected by PNO on the GreenCharge website were passed securely via the GreenCharge Sharepoint site for the purposes of administering the Informed Cities Newsletter.

Contact details were collected as follows:

3 of 13

- Using the existing Informed Cities contact database
- Using additional contacts added to the Informed Cities database collected by PNO via the GreenCharge website. These were added to the Informed Cities newsletter database via the opt-in process during newsletter sign up. Users were encouraged to sign-up to the newsletter via social media and prominent feature boxes on the project website

No partner contact details are included within the newsletter as standard, but logos of project partners are included on the final page of the newsletter.

2 Newsletter Content Schedule

Within a limited number of issues, the Newsletter was designed to give fair treatment to the breadth of subject matter of the GreenCharge project. It was also opportunistic in terms of tieing into milestones that generate newsworthy content over the course of the project, and external innovations. Given the COVID pandemic, the Newsletter schedule also had to be adjusted in response to the revised pace and flow of the project.

As far as possible, each WP was given a headline article slot. This fitted as closely as possible to the milestones within the Project (shown in the GANTT chart on p46 of Part B and p41 of Part A of the Grant Agreement).

Table 1: GreenCharge newsletter schedule

News-letter Number	Theme/Focus	WP Focus	Key Milestone/ Deliverable Reference	Foreword Author	Date of Publication	Link to Informed Cities Newsletter	Link to Green-Charge Newsletter (see Appendix)
1	**Introduction and Pilot cities** (see Appendix A1)	WP2	MS1	Joe Gorman, SINTEF	Feb 2019	https://mailchi.mp/ee3326bd0844/newsletternov2018-461737	https://www.greencharge2020.eu/wp-content/uploads/2019/02/GreenCharge-Newsletter-February-2019.pdf
2	**Business models and prototypes for cities** (see Appendix A2)	WP3	MS4	Arno Schoevaars, PNO	October 2019	https://mailchi.mp/c5da9b1558ae/newsletternov2018-603377?e=3a60d07a6f	https://www.greencharge2020.eu/wp-content/uploads/2019/10/GreenCharge-Newsletter-October-2019.pdf
3	**Evaluation and simulation** (see Appendix A3)	WP5	MS5-6	Beniamino Di Martino, University of Campania Luigi Vanvitelli	March 2020	https://mailchi.mp/e6d04a2a1e8e/newsletternov2018-2539934	https://www.greencharge2020.eu/wp-content/uploads/2020/03/GreenCharge-Newsletter-3.pdf

News-letter Number	Theme/Focus	WP Focus	Key Milestone/ Deliverable Reference	Foreword Author	Date of Publication	Link to Informed Cities Newsletter	Link to Green-Charge Newsletter (see Appendix)
4	**Roaming** (see Appendix A4)	WP4	n/a	Jürgen Werneke and Arjun Subramanian, Hubject	September 2020	https://mailchi.mp/dc85c4f4f36c/newsletternov2018-5032482?e=3a60d07a6f	https://www.greencharge2020.eu/wp-content/uploads/2020/09/Green-Charge-Newsletter-4-September.pdf
5	**Reference Architecture** (see Appendix A5)	WP1/4	n/a	Shanshan Jiang, SINTEF	September 2021 (deferred due to COVID pandemic)	https://mailchi.mp/4a755d533617/newsletternov2018-13395494?e=fff3d30fed	https://www.greencharge2020.eu/wp-content/uploads/2021/09/Green-Charge-Newsletter-5-final.pdf
6	**Summary and recommend-dations** (see Appendix A6)	WP1	MS8	Jacqueline Floch, SINTEF	February 2022	Final version to be issued late February 2022	Final version to be issued late February 2022

2.1 Newsletter Editorial Principles

The newsletter content was designed to be:

- Short
- Non-technical
- Engaging
- Set within a real world context
- Colourful and visual (i.e. making use of images)
- Enjoyable to read
- Easy to read on-screen as a PDF

2.2 Sign-off and approval

The newsletter was be developed by ICLEI with the following input from the GC project team:

- Drafting of PCOS
- Early input from WP8 team (monthly telco)
- Involvement with innovation manager and wider project to solicit ideas for content (ongoing)
- Review at PCOS stage
- Completion of content
- Completion of graphic design
- Intermediate and final review
- Publication via Informed Cities newsletter

2.3 Structure

A consistent structure was used for the newsletter. This allowed it to be planned and content harvested from partners who got used to expecting certain sections of the newsletter to be filled.

Table 2: Newsletter structure

PAGE 1:	
Project Title and logo	
Date and Issue Number	← Header (all pages)
Newsletter Theme/Topic Title	
Introduction from the coordinator or a workpackage leader	← Body
Feature News Article (see schedule below)	
Link to website and social media channels	
Contact details (for newsletter and project)	← Footer (all pages)
Appropriate references to CIVITAS & H2020	
PAGE 2:	
World News (- controversies and innovation, short stories and links to the outside world)	← Body
PAGE 3:	
Uptake Cities Profile (2 of 12)	← Body
Links to further News Stories on website (list)	
Latest Project Publications (list)	
Project Diary (- internal and opportunities for involvement)	
PuzzlEd? (wordsearch, crossword, spot the ball, spot the difference etc.)	

2.4 Other project deliverables that may be of interest

This Deliverable sits within Work Package 8 and is guided by the overall Communication Strategy and Plan for the project (D8.1). It also interfaces with D1.3 (Innovation News and Updates).

2.5 Other projects and initiatives

The activities of a number of other related projects have been included within the Newsletter (e.g. MEISTER, USER-CHI and SIMPLA). The increase on online events in particular allowed opportunities for learning outside of the immediate GreenCharge project to be shared (e.g. webinars that the Newsletter audience could also benefit from).

3 Newsletter Archive

The Appendix include the newsletters that have been published.

- GreenCharge Newsletters 1-6
- Informed Cities Newsletters (mobility editions) February 2019 – February 2022

4 Conclusions

The Newsletters have been a useful means to communicate information about the GreenCharge project and the wider context in which it operates, thus supporting the Innovation Management task. The Newsletter has allowed internal project outputs and activities to be communicated in an easy to understand way to a wide, non-technical audience. The Informed Cities Newsletter has provided a channel by which the Newsletter has been able to be conveyed to a wide audience in the sustainability and governance sector, introducing a broad set of stakeholders in local government and research to the challenges faced at the electric mobility and energy interface and their potential solutions. The Newsletters also allow readers to look back on the project and its key components even after the date of publication, by being stored and publicly available on the project website as well as to direct subscribers.

A   Appendix A

A.1   First GreenCharge and Informed Cities Newsletter

A.2   Second GreenCharge and Informed Cities Newsletter

A.3   Third GreenCharge and Informed Cities Newsletter

A.4   Fourth GreenCharge and Informed Cities Newsletter

A.5   Fifth GreenCharge and Informed Cities Newsletter

A.6   Sixth GreenCharge Newsletter (draft)

Members of the GreenCharge consortium

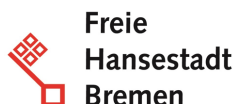|		
SINTEF	SINTEF AS (SINTEF) NO-7465 Trondheim Norway www.sintef.com	**Project Coordinator:** Jacqueline Floch, Jacqueline.Floch@sintef.no **Technical Manager:** Shanshan Jiang Shanshan.Jiang@sintef.no
eSmart SYSTEMS	eSmart Systems AS (ESMART) NO-1783 Halden Norway www.esmartsystems.com	**Contact:** Susann Kjellin Eriksen susann.kjellin.eriksen@esmartsystems.com
HUBJECT	Hubject GmbH (HUBJ) DE-10829 Berlin Germany www.hubject.com	**Contact:** Jürgen Werneke juergen.werneke@hubject.com
eurecat Centre Tecnològic de Catalunya	Fundacio Eurecat (EUT) ES-08290 Barcelona Spain www.eurecat.org	**Contact:** Regina Enrich regina.enrich@eurecat.org
ATLANTIS TRACKING YOUR WORLD	Atlantis IT S.L.U. (ATLAN) ES-08013 Barcelona Spain http://www.atlantisit.eu/	**Contact:** Ricard Soler rsoler@atlantis-technology.com
enchüfing	Millor Energy Solutions SL (ENCH) ES-08223 Terrassa Spain www.millorbattery.com	**Contact:** Baltasar López blopez@enchufing.com
motit www.motitworld.com	Motit World SL (MOTIT) ES-28037 Madrid Spain www.motitworld.com	**Contact:** Valentin Porta valentin.porta@goinggreen.es
Freie Hansestadt Bremen	Freie Hansestadt Bremen (BREMEN) DE-28195 Bremen Germany	**Contact:** Michael Glotz-Richter michael.glotz-richter@umwelt.bremen.de
ZET	ZET GmbH (MOVA) DE-28209 Bremen Germany www.zet.technology	**Contact:** Dennis Look dennis@zet.technology

	Personal Mobility Center Nordwest eG (PMC) DE-28359 Bremen Germany www.pmc-nordwest.de	**Contact:** Bernd Günther b.guenther@pmc-nordwest.de
	Oslo kommune (OSLO) NO-0037 Oslo Norway www.oslo.kommune.no	**Contact:** Patrycjusz Bubilek patrycjusz.bubilek@bym.oslo.kommune.no
	Fortum OYJ (FORTUM) FI-02150 Espoo Finland www.fortum.com	**Contact:** Jan Ihle jan.haugen@fortum.com
	PNO Consultants BV (PNO) NL.2289 DC Rijswijk Netherlands www.pnoconsultants.com	**Contact:** Francesca Boscolo Bibi Francesca.boscolo@pnoconsultants.com
	Universita Deglo Studi Della Campania Luigi Vanvitelli (SUN) IT-81100 Caserta Italy www.unicampania.it	**Contact:** Salvatore Venticinque salvatore.venticinque@unicampania.it
	University of Oslo (UiO) NO-0313 Oslo Norway www.uio.no	**Contact:** Geir Horn geir.horn@mn.uio.no
	ICLEI European Secretariat GmbH (ICLEI) DE-79098 Freiburg Germany www.iclei-europe.org	**Contact:** Stefan Kuhn stefan.kuhn@iclei.org **Innovation Manager:** Reggie Tricker reggie.tricker@iclei.org
	EGEN B.V. NL.2289 DC Rijswijk Netherlands www.egen.green	**Contact:** Simone Zwijnenberg Simone.zwijnenberg@egen.green

A. Appendix A

   1. First GreenCharge and Informed Cities Newsletter

A Warm Welcome to Advances in Electric Mobility and Green Energy

I suppose you know the story about how the emperor Nero played his fiddle while Rome burned? In these days when we read ever more pessimistic reports about global warming, it's easy to feel that our planet – not just Rome – is burning up...

Yet our various "emperors" seem to be mostly occupied with other things. Given that, many of us ask ourselves: what can I do, as an individual, to help address environmental problems? That's why I was delighted when the opportunity arose for me to take on the role of coordinator of the GreenCharge project. At last - an opportunity to contribute in a concrete way. GreenCharge, as part of the EU's Horizon 2020 programme, is not going to solve the world's environmental problems all on its own, but it will make a real contribution, and that's good enough for me. So, what is it about? The goal can be summarised from our web page:

"GreenCharge takes us a few important steps closer to achieving one of the dreams of modern cities: a zero emission transport system based on electric vehicles running on green energy, with traffic jams and parking problems becoming things of the past."

The project will develop and demonstrate a range of **renewable energy technologies partnered** with different modes of transport in a range of commercial and domestic charging settings, all with the aim of making it **easier to integrate zero-emission vehicles** into the way we all travel.

It will make it easier to charge electric vehicles and use green energy. And all this will be based on solid business models that ensure financial viability - we are not "hippie idealists"!

I am delighted to share this newsletter; it is the first in a series of six. Our project is built around **3 case study cities**, and we will use this first newsletter to introduce these to you. We hope to extract a great deal of information from the case studies and will use them to help a further 12 "follower" cities develop emobility roadmaps.

Our newsletter is not just a way for us to boast about our work (though that is also true). It is also a way to establish contact with those interested in the topics we work on.

We hope you enjoy reading it and also feel free to contact us with any feedback to help guide the content of future issues, or to establish direct contact.

Just email me at:
info@greencharge2020.eu
or visit us at:
www.greencharge2020.eu

Joe Gorman,
Project Coordinator, GreenCharge.

www.informedcities.eu

Feature Article: Introduction to GreenCharge eMobility in Bremen, Barcelona and Oslo

Cities are testing innovations in practical trials throughout GreenCharge. These cover a wide variety of applications: **vehicle type** (scooters, cars, buses), **ownership model** (private, shared individual use, public transport), **charging location** (private residences, workplaces, public spaces, transport hubs), **energy management** (using solar power, load balancing at one charging station or within a neighbourhood, battery swapping), and **charging support** (booking, priority charging). Activities in our pilot cities are summarized on these page (with further information online).

So far, Business Case workshops have been held in each city and the specification of the pilot exercises have been subject to detailed development.

GreenCharge pilot cities
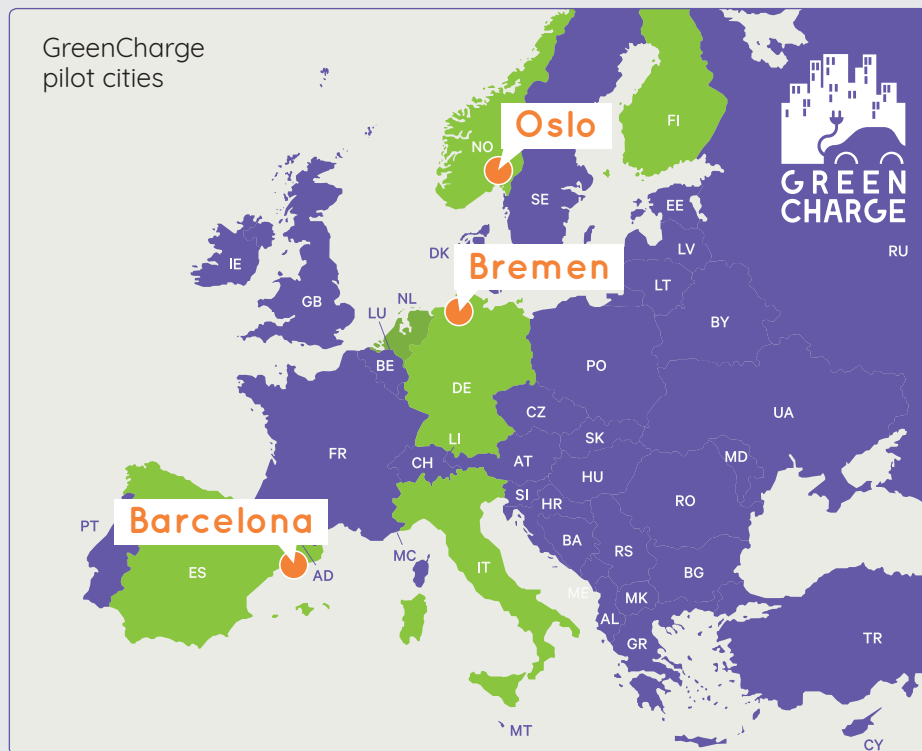
GreenCharge in Barcelona

In **Barcelona**, GreenCharge **will support the e-scooter (moto) sharing fleet. Specific attention will be paid to developing strategies for battery swapping hubs.**

Smart charging management aims to minimize impact on the grid, foster renewable energies, locate batteries and scooters for charging, improve battery life and health, and improve booking services.

Barcelona has a long history of supporting a mix of EV options, with vehicle registrations well above the Spanish average.

"Electric scooter sharing is an innovative element in order to reduce car use."

Image: MotitWorld

Type of EV	Energy	Location

GreenCharge in Bremen

The special focus of this GreenCharge pilot is combining the promotion of e-cars with car sharing as well as the use of second life stationary batteries to balance peak demand at charging stations.

The pilot includes both home charging, charging in public spaces, and charging in intermodal hubs for both privately owned and shared cars. Buses will be integrated into the experiments.

The City of Bremen promotes car sharing as alternative to car ownership, demonstrating how new housing developments can be developed as low car and low carbon neighbourhoods.

"We don't want as many EVs as possible but we do want a high share of EVs in the car-fleet."

Image: City of Bremen

Type of EV   **Energy**   **Location**

GreenCharge in Oslo

GreenCharge will implement charging management to ensure that total power for charging in apartment parking garages is within grid limitations ('load balancing').

A booking system to help predict power needs across different situations and user groups will be developed.

To meet its ambitious environmental goals for the coming years, Oslo needs to be prepared for charging up to 200,000 electric vehicles. With 70% of residents living in flats and apartments, this poses a significant future challenge.

"Rather than starting charging as soon as vehicles are connected to chargers, management systems will help schedule charging patterns according to expected future vehicle use and grid capacity, among other options."

Image: GreenCharge/PNO

Type of EV   **Energy**   **Location**

GreenCharge Uptake Cities – What's Up in Edinburgh and Stockholm

12 Uptake Cities will learn from the three GreenCharge pilot cities through site visits and an advanced webinar programme. **We have one space left in the programme - if you would like to discuss joining us – please do so now.** This participation will culminate in an electric mobility **roadmap** for each city that will cover issues relating to the construction, configuration and location of charging infrastructure for electric/hybrid vehicles and their integration into mobility planning.

We will profile two of our Uptake Cities in each of our newsletters. In this issue we hear about electric vehicle strategies in from our friends in Edinburgh and Stockholm.

Edinburgh – turning on Scotland's most ambitious urban EV programme

The people of Edinburgh, the capital of Scotland, UK, benefit from electric bus routes, a successful urban light rail line and recent rail electrification to nearby cities – with a proposed expansion of its shared bike system to also include ebikes. Having learnt from observing the progress – and mistakes – made in other cities on road-based electric vehicle infrastructure, Edinburgh is now ready to roll out its own comprehensive electric mobility approach.

A key aim is to also support initiatives to help dissuade drivers from having to bring their vehicles into the city centre.

The profile of EVs is growing and becoming an important element of UK and Scottish Government climate change and transport policies. The Scottish Government indicates a major expansion across Scotland of infrastructure by 2022 coupled with a phasing out of all new fossil fuel engines by 2032. Many UK cities are now embarking on programmes to develop EVs infrastructure, including London, Manchester and Dundee.

The study carried out is the first of its kind for a local authority in Scotland and, due to the strategic approach taken, puts Edinburgh at the forefront of EV work in Scotland, if not the UK.

You can read more about Edinburgh's latest plans at:

Edinburgh blazes green trail with new electric vehicle infrastructure plan www.edinburgh.gov.uk/news

How?
An investment grade Business Case enabled the City of Edinburgh Council accelerate proposed growth in EV charging in the city, responding to both the market and the increasing number of residents and business requests for charging infrastructure.

Electric Vehicle Infrastructure
An Investment Case for Edinburgh
August 2018

Image: Pixabay

Stockholm – building a long history of EV support through EU projects

Stockholm is one of the homes of electric transport innovation, from electric vehicle roadways, international stakeholder events, and participation in a number of energy and transport projects such as SmartEdge, GrowSmarter, Eccentric and EV Energy. The city has been working since the 1990s on this agenda. Its efforts are now coinciding with favourable market conditions: as technologies catch up with the city's interests, the e-mobility landscape is promising.

Within the CIVITAS ECCENTRIC project, Stockholm is working with local stakeholders to demonstrate fleets of e-cargo bikes for residents, electric vans for tradesmen, and a new plug-in electric hybrid truck for night-time deliveries to city restaurants. The city will improve charging infrastructure through a process and "charging map" that enables relevant parties to apply for permits to install on-street chargers. It will also develop information on clean vehicles and fuels, with a targeted campaign to private housing associations on the installation of charging infrastructure in multi-family buildings and private households.

In GrowSmarter, smart "delivery rooms" for parcel collection, served by e-cargo bikes, are being developed along with electric car-sharing and e-cargo bike pools and improved charging infrastructure to serve multi-family housing in a district of Stockholm. This is complemented by further public and private initiatives, including testing autonomous electric buses, privately-operated free-floating e-vehicle car sharing and e-scooter fleets, and electric passenger ferries.

Experiences from setting up public charging facilities for electric vehicles in Stockholm
www.stockholm.se/Global
(Opens as PDF, in English)

Good practice:
Clean vehicles in Stockholm
www.interregeurope.eu/policylearning

More?
You can read more about Stockholm's latest plans and subscribe to its newsletter at: City of Stockholm Environmental Cars department information.

www.stockholm.se/ fristaende-webbplatser (in Swedish – we advise Google Translate)

Image: Pixabay

World News

Driving Change Together – 38 Cities Sign Up to Climate Change Partnership for E-mobility

The IISD reports that thirty-eight countries from five continents plus 1,200 companies and international organizations signed up to supporting emobility at the Katowice COP24 conference, including our GreenCharge partner ICLEI's World Secretariat.
Read more at:
https://sdg.iisd.org/news

One Gets Bought Every Nine Minutes in UK

BusinessGreen reports that 60,000 electric cars were registered in the UK in 2018, an 18% increase on the previous year with nearly three-quarters of sales accounted for by hybrid vehicles. Read more at:
www.businessgreen.com

Micromobility – the Mode of the Moment?

Wired explores the validity of the attention around micromobility from a recent conference on light electric vehicles attended by over 600 people in California.
Read more at: www.wired.com

Electric Car Total in Europe and China Both Reach the 1 Million Mark

Newswheel reports that electric vehicle ownership is gathering pace across the world, with both Europe and China now on equal pegging in terms of ownership.
Read more at:
www.thenewswheel.com

New E-Uses for Street Kiosks in Barcelona

The Guardian reports on a scheme will pilot using kiosks as places where you can charge your mobile, electric scooter or bicycle, in a bid to repurpose the characteristic street features of the city.
Read more at:
www.theguardian.com

ICE-ing in USA – a real threat?

Electrek reports on instances of charging points being blocked by internal combustion engine drivers in a debate over electric mobility and the role of personal choice – with the charging operator's response.
Read more at:
www.electrek.co

What are the Basics Behind EV Success in Norway

Axios encapsulates its simple thoughts on the key learning points from progress in electromobility in Norway.
Read more at:
www.axios.com

**News to share?
Contact us or share it with us on Twitter
@ GreenCharge2020**

Image: Fotolia

Image: Fotolia

In Brief

GreenCharge Newsbits

GreenCharge Kick-off meeting
The GreenCharge kick-off meeting was held at SINTEF in Trondheim, Norway from the 17th to the 20th of September 2018. All partners met together to plan the three years of the project.

Business Model Innovation Game
GreenCharge arranged "Business Model Innovation Games" for emobility at each of the three pilots cities involving a mixture of consortium members and representatives of the local reference groups in each city

Read more at:
www.greencharge2020.eu/news

GreenCharge Publications

Our GreenCharge website is where you will find our project deliverables. The GreenCharge team will post news on conference papers as well as informal updates via our website and social media channels. You can look around the following sections of our new website www.greencharge2020.eu as we develop the project to find out more:

- **About:** Project, Consortium, Partner Projects, Uptake Cities
- **Pilot Sites:** Barcelona, Bremen, Oslo
- **Project Outputs and Deliverables** (coming soon)
- **News & Events**

GreenCharge Diary

Open Day in Barcelona
March 18 – 20 2019.

Contact us for confirmed times and dates for when you can come along and speak to the GreenCharge project team LIVE in Barcelona or Oslo!

Project Meeting in Bremen (internal)
October 8 – 10 2019.
Open Day
TBC

E-charged Social Media #FF

Follow our Twitter feed for latest updates...
@ GreenCharge2020.

You may also be interested in GreenCharge's sister project in the Horizon 2020 research programme:
MEISTER
www.meisterproject.eu
twitter.com/MEISTER_H2020

"*The purpose of MEISTER is to design, validate and promote business models to make it more attractive for operators to install charging infrastructure and for potential customers to use this infrastructure.*"

Feature Photo
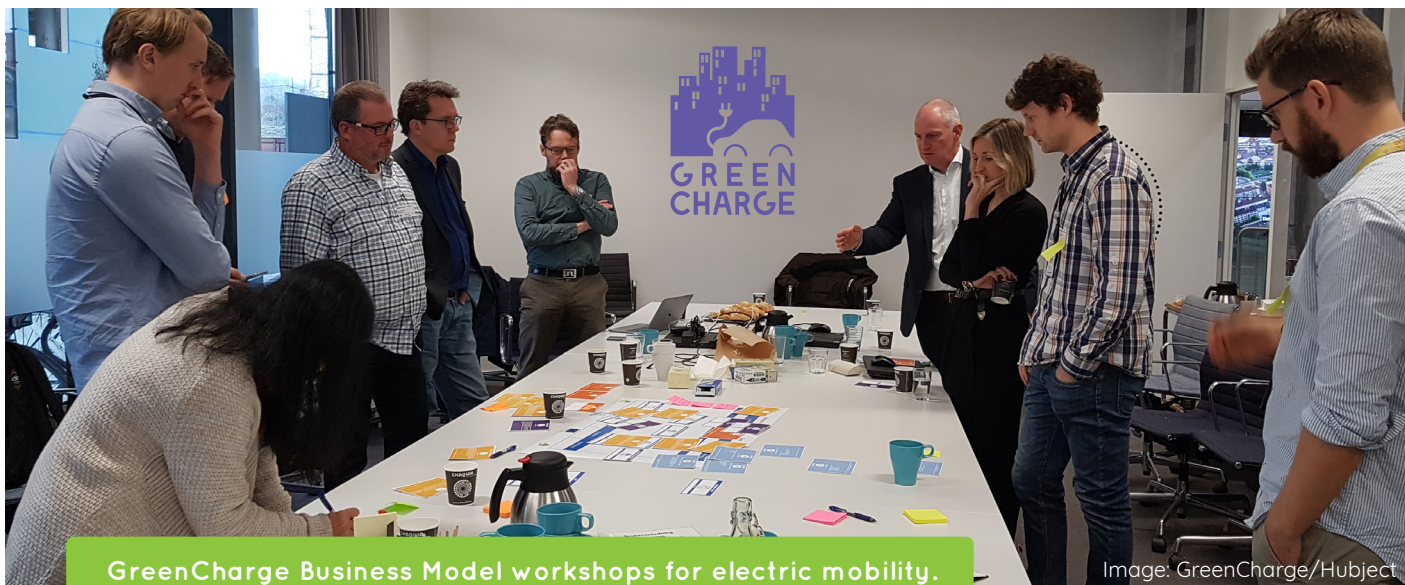
GreenCharge Business Model workshops for electric mobility. More information will be featured in the next newsletter

Image: GreenCharge/Hubject

Puzzled ???

GreenCharge has compiled some of the most commonly used words and phrases (jargon) we have found in the EV industry. Have a coffee or OJ and see how many you can find in the GreenCharge wordsearch.

- the amount of energy required by users at a particular time in the day?
- ensuring that the requirement from charging is equal to or less than the available energy for charging on the grid?
- batteries that have lost performance for use in vehicles but are still suitable for use in a stationary setting with a more gentle energy use profile (such as for overnight recharging of a vehicle)?
- users who both generate and consume energy?
- ensuring that people who travel across city or country borders can maintain seamless access to charging facilities?
- a battery installed in a fixed location such as a garage or charging hub rather than or in addition to in the vehicle itself?

E	R	I	L	O	A	D	B	A	L	A	N	C	I	N	G	S
E	I	T	E	M	B	N	U	E	A	A	L	K	D	I	T	L
E	R	L	D	H	F	Z	E	I	U	S	A	I	E	I	O	L
T	N	E	M	E	G	A	N	A	M	G	N	I	M	A	O	R
Y	R	E	T	T	A	B	Y	R	A	N	O	I	T	A	T	S
Y	I	N	C	G	Y	J	E	U	A	L	M	V	E	I	A	A
E	I	N	U	F	W	N	E	I	I	L	N	X	R	E	T	C
A	O	I	C	E	K	D	A	E	O	C	B	Z	A	I	E	C
N	O	O	U	F	T	E	N	P	O	T	G	J	A	A	N	D
L	N	T	B	I	A	M	F	R	T	C	A	D	A	N	E	U
D	R	S	D	L	D	A	A	O	O	U	N	Q	R	O	N	D
R	O	A	L	D	R	N	A	S	T	F	B	G	R	O	Y	P
A	R	S	D	N	G	D	R	U	T	D	F	A	R	O	E	M
E	T	T	E	O	V	A	A	M	O	P	F	T	U	A	G	H
A	R	L	R	C	M	Q	R	E	N	P	Y	E	N	A	A	G
R	L	A	A	E	M	S	R	R	N	M	M	E	I	T	M	B
R	R	L	P	S	X	E	A	S	F	H	W	N	I	Y	S	N

Wordsearch created via www.lakeshorelearning.com

demand, load balancing, prosumers, roaming management, second life, stationary battery

Who are We?

Image: GreenCharge/SINTEF

The GreenCharge partners at the first project meeting in Trondheim, Norway on a sunny day in October 2018. Our representative organisations are depicted below.

Project Partners

SINTEF
Coordinator

eSmart SYSTEMS

HUBJECT

PNO

I.C.L.E.I Local Governments for Sustainability

motii

pmc personal mobility center

Fortum charge & drive

V: Università degli Studi della Campania Luigi Vanvitelli / Scuola Politecnica e delle Scienze di Base Dipartimento di Ingegneria

UiO : University of Oslo

Freie Hansestadt Bremen

MOVE ABOUT Zero Hassle - Zero Emissions Corporate CarSharing

ATLANTIS TRACKING YOUR WORLD

eurecat

enchüfing

2020 CiViTAS Cleaner and better transport in cities

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016

informed cities

www.informedcities.eu

GREEN CHARGE

Twitter: **GreenCharge2020**
Linkedin: **GreenCharge Project**
Email: **info@ greencharge2020.eu**

www.greencharge2020.eu

In our next newsletter (published through Informed Cities):
Focus on electric charging business models and prototypes for cities
Due end of 2019!

Received this from a friend? Sign up on our website.

informed cities

newsletter   February 2019

"…to dream of a modern city with zero emission transport - and traffic jams and parking problems just things of the past."

Joe Gorman, **GreenCharge project** coordinator
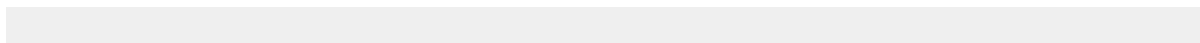
ELECTRIC MOBILITY
Newsletter

Issue 1 | February 2019

A Warm Welcome to Advances in Electric Mobility and Green Energy

I suppose you know the story about how the emperor Nero played his fiddle while Rome burned? In these days when we read ever more pessimistic reports about global warming, it's easy to feel that our planet – not just Rome – is burning up...

Yet our various "emperors" seem to be mostly occupied with other things. Given that, many of us ask ourselves: what can I do, as an individual, to help address environmental problems? That's

The project will develop and demonstrate a range of renewable energy technologies partnered with different modes of transport in a range of commercial and domestic charging settings, all

feedback to help guide the content

The Power of Electric Mobility

Electric mobility is becoming a pervasive force, enabling experiments with new transport options as well as offering existing established forms of transport opportunities to improve their sustainability credentials. By de-linking movement from reliance on the internal combustion engine, we can harness green energy but must still create new, sensible and business-savvy ways to manage the peaks in demand for energy across all our societies' requirements.

This Informed Cities newsletter edition focuses on the world of personal mobility – from influences of the "shared economy" in enabling a new wave of journey sharing options, to putting people back at the centre of the journeys they make. We link out to the first in a special series of newsletters on e-mobility at the European level, considering progress and proposals in a range of European cities, from Edinburgh to Barcelona. Please click below and read on to find out more.

Read the GreenCharge project newsletter »

Trending

Why is SUMP 2.0 vital?

A revised version of the EU Sustainable Urban Mobility Planning (SUMP) Guidelines is coming in 2019. Hear Matthew Baldwin, Deputy Director-General, DG MOVE, discuss its importance.

Watch now »

Residents play a key role in Zurich's mobility planning

In Zurich, citizens are not only regularly involved in the mobility planning process but they in many ways guide the decisions that are made by the local authority and subsequently the path the city is taking.

Read more »

SUMP2.0 - The journey so far

For the past six years, the SUMP Guidelines have acted as the main reference document for urban transport and mobility practitioners and other stakeholders involved in the development and implementation of Sustainable Urban Mobility Plans (SUMPs). Now an update of the guidelines is being developed.

Cēsis - transforming a town through street design and traffic calming

Mobility has become a crucial part of attempts to make the Latvian city of Cēsis more livable - both to attract new residents and retain existing ones. How is it doing this, considering its many faces?

Read more »

Spotlight: user-centric mobility
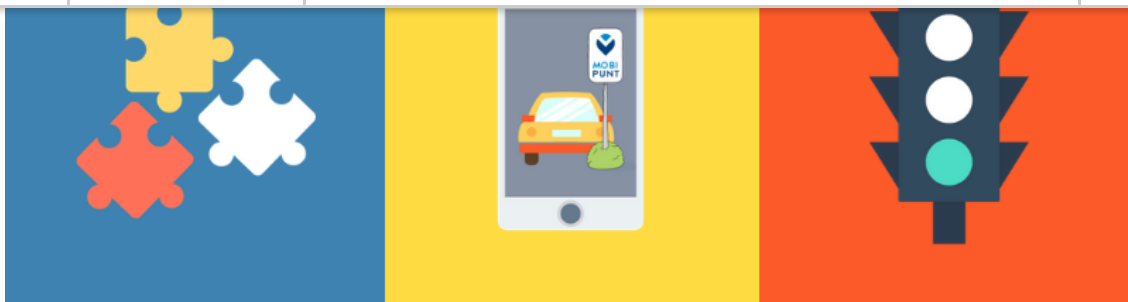
10 RECOMMENDATIONS

TO HELP POLICYMAKERS IMPLEMENT CAR SHARING IN EUROPE

Which car sharing service is right for your city?

A new policy brief from the STARS project sheds light on what policymakers can do to implement better car sharing practices in Europe.

Read more »

Smart Ways to Antwerp: Creating a marketplace for Mobility as a Service

It's easier than ever to get around cities thanks to new mobility services that use real-time information and smartphone apps. But are people able to connect these different modes of travel? Antwerp is taking action to address this issue by developing its own travel planning application to help connect various modes of transport within the port city.

Smart multimodal mobility services: applying the MaaS concept in Turku

Mobility as a Service (MaaS) is a concept that facilitates the development of high-quality mobility alternatives created in an integrated and user-friendly approach. It also has the potential to encourage citizens to use more sustainable modes of travel. Turku (Finland) is currently piloting a MaaS service - how is it being implemented and how is it changing transport in the city?

Read more »

13 European cities join forces through a "Handshake" to become more bicycle friendly.

Read more »

Three Good Reads

These articles have been making headlines in the mobility and transport world:

[New Index Shows Urban Growth Is Inextricably Tied To Future Mobility Innovation »](#)

Forbes

[How an emerging African megacity cut commutes by two hours a day »](#)

The Guardian

[What Cities Are Getting Wrong About Public Transportation »](#)

CityLab

—

social media

f Facebook   🐦 Twitter   🔗 Informed Cities Website

Informed Cities is an initiative by **[ICLEI – Local Governments for Sustainability](#)** to share and discuss activities and results of governance and social innovation research among local governments and a variety of other stakeholders across Europe. Informed Cities publishes this newsletter and organizes the Informed Cities Forum conferences.

This edition of the Informed Cities newsletter is published in cooperation with the **[GreenCharge project](#)**. GreenCharge receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016. The content of this publication does not necessarily reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).

Find GreenCharge on [Twitter](#) and [LinkedIn](#)!

—

imprint

ICLEI - Local Governments for Sustainability
European Secretariat
Leopoldring 3, 79098 Freiburg, Germany

Email: **newsletter@informedcities.eu**

Read our Data Privacy Policy **[here](#)**. You can also update your subscription preferences and unsubscribe from the Informed Cities Newsletter at any time through the links at the bottom of the newsletter.

f Share   🐦 Tweet

A. Appendix A

2. Second GreenCharge and Informed Cities Newsletter

GREEN CHARGE

Electric Mobility
Newsletter

Fancy a coffee?
Enter our prize draw!
BACK PAGE →

Issue 2 | October 2019

The Generation Game: How do we help the Business Models for Electric Mobility and Green Energy work together?

With electric vehicle technology ownership and use growing strongly in our societies – involving bikes, cars, buses, trams, and trains – we need to start preparing our energy systems and transport infrastructure for this new urban mobility future. For our 2nd newsletter, we talk to Arno Schoevaars whose team is leading our work on business models for GreenCharge. Here's what he has to say…

Since we commenced GreenCharge in October 2018, we have been working to develop initial business cases for electric mobility using the example projects in our pilot cities. This has shone a spotlight - from a local to a national level – on the different drivers and enablers necessary in providing infrastructure to support strong, electrically-mobile societies. In this second newsletter from GreenCharge, we outline the processes undertaken to date in Barcelona, Bremen and Oslo – involving different stakeholders, in different contexts - but aiming to meet the same overall goal of 'zero-emissions' transport at its point of use.

"I think the GreenCharge experiments - where we combine local energy in communities and use this for their transport mode - are a really interesting combination that could be inspiring for a variety of cities."

Business models describe the framework of how we deliver solutions and earn value (often money) from them. Within this system, the motivations of each individual stakeholder vary and need

to be recognised. We are researching and testing these concepts through case studies in cities, supported by computational simulations, covering variables such as energy generation, charging usage and revenue. In this newsletter, we have outlined some of our early learning to date from this work.

How much are people willing to pay to charge their cars at higher speeds? What is the benefit for electricity providers from local renewable energy generation and investing in installing charging points, when they earn less from selling power and need to change their pricing road maps? How much support from local or national government is needed to building owners, before they modify their own building management plans, to focus more on green energy and electric vehicle infrastructure!

Policies and implementation of electric mobility projects are developing at different rates around Europe. We have different levels of market maturity, which is also affected by the level of regulation (or, as I prefer, stimulation) exercised by local and national governments; such stimulation includes providing financial benefits to producers, consumers - and those who both

provide and consume energy (as prosumers) - as well as removing the many small scale barriers. As consultancies and service providers, we need to keep ahead of the demands for knowledge and practical experience. Through GreenCharge, we are keeping track of current technology, thinking and behavioural responses and are sharing our own experiences to inform innovation.

Keep in touch with GreenCharge for further information.

Arno Schoevaars, PNO

www.informedcities.eu

Introduction to Business Model Processes in Bremen, Barcelona and Oslo

In each of the GreenCharge pilot cities, a **Business Model Innovation Game** has been undertaken with a selection of stakeholders in each city (known as Local Reference Groups). The representation level within the group of people with different backgrounds is depicted by the size of the circles shown in the diagram below:

GreenCharge pilot cities vary according to e-mobility investment and operating costs, revenues, electricity grid governance, renewables share, transport mode characteristics, market demand and national policies. These provide diverse testing environments for new electric mobility systems and approaches.

At a national level, many of these aspects have been compared by our GreenCharge partner **Hubject**, through their Electric Mobility Index (HEMI), which shows that Spain, Germany and Norway – hosts to our GreenCharge pilot cities - are among the leading European nations within electric mobility.

GreenCharge will go through two stages to build and define business models. We are starting with what is known as the **"St. Gallen" business model** concept. An overview is summarised in the diagram on the next page, adapted from our initial research and stakeholder engagement. Further information can be found in Deliverable 3.2 "Initial Version of Business Models," available soon on the GreenCharge website. This business model will be monitored as it plays out in each city over the course of the GreenCharge project, and adapted and updated - with the help from our Uptake Cities Group - culminating with practical policy recommendations by the end of 2021.

Make Up of GreenCharge reference groups in the Business Model Innovation Game, by proportion and by sector
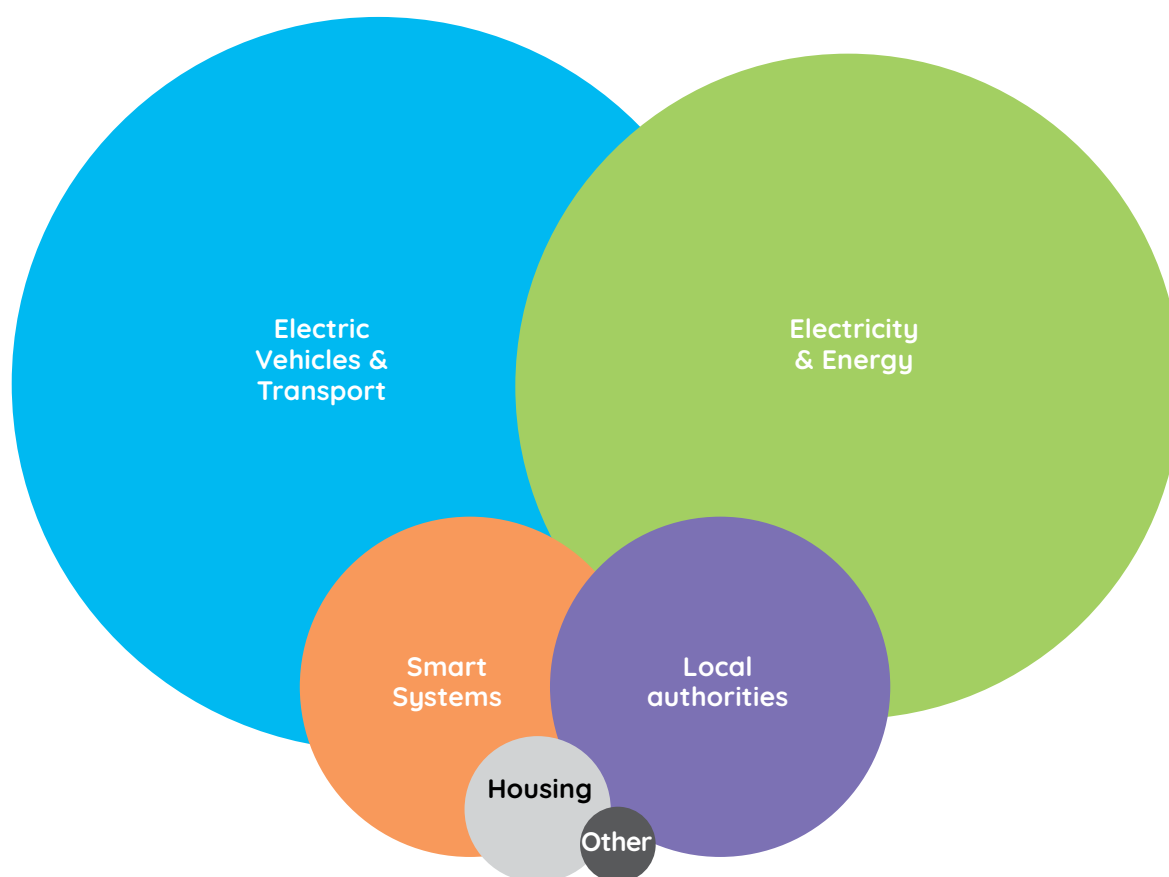
Testing Business Models in GreenCharge

Barcelona, Spain

Goal:
to enable a shift away from fossil fuel powered motorbikes and scooters, toward electric ones, and a shift from fossil fuel powered cars, towards electric cars and Light Electric Vehicles (LEVs) such as ebikes. Components of the pilot include:

👍 booking, charging and enforcement of private charging points at GreenCharge partner Eurecat's premises

👍 optimal and integrated charging station and building management processes

👍 Mobility as a Service (MaaS), including the trial of incentives to drop e-scooters near battery hubs (acting as charging stations) through GreenCharge partner MOTIT which operates electric motor scooters in the city

👍 upgrade of an e-bike sharing service for commuters in the area of Sant Quirze

👍 battery swapping as an alternative to fast charging for LEVs

Image: Unsplash

Bremen, Germany

Goal:
to integrate electric cars into car sharing systems, and use of renewables and stationary batteries to balance peak demand from charging. Components of the pilot include:

👍 charging EVs at work via a photovoltaic energy supply

👍 new housing projects built to avoid the need for privately owned cars

👍 charging facilities at intermodal hubs

👍 use of second-life car batteries as stationary storage

Image: Pixabay

Oslo, Norway

Goal:
to provide cost efficient and renewable home charging facilities for inhabitants of 246 flats to manage capacity in the electricity grid and in the availability of charging parking spaces. Components of the pilot include:

👍 booking of charging (both physical space and electrical energy needed) as a means to reduce range anxiety

👍 prediction and balancing of energy demand in the neighbourhood

👍 flexible sharing of the charging infrastructure between different user categories (e.g. residents and visitors)

Image: Unsplash
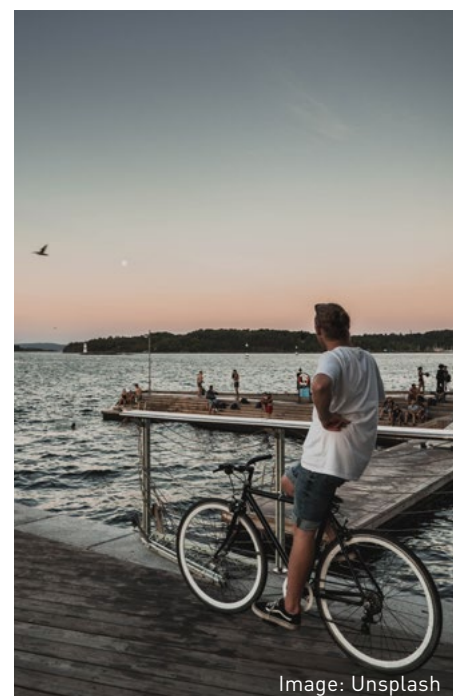
Testing Business Models in GreenCharge

KEY	Perspectives of stakeholders in the GreenCharge system merged from studying the 3 GreenCharge pilots

A housing association	A charging point stakeholder
An electric vehicle stakeholder	A local authority

WHAT — VALUE PROPOSITION DIRECTED AT TARGET USERS/CUSTOMERS

- Mobility for residents at a lower cost and an attractive home to stay in
- Access by citizens to electric vehicles and charging facilities
- Lowest cost for target users/customers to charge their vehicles through efficient green energy supply
- An e-mobility system that improves citizens' quality of life

- Residents
- Environmentally-motivated potential EV drivers/riders

WHO ARE THE TARGET USERS/CUSTOMERS FOR EACH STAKEHOLDER?

- Housing associations, businesses and local authorities
- Citizens including non-car owners, private owners and fleet users

€ — WHAT VALUE IS IN IT FOR THE STAKEHOLDER?

- Paying lower bills for supplying energy as part of apartment block management costs, and providing an attractive place to live
- Gaining revenue from monthly and pay-per-use access to electric vehicles
- Gaining revenue from a fee for access to charging points
- Gaining support for the local Sustainable Urban Mobility Plan by using electric mobility to integrate other parts of the transport system together and improve quality of life

HOW — HOW DO STAKEHOLDERS ACHIEVE THIS FOR TARGET USERS/CUSTOMERS?

- By supporting and allowing the installation of renewable energy and EV charging infrastructure on their premises
- By providing electric vehicles for use/ hire
- By providing charging facilities, access to apps/booking, and managing the transaction system
- By subsidising, incentivising or otherwise stimulating the uptake of EVs and growth of the market

GreenCharge Uptake Cities – What's Up in Krakow and Zagreb

12 Uptake Cities will learn from the three pilot GreenCharge cities, through site visits and an advanced webinar programme. **We have one space left in the programme - if you would like to join us, contact us today**. This participation will culminate in an electric mobility **road map** for each city that will cover issues relating to the construction, configuration and location of charging infrastructure for electric and hybrid vehicles, and their integration into mobility planning

In this issue we hear about electric vehicle strategies from our friends in Krakow and Zagreb

Krakow – Clean Transport and Green Procurement Comes to Town

Krakow (as a Municipality) currently has eight public charging points for electric vehicles in 4 stations spread across 3 Park + Ride car parks. 40 charging stations are in the city for electric cars owned by private entities (some of them publicly available).

The Municipality of Krakow cooperates with external entities in the building of electric vehicle charging stations. Two companies have already signed relevant agreements committing them to establish a network of electric vehicle charging stations and carsharing systems based on electric cars in the city.

Krakow is also investing in green buses. Currently, all public buses are equipped with engines meeting at least the EURO 5 emission standard. At the end of December 2018, the main public transport operator ran 26 "zero-emission" electric buses and 64 hybrids. 28 plug-in charging stations are located within its depots and seven pantograph charging stations located in different regions of the city.

The Clean Transport Zone (CTZ) in Kazimierz district has been in force since January 2019. The CTZ can be accessed by electric cars powered by hydrogen or CNG gas. The right to enter includes the residents (with their existing vehicles without any restrictions).

Owners of electric vehicles may also use separate lanes for buses and park free of charge in the Paid Parking Zones. Additionally, the Municipality of Krakow proposes further improvements, such as the possibility to enter certain streets in restricted traffic zones.

The owners of electric and hybrid vehicles registered in the Municipality of Krakow, after purchasing an "E" type subscription

The Act on Electromobility and Alternative Fuels concerns the need to ensure a sufficient number of electric vehicles in the fleet of the Municipality and municipal companies. A Procurement Group was established under which tender procedures were conducted to acquire charging stations and electric vehicles to fulfil these needs.

for PLN 100 per month, are also able to enter certain streets in the restricted traffic zone. In case of hybrid vehicles, the E subscription also entitles the holder to park in all paid parking zones.

Image: City of Krakow

GreenCharge Uptake Cities – What's Up in Krakow and Zagreb

Zagreb – A Smart Framework for Electric Services in the City

Sustainable mobility and improvement of energy efficiency in traffic are one of the key priorities in the City of Zagreb Development Strategy. The aim is to encourage the use of renewable energy sources and ecologically acceptable fuels, and to improve energy efficiency in the production of energy, industry, building stock, traffic, and public lighting.

To promote e-mobility, the City of Zagreb is constantly improving the conditions towards more usage of e-vehicles. Charging stations for electric vehicles were set up in five public garages (operated by company ZagrebHolding - Zagrebparking Ltd), among other locations.

In total, there are now 73 filling stations in the City of Zagreb with 43 locations, with a total of 129 connections.

On 26 February 2019, The City Council of the City of Zagreb adopted the Zagreb Smart City Framework Strategy vision up to 2030, which strongly supports the use of innovative operative (primarily electromobility) systems. Goals and activities are focused on all types of mobility which can achieve the transition from fossil fuels to new types of available fuels e.g. electrical energy. This includes the public city transport system, private cars, e-taxi services, e-car sharing systems and traffic systems for logistics.

Images: City of Zagreb

World News

Urban Mobility Planning

Do cars have too much focus in urban e-mobility?

A study by CREDS suggests electric bicycles are much better than electric cars for cities. Although an improvement over standard cars, electric cars as a sole initiative can still fail to address congestion and physical inactivity in the population.
Read more at:
www.electrek.co/2019/07/08/study-electric-bicycles-better-than-electric-cars

City planning in Spain.

Electric vehicles are one thing, but they need to sit in a wider context of city planning with our partner city location Barcelona at the forefront of people-friendly urban superblocks.
Read more at:
www.vox.com/energy-and-environment/2019/4/8/18273893/barcelona-spain-urban-planning-cars

Proposals in the UK for new homes to be EV-friendly.

The Department for Transport has announced a public consultation on the subject.
Read more at:
www.autoexpress.co.uk/car-news/107439/electric-car-charge-points-to-be-installed-in-every-new-home

> "*Humans were built to transport themselves, and technology such as e-bikes have helped us make active transportation more fun and effective.*"
> **Micah Toll,
> Electrek, July 2019**

Technology

Battery swapping reaches rickshaws in India.

Countering a lack of global standards for battery swapping, this initiative moves the practice beyond 2-wheelers.
Read more at:
www.wired.com/story/india-sun-mobility-electric-rickshaw-bus-battery-swap

Taxi charging test for wireless technologies in Oslo.

GreenCharge partner Fortum is piloting a new system for taxis to be able to pick up bite size chunks of energy at drop off/pick up points through induction.
Read more at:
www.fortum.com/media/2019/03/fortum-and-city-oslo-are-working-worlds-first-wireless-fast-charging-infrastructure-taxis

The world's biggest EV maker that you might not have heard of.

Bloomberg reports on the Chinese firm BYD that has evolved from consumer electronics to EVs for the mass market.
Read more at:
www.bloomberg.com/news/features/2019-04-16/the-world-s-biggest-electric-vehicle-company-looks-nothing-like-tesla

Bosch extends electric bike PowerStations in key European tourist areas.

Bosch is the first ebike motor manufacturer to set up a network of dedicated electric bicycle charging stations using France and adjoining countries as a pilot area.
Read more at:
www.bosch-ebike.com/en/everything-about-the-ebike/stories/powerstations

Image: Greencharge

One of GreenCharge's test sites in Bremen, featuring a battery storage system using second life batteries from early electric car models.

World News

Electric Vehicle Markets

Used electric car market doubles in The Netherlands.
Figures suggest early EV adopters are now putting their cars on the market making more second-hand models available.
Read more at (in Dutch):
www.parool.nl/nederland/elektrisch-tweedehandsje-rukt-op~b13fcad0

Uber's e-bikes spread across North America.
The red electric-assisted bikes are proving a popular mode of shared urban transport in cities such as Montreal.
Read more at:
https://montrealgazette.com/news/local-news/ubers-jump-electric-bikes-hit-streets-of-montreal
https://montrealgazette.com/news/local-news/ubers-jump-electric-bikes-hit-streets-of-montreal

EVs and the Environment

What could be the impact of lithium exploration for EVs?
No one answer exists, but there could be negative impacts far away from the clean urban environments that EVs are intended to help create. Bloomberg presents a report from Chile.
Read more at:
www.bloomberg.com/news/features/2019-06-11/saving-the-planet-with-electric-cars-means-strangling-this-desert

Can solar cars reduce the need for charging stations altogether?
Whilst currently an expensive option, technologies exist and this article discusses the feasibility of wider roll out.
Read more at:
www.urbanmobilitydaily.com/the-potential-of-solar-batteries-for-electric-vehicle-manufacturers

GreenCharge Publications

Looking for more information on electric mobility planning?
Then check out the 'Electric mobility in Sustainable Urban Mobility Planning (SUMP)' leaflet, which is now available on the GreenCharge website:
www.greencharge2020.eu/public-materials

Image: Greencharge

Related Projects and Resources

The SIMPLA project preceded GreenCharge in the Horizon 2020 research programme, and was completed in 2019.
"SIMPLA supports local authorities in harmonising their SEAPs (Sustainable Energy Action Plans) and SUMPs (Sustainable Urban Mobility Plans)."
Final SIMPLA recommendations and materials including recorded webinars are available from:
www.simpla-project.eu

GreenCharge Diary 1

Project Meeting and Uptake Cities Visit in Bremen
8-11 October 2019.

Project Meeting and Uptake Cities Visit in Oslo
June 2020

Keep an eye on our website for other public electric mobility-related conferences and events:
www.greencharge2020.eu

GREEN CHARGE

GREEN CHARGE

GREEN CHARGE

In Brief

GreenCharge Newsbits

Barcelona project meeting held in March 2019.

A number of workshops were held including those on the motivations of different parties in the electric mobility system and software information flows and needs.

GreenCharge smart power and solar units introduced in Oslo.

The pilot site at Røverkollen has 246 apartments and the aim is to control energy consumption to allow more electric cars charge on the local grid through local renewable energy support.
Read more at (in Norwegian):
www.sintef.no/siste-nytt/
roverkollen-borettslag-vil-gi-alle-
muligheten-til-a-kjore-elbil

Simulation workshop held in Italy.

The University of Campagnia, one of our project partners, organised a workshop to focus on advanced modelling of potential electric charging scenarios (Work Package 5). This focused on the overall scope of simulation and technical requirements of the simulator, including coding and software interfaces.

Linking with other projects at the CIVITAS Forum.

Project Coordinator Joe Gorman presented at the CIVITAS Forum, attended by those involved in the wider group of projects under the CIVITAS Initiative: www.civitas.eu
The presentation and discussion covered the topic
"Electric Mobility:
Dream or Doable?"

**News to share?
Contact us or share it
with us on Twitter
@GreenCharge2020**

Image: Fotolia

Discussion group at the CIVITAS Forum in Graz, October 2019, featuring Joe Gorman, GreenCharge project coordinator (centre) and representatives from other projects and local authorities.

Image: Greencharge

Feature Photo

Image: Greencharge

The GreenCharge project welcomed its first visit from our Uptake Cities Group, visiting a number of sites in Bremen to help inform electric mobility "road maps" they will be creating as part of the project. Pictured here at the electric mobility company Rytle, based in Bremen.

Puzzled

Solve the **conundrum** in this newsletter to be in with a chance of winning a pack of coffee to help you get through the day. The special GreenCharge-procured coffee arrived in Europe, transported across the Atlantic by sailing boat.

R E E F A N T I C

Image: Patrick Schiller, www.badische-zeitung.de

What 9 letter word do these letters make?

To enter the competition, email your answer to: info@greencharge2020.eu by **30 November 2019**. A random draw will be undertaken and prizes sent in time for the winter break.

Your information will only be used for the purpose of this conundrum and will not be retained for any further marketing. Winner(s) should accept the requirement to provide their name and photo with the prize for use in reasonable publicity, for example in future newsletters and GreenCharge reports. GreenCharge reserves the right to select an alternative prize dependent on availability. Only one winner will be chosen.

Who are We?

The GreenCharge partners at the second project meeting in Barcelona, Spain in March 2019.

Image: Greencharge

Project Partners

SINTEF
Coordinator

eSmart SYSTEMS

HUBJECT

PNO

I·C·L·E·I Local Governments for Sustainability

motil

pmc»

Fortum charge & drive

V: Università degli Studi della Campania Luigi Vanvitelli Scuola Politecnica delle Scienze di Base Dipartimento di Ingegneria

UiO : University of Oslo

Freie Hansestadt Bremen

ZE7.Link

ATLANTIS

eurecat

enchufing

Interested in finding news from our technical partners?
Check out their news pages:
ATLANTIS | ESMART | EURECAT | FORTUM | HUBJECT ICLEI | OSLO UNI | PNO | SINTEF

CiViTAS
Cleaner and better transport in cities

2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016

informed cities

www.informedcities.eu

GREEN CHARGE

Twitter: **GreenCharge2020**
Linkedin: **GreenCharge Project**
Email: **info@greencharge2020.eu**

🌐 **www.greencharge2020.eu**

In our next newsletter (published through Informed Cities):
Focus on Electric Vehicle Technology and Management
Due Spring 2020! Previous copies at: www.greencharge2020.eu/newsletters

Received this from a friend? Sign up on our website.

newsletter

October 2019

"It's exciting to see how cities across Europe are reclaiming public space and putting people first in urban planning"

Matthew Baldwin, EU Road Safety Coordinator, European Commission
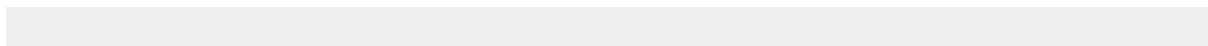
Electric Mobility
Newsletter

Issue 2 | October 2019

The Generation Game: How Do We Help the Business Models for Electric Mobility and Green Energy Work Together?

With electric vehicle technologies, ownership and use growing strongly in our societies – across bikes, cars, buses, trams, and trains – we need to start preparing our energy systems and transport infrastructure for this new urban mobility future. For our 2nd newsletter, we talked to Arno Schoevaars whose team is leading our work on business models for GreenCharge. Here's what he's had to say...

Since we commenced GreenCharge in October 2018, we have been working to develop initial business cases for

individual stakeholder vary and need to be recognised. We are researching and testing these concepts through

consumers - and those who both provide and consume energy (as prosumers) - as well as removing

Power to the practitioner: the value of guidance and advice

Every year, more and more advice is issued directed at practitioners to improve the way they (you) work and are able to make effective decisions. This year has been no exception. In this newsletter, we profile some of the latest mobility guidance, as well as the value of the projects and networks that help these publications gradually get into the mindsets of those working in mobility, and ultimately affect the streets and transport services we use and see before us.

Read the GreenCharge project newsletter »

Trending

Urban mobility: the voice of citizens in Zurich

In Zurich (Switzerland), citizens are not only regularly involved in the mobility planning process but they, in many ways, guide the decisions that are made by the local authority and subsequently the path the City is taking. Learn more about how citizens' voices guide mobility in Zurich in this video.

Watch now »
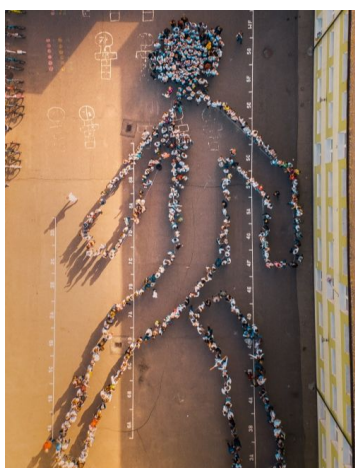
Increased participation leads to new EUROPEAN MOBILITY WEEK record

A record-breaking 3,135 towns and cities from 50 countries took part in this year's edition of **EUROPEANMOBILITYWEEK** - the European Commission's flagship campaign promoting clean and sustainable urban transport. The focus of this year's campaign was safe walking and cycling.

Read more »

Second edition of EU SUMP guidelines launched at CIVITAS Forum 2019

An all-important update to the first edition from 2013, the document was launched at the **CIVITAS Forum 2019** in Graz (Austria). The

visions for dynamic, modern, and liveable cities.

Read more »

Local authorities turn to innovative methods to reduce emissions

Local authorities are using procurement and mobility sharing to reduce emissions. **Guidelines** were released on cities procuring zero emission delivery of goods and services; and a recent **Car Sharing Campout** brought cities, researchers and organisations together to tackle car-sharing programme challenges, and to promote new ways to reduce private car ownership.

___

Spotlight: guidance for EU cycling projects

Which cycling solution is right for your city?

The European Commission has recently made available guidance on implementing cycling measures in European towns and cities. Drawing from EC-funded projects,

problems, and planning for cycling in urban areas.

Read more »

Electrifying cities: approaching a business case for shared mobility

Learn more about how business models for electric mobility are being developed and tested in Oslo (Norway), Bremen (Germany) and Barcelona (Spain).

Read more »

Turning Turin around: from motor city to striving toward sustainability

As the home of Fiat, Turin was long known as Italy's motor city. Now it's making its mobility name in a different way, with its SUMP sitting at the heart of this transformation. In this video, learn more about how Turin is driving this change toward sustainability.

Watch now »

Tools and activities needed to share cycling knowledge and good practice explored at Dublin's Velo-city 2019

Read more »

___

Three Good Reads

Owning a car will soon be as quaint as owning a horse

Kara Swisher, The New York Times (22 March 2019)

[**Web article**]

How Utrecht became a paradise for cyclists

Laura Bliss, City Lab (5 July 2019)

[**Web article**]

'It's a superpower': how walking makes us healthier, happier and brainier

Amy Fleming, The Guardian (28 July 2019)

Informed Cities Forum

The Informed Cities Forum convenes local governments, researchers, policy makers, bottom-up sustainability initiatives, activists, entrepreneurs, and civil society to discuss Europe's most pressing sustainability issues. Here's the latest news about the Informed Cities Forum!

Looking back:
7th Informed Cities Forum

Last week, the 7th Informed Cities Forum took place, exploring the topic of urban regeneration, with a particular focus on Praga, a rapidly changing district of Warsaw (Poland). The event offered participants vibrant discussions, diverse workshops, practical tools and expert advice on how to empower communities by re-inventing the role of heritage.

Read more »

social media

 Facebook   Twitter   Informed Cities Website

Informed Cities is an initiative by **ICLEI – Local Governments for Sustainability** to share and discuss activities and results of governance and social innovation research among local governments and a variety of other stakeholders across Europe. Informed Cities publishes this newsletter and organizes the Informed Cities Forum conferences.

This edition of the Informed Cities newsletter is published in cooperation with the **GreenCharge project**. GreenCharge receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016. The content of this publication does not necessarily reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).

Find GreenCharge on Twitter and LinkedIn!

imprint

ICLEI - Local Governments for Sustainability
European Secretariat
Leopoldring 3, 79098 Freiburg, Germany

Email: **newsletter@informedcities.eu**

Read our Data Privacy Policy **here**. You can also update your subscription preferences and unsubscribe from the Informed Cities Newsletter at any time through the links at the bottom of the newsletter.

Ⓕ Share   🐦 Tweet

A. Appendix A
3. Third GreenCharge and Informed Cities Newsletter

Electric Mobility
Newsletter

Issue 3 | March 2020

How can we effectively measure the effects of greener electric vehicle charging systems?

GreenCharge tests charging systems that are greener and balanced with available local energy supply. But what are the key performance indicators that help us judge whether we are successful or not? For our 3rd newsletter, we talked to Beniamino Di Martino whose team is leading our work on evaluation for GreenCharge. Here's what he's had to say...

Evaluating the impact of GreenCharge against the various "dimensions" of the "Universe" of "Smart and Sustainable Cities" is crucial for assessing its success. GreenCharge innovations are being evaluated in practical trials in Barcelona, Bremen and Oslo. Together, these trials cover a wide variety of "dimensions", including: vehicle type, ownership model, charging location, energy source, and management and charging support systems.

To evaluate GreenCharge, we collect research data in three complementary ways: automated data collection by software running at our trials, data on stakeholders' opinions collected through surveys, and data from simulation techniques.

Together, more than 20 environmental, social, economic and operational KPIs – Key Performance Indicators – have been defined, informed by guidelines of the CIVITAS Evaluation Framework. These input into evaluation, suggesting different approaches for the realisation and of innovations in GreenCharge.

In the following pages of this newsletter, we try to explain "simulation", one of the more technical aspects. This is a computer based technique which extends the "real Universe" of the three Pilot Cities within a "virtual universe" where several dimensions can be virtually changed (e.g. number and type of electric vehicles, number of charging points). It allows us to study scenarios that cannot easily be demonstrated in real life, without constraints such as lack of time or data, with the increased use of local renewable energy and energy storage, as well as extensive use of the batteries in connected vehicles as an energy source when the vehicles are not needed ("Vehicle to Grid").

In a practical example, simulation enables us to optimise the use of renewables (e.g. shifting the timing of appliance use – e.g. washing machines, dish washers - and EVs recharging). But how can this work in practice?

At a simple level, can this happen now? Household appliances can be made "smart" by the provision of a simple plug; this was achieved in the COSSMIC project which preceded GreenCharge. In due course, integrated smart households will greatly expand the potential of household energy management, but our GreenCharge research will help us understand to what extent consumers are currently willing to accept such levels of management.

Decision-makers can also benefit from "smart visualisation" of KPIs such as the share of the total energy consumption that is locally produced (green). This influences one of GreenCharge's most important outcome indicators, CO_2 reduction. Through our approaches we hope decision makers will be persuaded to see green energy as a real option for EVs to be charged and managed alongside other local energy needs.

Keep in touch with GreenCharge for further information.
Beniamino Di Martino,
University of
Campania Luigi Vanvitelli

www.informedcities.eu

Testing the demands of an energy-smart society

Sounds complicated, right?

Well, simulation – or using computers to help test, or model, different solutions or situations – is a methodology developed by GreenCharge for the evaluation of proposed new charging technologies. Rocco Aversa and Salvatore Venticinque from the University of Campania Luigi Vanvitelli tell us more on the following pages.

In particular, simulation allows us to imagine GreenCharge innovations being implemented in larger and more diverse neighbourhoods, which manage energy in a "smart" way.

Simulation allows the following options to be tested:

Increases in scale:
- Increased number of connected infrastructures (e.g. more charging points or renewable energy inputs)
- Increased number of active participants (e.g. people wanting to charge cars, scooters, bikes etc.)

More elaborate technology configurations:
- Wider diversity of technologies
- Increased availability of infrastructure

Better data availability:
- Easier interoperability between parts of the system
- More integrated data systems catering for privacy demands
- A greater level of time, budget and effort to analyse and connect data

Greater availability of emergent technologies:
- For example, Vehicle to Grid technologies that are supported by a wider range of e-cars and charge points
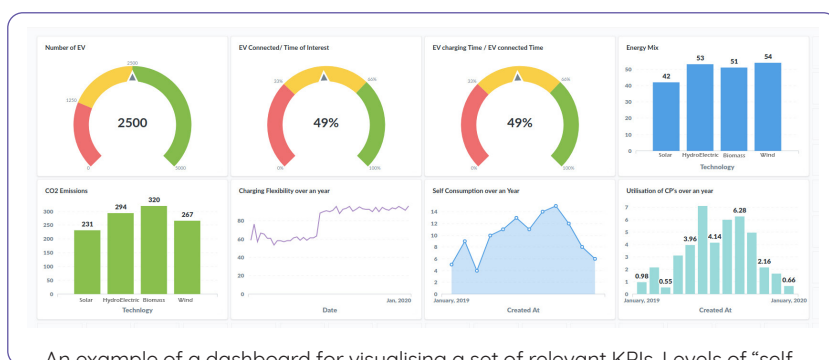
An example of a dashboard for visualising a set of relevant KPIs. Levels of "self-consumption", for example, can be visualised - the amount of energy produced locally that is consumed locally.
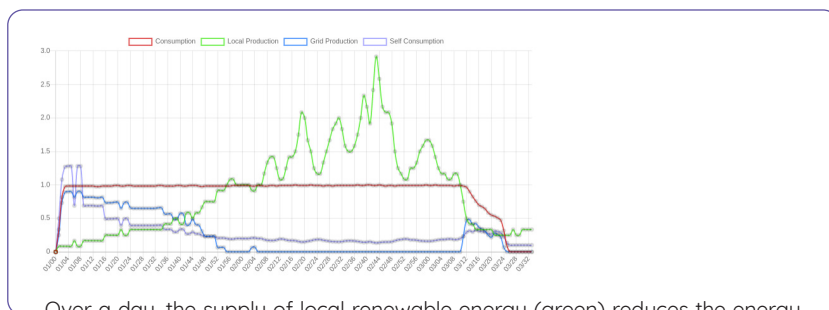
Over a day, the supply of local renewable energy (green) reduces the energy supply required from the grid (mid-blue). This can be stored for later use (e.g. overnight charging).
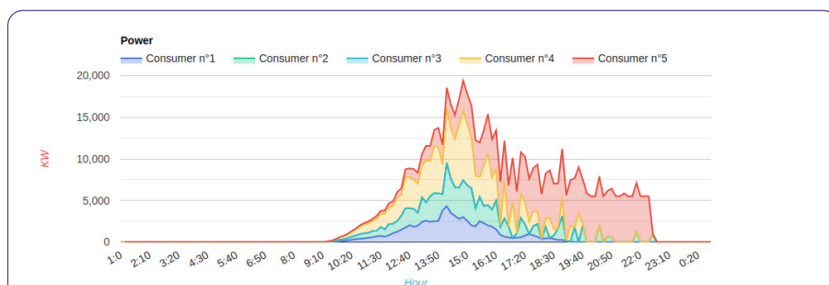
Consumers of energy in households cumulatively have a large impact on peaks of energy demand: smart neighbourhood management can help with this

Testing the demands of an energy-smart society

Simulation is allowing GreenCharge to evaluate specific combinations of charging and energy generation during the design stage, when the return on investment, or the capacity and positioning of new charging stations (as well as the acquisition of new e-vehicles), needs to be predicted.

But what is an energy-smart neighbourhood?

This means that the generation and use of electricity is balanced, not only within an individual household, but across a number of homes sharing the same main electricity grid supply. Demand for energy from uses such as vehicle charging is moderated, so that maximum use is made of renewable energy according to energy need, and demand on the grid is kept within practical limits, both within a household and across households (as shown in the picture below).
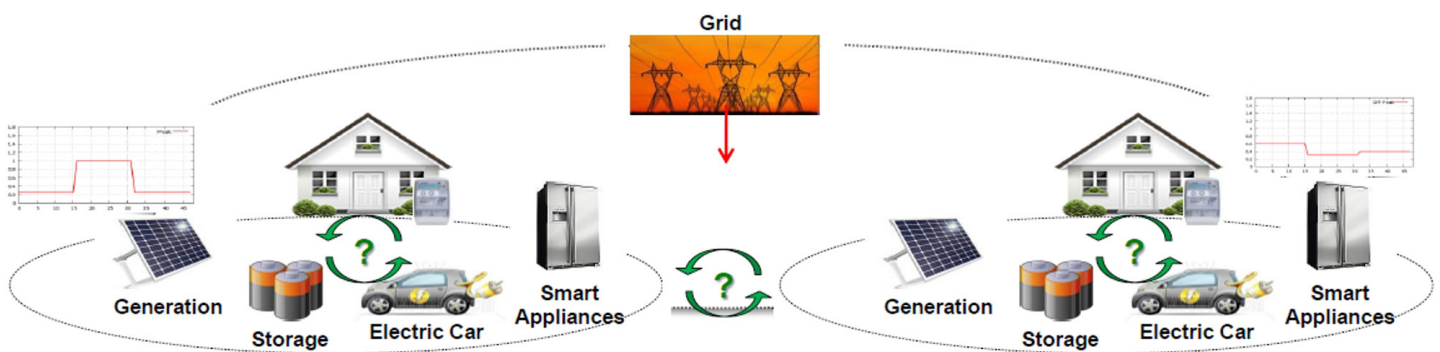
The GreenCharge system has been designed to simulate an Energy Smart Neighbourhood, computing the best time to switch-on smart devices, or to charge batteries or electric vehicles.

So, through using a simulation it is possible to configure when energy consuming devices (such as a washing machine, dishwasher, etc.) use energy to coincide with availability from energy producing or storage devices (e.g. solar panel and battery). A user, in this case the home owner, can set parameters such as an Earliest Start Time and a Latest Finish Time – to make sure the dishes are done, the clothes are washed, and the vehicle charged, but not necessarily all done at the same time, but still ready when needed.

Note: The GreenCharge simulator, extends a simulation tool developed by a previous FP7 project (CoSSMic).
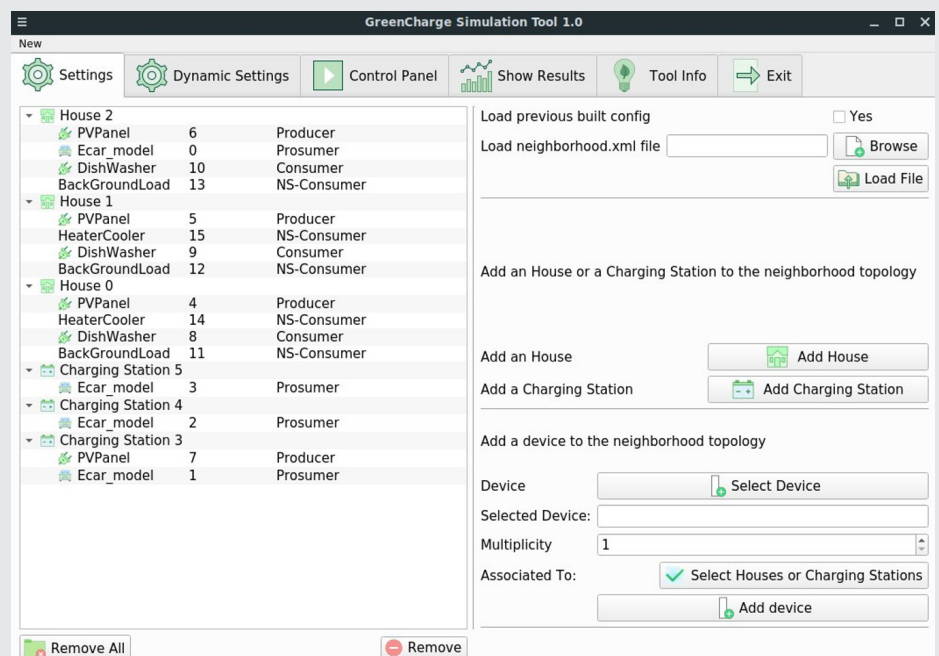
GreenCharge Uptake Cities – What's up in Budapest and Donostia / San Sebastian?

Up to 12 Uptake Cities will learn from the three pilot GreenChargecities, through site visits and an advanced webinar programme. **We have one space left in the programme-if you would like to join us, contact us today**. In this issue we hear about electric vehicle strategies from our friends in Budapest and Donostia / San Sebastian.

Budapest – Rapid revolutions in electric mobility

Budapest's first Sustainable Urban Mobility Plan (SUMP) was developed by the City's transport authority, BKK Centre for Budapest Transport, and approved by the Municipality in May 2019.

Budapest's approach to e-mobility recognises that electric vehicles still result in cars on their streets and the requirement for car parking spaces. Therefore, as opposed to swapping all traditional cars, which use internal combustion engines, with electric vehicles, they plan to enhance the city's public transport system, where the share of electric trips is already around 66 percent.

The refurbishment of the M3 metro line, line extensions to the tramway system, and the purchase of new tram and trolleybus vehicles increases the efficiency of the public transport system. The use of new technologies allows for the recuperation of the braking energy, electricity savings, and extended wireless trolleybus running. In the current bus fleet (c. 1500 vehicles), Budapest runs 19 fully electric buses, as well as 40 diesel-electric hybrids.

In the greater region of Budapest, there are currently around 8,000 electric cars (representing c. 1 percent share), out of which more than 50 percent are fully electric, and the remainder hybrid. They can be charged at 280 public charging points in the city, out of which 30 are fast chargers. There are currently 51 electric taxis in the city and three carsharing companies operating 450 fully electric vehicles.

The national e-mobility strategy (Jedlik ÁnyosPlan), was approved in 2015 and updated in 2019. It introduced the green licence plate for electric vehicles and several discounts, such as financial support for the purchase of e-vehicles and exemptions from registration and company car tax. Municipalities introduced free parking for vehicles equipped with green licence plates in the charged parking zones to support e-mobility. As this sector is rapidly growing, further regulations and subsidies will come in the near future.

Image: City of Budapest

GreenCharge Uptake Cities – What's up in Budapest and Donostia / San Sebastian?

Donostia / San Sebastian – catering for urban transport needs and setting an example

The City of San Sebastian first started working with electric mobility in 2007. Since then, the City introduced hybrid public transport vehicles in 2011, Europe's first public, 100 percent e-bike hire fleet in 2013, and electric buses in 2014. The City now has 50 charging sockets, across 20 charging point locations, including 4 fast charging locations. Further expansion to the network is upcoming.

The city of Donostia / San Sebastian is taking a two-pronged approach toward e-mobility, focusing on charging infrastructure and the promotion of electric vehicles.

A network of charging points is being deployed in order to cater for the demand for public recharging by both citizens and visitors. For those sectors in which the use of vehicles is unavoidable, electric vehicles are promising short-term solution to reduce urban emissions.

The deployment of electric vehicles undoubtedly requires efficient coordination with the other actors and systems involved in urban mobility, so that their integration affects the urban space as little as possible, while maintaining the strategies envisaged in the sustainable urban mobility plan (SUMP) with regard to the rational use of the private vehicle.

At the same time, the City's municipal offices are gradually renewing their fleets of vehicles, both for public transport and internal services, with clean vehicles. This is done in order to set an example, illustrating that alternative energies are a reality and capable of meeting the daily needs of the city.

Image City of Donostia / San Sebastian

World News

Urban Mobility Planning

New Electrification SUMP guide

The SUMPs-Up project has published its final recommendations, including a specific topic guide on electrification.
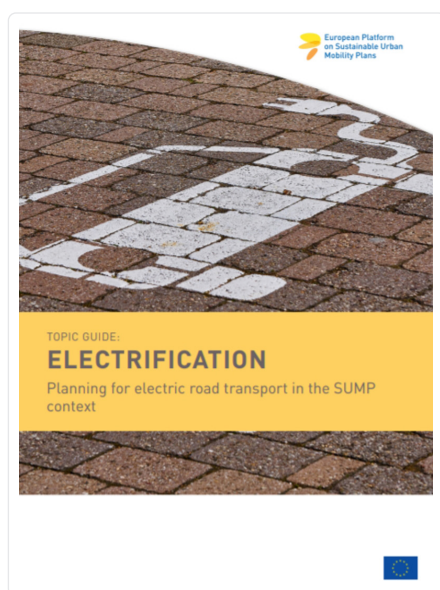
Read more at:
www.sumps-up.eu/fileadmin/user_upload/Tools_and_Resources/Publications_and_reports/Topic_Guides/electrification_planning_for_electric_road_transport_in_the_sump_context.pdf

Edinburgh launches its range of public hire ebikes

Edinburgh becomes the latest Scottish city to introduce electric bikes as part of its hire bike range, alongside those already in Stirling and Glasgow.
Read more at:
www.edinburghnews.scotsman.com/news/transport/e-bikes-arrive-edinburgh-just-eat-bike-scheme-extended-2018781

Technology

Is battery swapping the future for electric scooters?

1,000 "GoStations" have been introduced across Taiwan.
Read more at:
https://electrek.co/2019/09/23/check-out-gogoros-giant-new-battery-swap-stations-for-its-electric-scooters

What's thefuture for urban air mobility?

New flying electric-powered vehicles are being tested across Europe.
Read more at:
www.theguardian.com/world/2020/mar/07/are-flying-taxis-ready-for-lift-off

Bus batteries with an afterlife

Gothenburg (Sweden) is already finding uses for bus batteries once they have reached the end of their useful capacity for public transport vehicles –powering services in residential buildings.
Read more at:
www.themayor.eu/en/repurposed-e-bus-batteries-supply-gothenburg-homes-with-energy

Can electric vehicles actually charge each other?

A patented e-bike energy transfer technology has been developed.
Read more at:
https://medium.com/zoov/zoov-ebike-sharing-service-introduces-the-first-patented-inter-bike-energy-transfer-technology-at-6c252b97539c

"The revolution in cycling has hit the streets of Edinburgh as a brand new fleet of e-bikes was launched."
Edinburgh Evening News, March 2020

Image: Just Eat Cycles

World News

Electric Vehicle Markets

What could the road ahead for e-mobility be?
A new report looks at recent progress and future trends to assess car and vehicle manufacturer readiness.
Read more at:
www.mckinsey.com/industries/automotive-and-assembly/our-insights/the-road-ahead-for-e-mobility

E-bikes lead the way
300 million electric bikes expected to be on the streets by 2023.
Read more at:
www.caranddriver.com/news/a30364809/electric-bikes-future

Are second-hand sales the way to a "just" electric mobile society?
While electric cars are expensive, accelerating the second hand market may be a way to ensure the poorest in society also have access to clean vehicles.
Read more at:
https://greenallianceblog.org.uk/2019/11/12/electric-mobility-should-benefit-the-poorest-in-our-society

GreenCharge Publications

Looking for more information on electric mobility planning?
Then check out the GreenCharge website for all our latest publications. Updated on a continuous basis.
www.greencharge2020.eu/deliverables

EVs and the Environment

How quickly are cities progressing to renewable energy?
Renewables in Cities 2019 Global Status Report reviews the actions that cities are taking across policy, markets, business models and participation.
Read more at:
www.ren21.net/reports/cities-global-status-report

How can dockless scooter contractors be encouraged to charge with green energy?
Lime offers chargers a $160 clean energy credit when they sign up, which will be deducted from their electric bill.
Read more at:
www.citylab.com/environment/2019/09/lime-electric-scooter-clean-energy-battery-climate-change/598759

How do different electric transport modes compare with combustion-engine vehicles?
Studies and data don't always tell the same story, but the importance of management and maintenance alongside the direct use of vehicles is highlighted here.
Read more at:
https://travelandmobility.tech/infographics/carbon-emissions-by-transport-type/#15906

Related Projects and Resources

CleanMobilEnergy
CleanMobilEnergy is an ongoing project and part of the Interreg programme. It focuses on developing a smart energy management system integrating renewable energy and electric vehicles.
"*CleanMobilEnergy will make it possible for renewable energy sources to be used locally, so electric vehicles can be charged with 100% renewable energy offered at an optimum price.*"
Information on the four pilot sites including videos are available from: www.nweurope.eu/projects/project-search/cleanmobilenergy-clean-mobility-and-energy-for-cities

GreenCharge Newsbits

Bremen and Sorrento project meetings held in October 2019 and February 2020
The Bremen meeting included a visit to Bremen's pilot sites, while a special meeting in Sorrento (Italy) represented GreenCharge's mid-point and a chance to review progress and focus areas.

Formal launch of GreenCharge pilot in Oslo
The first electric vehicles were connected to the pilot smart charging system at the pilot site at Røverkollen. This was attended by users, the Mayor of Oslo and GreenCharge representatives.
Read more at:
https://twitter.com/GreenCharge2020/status/1219938572003958789

In Brief

Tell us your innovation news

GreenCharge has set up a new way for you to engage with the project and tell us your innovation news. What new electric vehicle solutions or services have you seen, that might be of use to make green energy for electric vehicles more effective and efficient? Please tell us using our simple form at:

www.greencharge2020.eu/innovation

Sharing Innovation in Electric Mobility

GreenCharge would like to hear from you if you have **news or innovation** to share related to electric mobility and green energy. This short form allows you to provide information to the project's Innovation Management team.

This data is collected by GreenCharge partner ICLEI Europe and will be shared with GreenCharge partners for the purposes of innovation management, including discussion in public forums and deliverables (aside from individual data under "About You", and unless opted out under "Confidentiality of Innovation").

This form will be active for the duration of the GreenCharge project (until August 2021) and submissions regularly picked up and reviewed by the GreenCharge Innovation Manager.

You can find out more about GreenCharge on our main website.

GREEN CHARGE

This form is managed with JotForm with whom ICLEI has a data processing agreement a requirement under the General Data Protection Regulation (GDPR). By submitting your data, you agree to your data being used and stored in accordance with these regulations and ICLEI Europe's privacy and data protection policies alongside the GreenCharge Data Management Plan. For any questions, please contact us.

Title/name/subject of innovation or project
*

Short description of innovation or project

e.g. one paragraph

GreenCharge Diary

Smart and Sustainable Mobility workshop in Caserta, Italy
April 2020 (TBC)

GreenCharge at the European EV Charging Summit
May 2020

Project Meeting and Uptake Cities Visit in Oslo
June 2020

Uptake Cities Visit in Barcelona
September 2020

Keep an eye on our website for other public electric mobility-related conferences and events:
www.greencharge2020.eu

News to share?
Contact us or share it with us on Twitter
@ GreenCharge2020

Image: Fotolia

Feature Photo

Image: City of Oslo

GreenCharge pilot site launch in Oslo, with address from the Mayor of Olso, Raymond Johansen

---

Puzzled ???

Can you name each step in the simulation process?
Match the labels to the workflow!

1 ....

4 ....

5 ....

8 ....

2 ....

3 ....

6 ....

7

LABELS:
- Discrete Event
- KPIs Evaluation
- Learning
- Load Management System
- Metering
- Open Archives
- Research Data
- Simulation Models
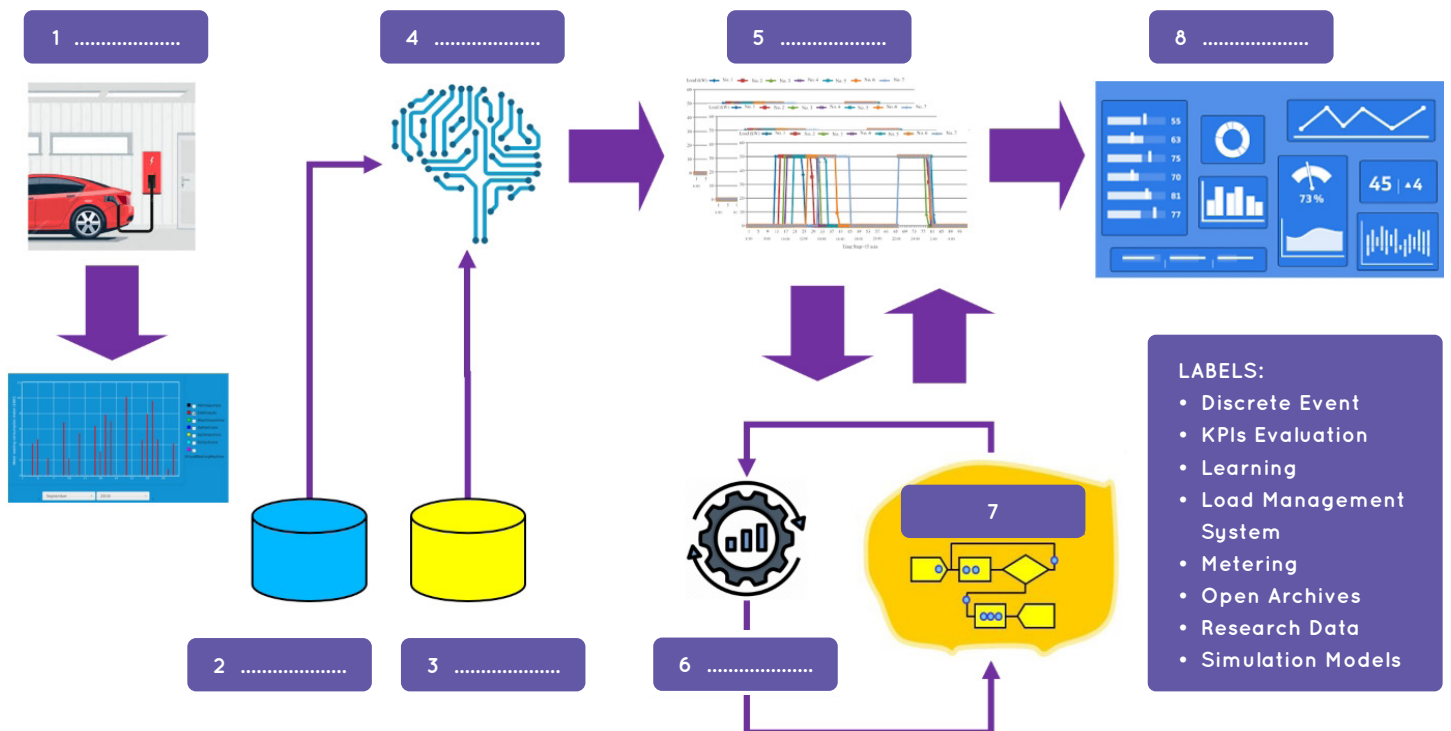
The answer to the last newsletter's "REEFANTIC" conundrum was...
Thanks to all who took part.

I N T E R F A C E

Who are We?

Missed a copy?
See our previous newsletters at:
www.greencharge2020.eu/newsletters

Issue 1:
Introduction to Pilots

Issue 2:
Business Models

Project Partners

SINTEF
Coordinator

eSmart SYSTEMS

HUBJECT

PNO

I.C.L.E.I Local Governments for Sustainability

motil

pmc» personal mobility center

Fortum charge & drive

V: Università degli Studi della Campania Luigi Vanvitelli — Scuola Politecnica e delle Scienze di Base Dipartimento di Ingegneria

UiO : University of Oslo

Freie Hansestadt Bremen

ZET.Link

ATLANTIS TRACKING YOUR WORLD

eurecat

enchufing

Interested in finding news from our technical partners?
Check out their news pages:
ATLANTIS | ESMART | EURECAT | FORTUM | HUBJECT
ICLEI | OSLO UNI | PNO | SINTEF

CIVITAS
Cleaner and better transport in cities

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016

informed cities

www.informedcities.eu

Twitter: **GreenCharge2020**
Linkedin: **GreenCharge Project**
Email: **info@greencharge2020.eu**

🌐 **www.greencharge2020.eu**

GREEN CHARGE

In our next newsletter (published through Informed Cities):
Due Autumn 2020!
Previous copies at: www.greencharge2020.eu/newsletters

Received this from a friend? Sign up on our website.

informed cities,

newsletter   March 2020

"Green and efficient mobility offers one long-term hope for economic and social recovery"
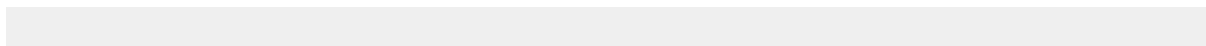
Reggie Tricker - Officer, Governance and Social Innovation, ICLEI Europe

Electric Mobility
Newsletter

BACK PAGE

Issue 3 | March 2020

How can we effectively measure the effects of greener electric vehicle charging systems?

GreenCharge tests charging systems that are greener and balanced with available local energy supply. But what are the key performance indicators that help us judge whether we are successful or not? For our 3rd newsletter, we talked to Beniamino Di Martino whose team is leading our work on evaluation for GreenCharge. Here's what he's had to say...

Evaluating the impact of GreenCharge against the various "dimensions" of the "Universe" of "Smart and

extends the "real Universe" of the three Pilot Cities within a "virtual universe" where several

Decision-makers can also benefit from "smart visualisation" of KPIs such as the share of the total energy

What we measure gets managed

Whilst much of our focus currently lies on making adaptions to our immediate ways of life, **EU leaders** have recognised the continued need to ensure that we emerge from current troubled times with a strong economic, social and environmental outlook. As our work continues, we profile work that will help meet these aims. It is now more important than ever that future investments in our transport systems give positive future prospects, supporting growth and employment in the green economy, reducing pressure on our energy systems, and improving the future lives of everyone.

Read the GreenCharge project newsletter »

Trending

Co-creation in Bremen: managing conflicts over street space

Excessive car-parking has been for years one of the main mobility challenges in residential streets in Hulsberg, Bremen (Germany). Cars have taken a considerable part of the narrow streets, including sidewalks in some cases. Watch this video to learn more about how the City is working to solve this problem.

Watch now »

European Commission announces sustainable mobility award nominees

The finalists of the EUROPEAN**MOBILITY**WEEK Awards, the Award for Sustainable Urban Mobility Planning (SUMP Award) and the first EU Urban Road Safety Award were recently revealed by the European Commission.

Read more »

Oslo's Governing Mayor launches new e-mobility initiative

Earlier this year, Oslo's Governing Mayor Raymond Johansen launched a new e-mobility

Read more »

Staff at the City of Ghent are travelling more sustainably

As of February 2020, the staff of the City of Ghent will travel more sustainably. In other words, municipal staff will travel by train to destinations that are one working day (or less) away from the city. For destinations that require more travelling hours, staff members can choose between taking the (night) train or travelling by plane.

Read more »

Spotlight: new SUMP self-assessment tool launched

SUMP.

A new Sustainable Urban Mobility Plan (SUMP) self-assessment tool has just been launched to provide cities with support and guidance in developing and evaluating their SUMPs. By answering custom-made questions, local authorities can assess how their current urban mobility plan compares with the SUMP approach. Individual feedback is given to help identify potential areas of improvement, to determine areas that are already aligned with SUMP principles, and to provide specific measures on how to advance the process.

Read more »

Helsinki reports zero cycling fatalities in 2019

In 2019, no pedestrians or cyclists were killed as a result of traffic collisions on the streets of Helsinki. The Finnish capital cited speed reductions as being essential to achieving this landmark result.

Read more »

Implementation of a Clean Air Zone in Birmingham's City Centre Green Travel District

Birmingham

Good Practice Factsheet

New fact sheets from across Europe share best practice knowledge on Sustainable Urban Mobility Planning

A new series of fact sheets chronicling good practice examples of measures, instruments and planning procedures related to SUMPs are now available. The fact sheets draw on the expereinces of Birmingham (United Kingdom), Budapest (Hungary), Malmö (Sweden), Donostia-San Sebastian (Spain), Sofia (Bulgaria), Thessaloniki (Greece), and Turin (Italy).

Read the fact sheets »

From 29 September to 1 October 2020, the European Commission will host its first Urban Mobility Days conference in Brussels (Belgium) on the theme of "Zero-emission mobility for all".

Read more »

Three Good Reads

Vienna's cultural approach to going car-free
Feargus O'Sullivan, City Lab (29 January 2020)

[**Web article**]

How a Belgian port city inspired Birmingham's car-free ambitions
Carlton Reid, The Guardian (20 January 2020)

[**Web article**]

EU cities need to do more to develop sustainable mobility, claims auditors
Sam Mehmet, Intelligent Transport (5 March 2020)

[**Web article**]

8th Informed Cities Forum Cancelled

Due to the escalating public health crisis in Europe, the Informed Cities team regrets to inform you that we have **cancelled the 8th Informed Cities Forum**, scheduled to take place on 2-3 April 2020 in Lucca, Italy. Instead, we will have a webinar with Carolyn Steel, who was scheduled to give a keynote address at the Forum. More information below.

Webinar with Carolyn Steel

Join us for this Informed Cities webinar (Apr 2, 2020, 1:30 PM-3:00 PM CEST) with author Carolyn Steel, who will discuss "Sitopia: rethinking our lives through food", and share her perspectives on rural-urban linkages, sustainable food systems, and COVID-19's new and ever evolving contributions to the dialogue.

Register here »

---

social media

f Facebook   **🐦** Twitter   **🔗** Informed Cities Website

Informed Cities is an initiative by **ICLEI – Local Governments for Sustainability** to share and discuss activities and results of governance and social innovation research among local governments and a variety of other stakeholders across Europe. Informed Cities publishes this newsletter and organizes the Informed Cities Forum conferences.

This edition of the Informed Cities newsletter is published in cooperation with the **GreenCharge project**. GreenCharge receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016. The content of this publication does not necessarily reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).

Find GreenCharge on Twitter and LinkedIn!

GREEN CHARGE

ICLEI - Local Governments for Sustainability
European Secretariat
Leopoldring 3, 79098 Freiburg, Germany

Email: **newsletter@informedcities.eu**

Read our Data Privacy Policy **here**. You can also update your subscription preferences and unsubscribe from the Informed
Cities Newsletter at any time through the links at the bottom of the newsletter.

ⓕ Share   🐦 Tweet

A. Appendix A

4. Fourth GreenCharge and Informed Cities Newsletter

GREEN CHARGE

Electric Mobility
Newsletter

Issue 4 | September 2020

This edition we take a roam around the world of EV charging and how we can make it work together across Europe

For our 4th newsletter, we talked to Jürgen Werneke and Arjun Subramanian from Hubject, one of the world leaders in EV charging roaming and partner in GreenCharge

Why is roaming important?
Roaming offers EV drivers the option to charge their vehicles at all charging stations – regardless of any contracts with specific charging point operators. The billing occurs subsequently via the customer's own contractual partner.

What is the current state of charging point access?
Modern and well-functioning information and communication technologies (ICT) play an important role in electric mobility, and are therefore the prerequisite for a functioning overall electric mobility system. They control all important functions in the electric vehicle and form the basis for its integration into intelligent energy and transport systems, which often includes a customer smartphone app.

However, today's charging process (which connects charging points to the vehicles) is not as user friendly as it should be, and the exchange from RFID cards and apps to initiate charging via protocols and other technologies opens up potential security issues creating a need to ensure against vulnerability to hacking.

What will the future hold?
International standards form an important part of electric mobility governance, and help to ensure systems are compatible across nations and operators. ISO 15118 is one of these, and deals with "vehicle to grid" communication interfaces in road vehicles. Updated in 2019, it is considered to provide a game-changing technology for intuitive and secure charging. Based on IT-certificates installed in cars and charging stations, machines can communicate autonomously, seamlessly and securely. This means a shift towards disruptive charging concepts, such as bi-directional or inductive charging processes.

How is enhanced ICT being implemented in GreenCharge?
To understand the role of ICT in GreenCharge a brief description of some of the apps and tech used in the different pilot sites is given on the following pages.

Keep in touch with GreenCharge for further information.

The future charging process should be fully automated without any manual interaction, beside plugging in the cable.

electric

2020 CiViTAS
Cleaner and better transport in cities

informed cities

www.informedcities.eu

Electric Vehicle Roaming in GreenCharge

The various players within the electric mobility market are connected via a business and IT platform. In the case of GreenCharge, this is provided by our partner Hubject, who works alongside other GreenCharge and market partners.

In the past, the following scenarios would have only been a vision of what future mobility might look like. But today, thanks to the advancements of technology and software capabilities, all of them are a reality and in the very near future can help create greener and more sustainable systems of transport. GreenCharge's pilot projects in this area are summarised below.

Barcelona

In Barcelona, a number of different ICT approaches are being piloted to deal with different modes of transport in experiments in and around the city.

GreenCharge partner Eurecat is developing **an app for the booking** of car charging points along with collecting some inputs for smart charging such as the initial state of charge (how much energy is currently in the vehicle) and required amount of charge (how much extra energy is required from the charging process). The app also guides the user to the charging point and provides the status/progress of the charging session. This app is intended to be piloted by the employees of Eurecat for their electric cars.

Furthermore, GreenCharge partner Atlantis is developing is developing an app for a **bike sharing** service (pictured). Information including the location of the bike, the state of charge, route history and directions to a charging station are available on the app.

Similarly, an app is being developed for an **electric scooter sharing service** by GreenCharge partner Motit.

Image: Enchufing
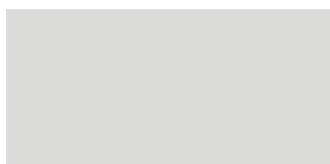
Electric Vehicle Roaming in GreenCharge

Oslo

In Oslo, the GreenCharge demonstration sites are heavily dependent on the development and integration of technology for their operational performance and accessibility by their customers.

In Oslo's **energy smart neighbourhood** demonstration, energy produced from photovoltaic cells is stored in batteries and transferred via a smart battery management system to charge vehicles parked in 4 storey residential parking garage. This requires the involvement of many software systems provided by the GreenCharge partners: the new GreenCharge charging app developed and delivered by ZET, the energy management system provided by eSmart and the charging management system provided by Fortum and the sub-supplier OneCo). This indicates the technical and stakeholder complexity in getting a relatively small smart charging system up and running.

Semi fast chargers on an adjacent site are being put in place in an accessible **visitor outdoor location** to demonstrate energy sharing in a neighbourhood and the convenience of eRoaming to visitors driving to the site. Fortum's and Hubject's software systems are involved in this demonstration, alongside an app developed by ZET.

Bremen

The pilot site in Bremen consists of a variety of charging stations addressing different types of users and different types of environment (e.g. residential, workplace). These stations allow **car sharing** between users not owning a car, including catering for sporadic **usage in the combination with public transport** and to commuters travelling/charging at work on a regular basis.

Charging stations are either integrated in the grid of local electric utility company or are part of the local grid in a district area. The software and technology providers for the demonstrators in Bremen are GreenCharge partners ZET (providing car sharing services and software) and PMC (providing workplace charging systems).

GreenCharge Uptake Cities – What's up in Burgas and Thessaloniki?

Up to 12 Uptake Cities will learn from the three pilot GreenCharge cities, through site visits and an advanced webinar programme. The included cities are still at early stages of their electric mobility journey, who seek to learn from our GreenCharge pilots and demonstrations. In this issue we hear about electric vehicle strategies from our friends in Burgas in Bulgaria and Thessaloniki in Greece.

Burgas – Getting Rolling with Light Electric Vehicles

Mobility is of crucial importance to the development of the city of Burgas. With its harbour, airport, railway, roadway, and connection to the Trans-European-Network for Transport (TEN-T), it is considered to be an intermodal transport hub.

Burgas began improving its urban transport system in 2010 - renewing its bus fleet, introducing bus rapid transport (BRT) lanes, renovating road infrastructure and bus stations.

The first activity undertaken by the City was to ensure the presence of all necessary infrastructure. The City has also started looking to the futue, and is constantly searching for new opportunities to build upon and upgrade their achievements, making them greener and smarter. During the last few years, the City has deployed considerable efforts in order to enhance e-mobility, including:

- EV-charging stations – there are 3 EV charging stations at Municipal parking lots and 8 private charging stations at shopping centres and other communicative public places. A private operator will install 50 EV charging stations by the end of the year.

- E-vehicles for the needs of the Municipality – the City is progressively trying to replace conventional municipal vehicles with electric vehicles. At the moment, 2 e-scooters, 4 e-vans and 4 e-vehicles have been added to the municipal fleet.

- 56 electric buses will be purchased by the beginning of next year and introduced in the urban transport bus fleet.

A shared rent a bike system was created in 2015. 20 e-bikes were introduced in 2017 with 26 charging points for e-bikes at 10 charging stations, in total, there are 120 bicycles across all 14 stations. The network of bike lanes within the city has reached 62 km.

Electric bike hire station.
Image: City of Burgas

GreenCharge Uptake Cities – What's up in Burgas and Thessaloniki?

Thessaloniki – Building on a New Metro System

Thessaloniki looks to data to help the City and its partners, such as the central government, as well as other local authorities, define the parameters of the e-mobility sector. For example, infrastructure for Battery Electric Vehicles (BEV) should be supported by a detailed route-by-route analysis of vehicle use in order to properly understand the requirements to ensure continuous operation (such as depot provision and on-street charging).

According to recent research, the use of electric buses for public transportation in the city has led to the need for 50 to 100 new standard (12m) BEVs. As part of the investigation of locations for the 12m buses, the research has also highlighted the opportunity to introduce Articulated (18m) Electric Vehicles on some routes. These vehicles can take advantage of the fast charging infrastructure that is provided at the termini used for the 12m buses. Such innovations will continue to be explored.

The municipality of Thessaloniki has recently approved the procurement of 50 e-vehicles. These will serve the needs of the Directorate of Recycling and Municipal Waste Management as well as the Municipal Police.

A crucial aspect in Thessaloniki is the operation of the metro (subway) system within the coming years. This is expected to lead to changes in the operational patterns of buses. For this reason, the BEV assessment for buses has been focussed on those routes where there is no obvious overlap with impacts from the use of the metro. A proper incorporation of data will inform the distribution of locations for installing fast charging systems.

Impression of Metro.
Image: City of Thessaloniki

Online EV seminars
- EU Projects

2020 has witnessed a strong growth in online seminars for electric mobility. In a change to our usual news review, and as part of our innovation management activities, we keep an eye on these. In this special edition, we pick out a few of the best sources of knowledge in recent recordings in a special learning zone. There is over 50 hours of content to choose from. GreenCharge monitors them through our innovation management strategy.

Experiences and recommendations for Light Electric Vehicles (EL-Vs) usage
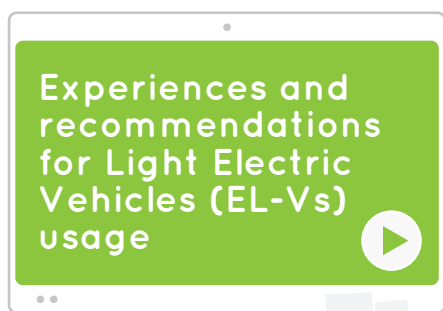
2 hours

Organiser: ELVITEN

www.youtube.com/channel/
UC6TGv0qRRudUHOo274
cpzSg/videos

- COVID-19 impact on e-mobility
- Cities' experience during and after the lockdown (Roma, Trikala, Bari)
- Overview of report and the recommendations - ELVITEN has sought to make users more familiar and facilitate them to use EL-Vs for their private transport and for light urban deliveries. It has also collected information sets made of real usage data, traces from dedicated ICT tools, and users' opinions after real trips.

Promoting electric mobility and electrification
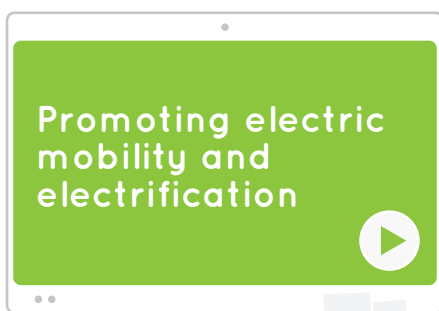
1.5 hours

Organiser: ECCENTRIC

www.youtube.com/
watch?v=AcgMqmRNqtc&
t=2528s

- Stockholm - charging infrastructure and EV
- Turku - electrification of the municipality fleet

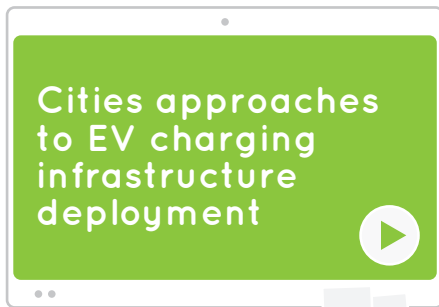## Data-based planning of energy efficient public transport infrastructure
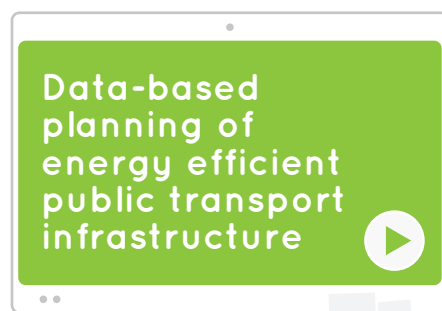
4 hours

Organiser: EFFICIENCE

www.youtube.com/
watch?v=9DdVM_hgG90&
feature=youtu.be

- Cities involved in Efficience discussing data for public transport and trolleybuses

Image: Pixabay / Pexels

Online EV seminars
- EU Projects

Cities approaches to EV charging infrastructure deployment

▶

🕐 **2 hours**

Organiser: EuroCities

https://youtu.be/0gE_CEv9lmY

- Alternative Fuels Infrastructure Directive (AFID) revision
- Cities' charging infrastructure deployment strategies
- Innovative planning tool being developed by the USER-CHI project (www.userchi.eu), the Charging Infrastructure Location and HolistiC Planning Kit (CLICK).
- *With thanks to Matilde Chinellato at Eurocities for sharing the link with the GreenCharge audience*
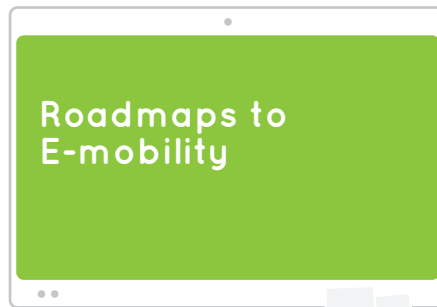
Roadmaps to E-mobility

Report of internal discussion session

Organiser: ICLEI

www.greencharge2020.eu/ news/webinar-roadmap-to-e- mobility

- The GreenCharge project coordinates an Uptake Cities Group (UCG). This document summarises tips to help them develop an e-mobility roadmap
- Whilst the meeting was held internally to aid the free exchange of ideas, this note summarises key learning points that are of wider interest.

Image: Pixabay / Pexels

Online EV seminars
- Conferences

Baltic Sea Region (BSR) Electric – virtual conference

▶

3+ hours

Organiser: BSR Electric

www.bsr-electric.eu/news/
bsr-electric-final-conference-a-
look-back-at-our-biggest-event

- A detailed range of content accompanied by an online learning course, including:
- BSR Electric final result
- Procurement and acquisition of electric buses in Oslo, Gothenburg and Hamburg
- Implementation of electrified commercial vehicles and charging infrastructure in Europe in the future

SEEV4-City Closing Webinars

▶

8 hours

Organiser: SEEV4-City

http://event.seev4-city.eu

- Smart, Clean Energy and Electric Vehicles for the City (SEEV4-City), funded by the EU Interreg North Sea Region Programme, just came to its conclusion.
- Its main objective was to demonstrate that smart electric mobility solutions that integrate renewable energy sources encourage take-up in cities

Image: iStock / Gremlin

Charging System Development

▶

1 hour

Organiser: Environmental Defense Fund Climate Corps Webinar Series

https://register.
gotowebinar.com/
register/2795272325662111758

- Developing depot charging
- Types and sizes of charging systems and trade-offs
- Key concepts about peak load
- Peak-shaving strategies – such as demand response and storage capacity
- Steps organizations need to take with their utilities (and when) to develop the needed charging capacity

Electric Vehicles: broadening access and supporting electricity networks

▶
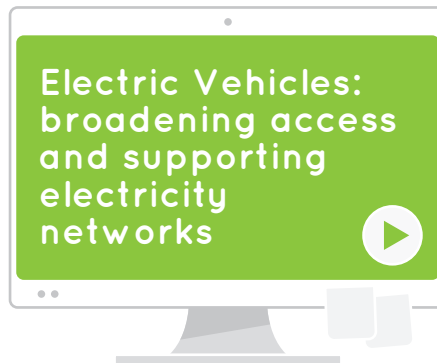
1 hour

Organiser: Oxford University Programme on Integrating Renewable Energy

www.youtube.com/
watch?v=o8q7In_x0dM&t=2107s

- Electric vehicles, charging them, and the effect of this on the electricity network
- Electric Nation and Park & Charge projects

Image: Pixabay / Stux

Online EV seminars - Hubs

Energy Synergies in Transportation Hubs & Smart Charging Pilots

2 hours

Organiser: Cenex Nederland

https://cenexgroup.nl/2020/06/15/replay-the-webinar-energy-synergies-in-transportation-hubs-and-smart-charging-pilots-june-10-2020
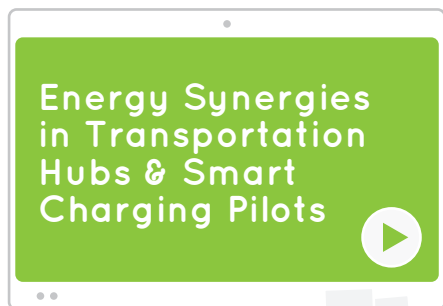
- Challenges faced in the energy systems due to the increased production of renewable energy and growth of electric mobility
- Lessons learnt from six smart charging pilots that have been part of the Interreg NSR 'SEEV4-City' project. In these pilots, several different smart charging and vehicle-to-grid (V2G/V2X) solutions were demonstrated which aimed to optimise the supply and demand of renewable energy at locations where EVs are used and parked.

Shared and electric mobility hubs
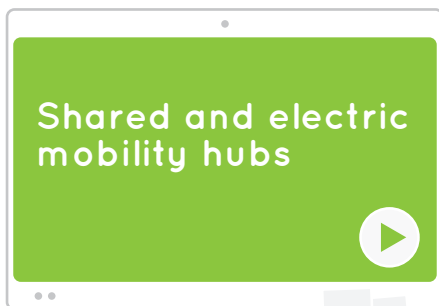
1 hour

Organiser: eHubs

www.nweurope.eu/projects/project-search/ehubs-smart-shared-green-mobility-hubs/news/shared-and-electric-mobility-hubs-the-ehubs-concept-and-the-connection-of-different-modes-in-a-maas-landscape/

- Outputs of the eHUBS project, in particular the objective of deploying 92 eHUBS in 6 partner cities by the end of 2021
- Development of a digital kiosk and database for eHUBS for transport and MaaS-providers.

Ultra rapid charging hubs
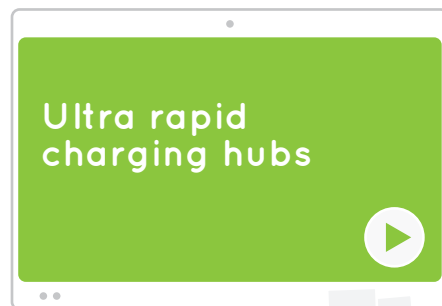
2 hours

Organisers: Regen / CENEX

www.regen.co.uk/event/electric-vehicle-and-electricity-system-forum-charging-hubs

- Development and role of ultra-rapid charging hubs and the implications for the electricity network.
- The webinar heard from industry leaders in ultra-rapid charging hubs and from electricity networks, discussing progress and examining the future for this growing infrastructure opportunity.

Image: Pixabay / Wikimedia Images

Online EV seminars - Thought pieces

E-mobility: lifeline for cities – or an illusion?

1 hour

Organiser: Shaping Mobility/PTV

https://youtu.be/NM4sTiQdD00

- How close are we to really going electric?
- Will these new vehicles make traffic and pollution a thing of the past?

eVision – Powering European e-mobility

1 hour

Organiser: Eurelectric

www.eurelectric.org/events/
evision-powering-european-e-
mobility

- How will the expected electrification of transport will happen?
- How much electricity is needed?
- Where exactly is it needed?
- How do we increase charging with clean power?
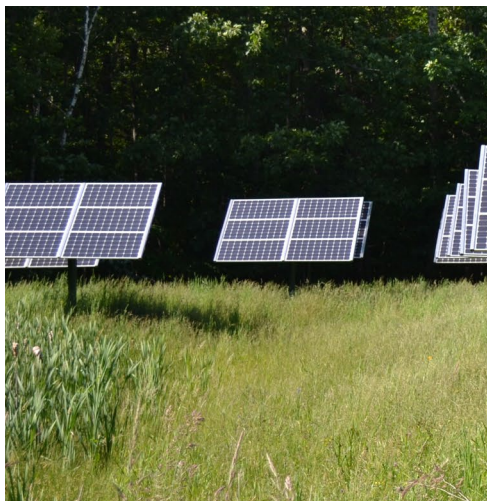
Climate for Electric Vehicles?

1 hour

Organiser: Understanding the Climate Crisis - Building a Better World

www.facebook.com/watch/?v=
701627724022032&extid=pVUx
MT9fA8lw6AJM

- Talk by Anthony Simpson
- Are electric vehicles really greener than petrol/diesel?
- How does it compare to other forms of transport?
- How close is the EV transition?
- Can our electricity system cope?
- And does it matter what time of day I charge the vehicle?
- Finally, this talk seeks to convince everyone why embracing smart meters is a vital step towards net zero

Exploring the economic and societal impacts of the roll out of electric vehicles in the UK

1 hour

Organiser: DecarboN8 Research Network

www.youtube.com/
watch?v=s4ZYZuh7AIg

- Research that explores the macro economic and societal impacts of both investing to reinforce the electricity network and from shifting fuelling from fossil fuels to electricity.
- Considerations for a Just Transition and regulatory and policy implications.

Image: Pixabay / Sponchia

Online EV seminars
- Series

Go Ultra Low City webinar series

8+ hours

Organiser: Energy Savings Trust

https://energysavingtrust.org.uk/transport/local-authorities/local-government-support-programme

Free library of webinars in partnership with the UK's Office for Low Emission Vehicles (OLEV) tailored for council officers on topics such as EV charging solutions and sustainable cities, featuring insights from the Go Ultra Low Cities, including webinars on:

• Sustainable energy options for chargepoint infrastructure
• On-street Charging: Case Studies and Funding
• On-street Charging: Strategies and Solutions
• Insights from Oxford, Milton Keynes, Dundee and West of England

Electric Vehicles' Smart Charging Webinar Series

8+ hours

Organiser: Newcastle University/Supergen Energy Networks Hub

www.ncl.ac.uk/cesi/events/webinars/v2gwebinars

This series of webinars provides an introduction to vehicle to grid (V2G) and smart charging projects and topics, with invited guest speakers from institutions in the UK and overseas, including webinars on:

• Smart Charging and V2G
• Open Communication Protocols for EV Charging
• Examples from Denmark, California and Quebec
• Cyber Security
• Artificial Intelligence

Image: Pixabay / Deniz Turgut

Online EV seminars - Industry Talks

Delivering Easy EV Charging, Plug&Charge In Action

2 hours

Organiser: Clean Technica

https://cleantechnica.com/2020/04/19/delivering-easy-ev-charging-plugcharge-in-action-webinar-wrap-up

- Discussion on the benefits of ISO/IEC 15118-enabled EV Charging
- GreenCharge partner Hubject alongside ECS and IoTecha explained how they have integrated their charging solutions and enabled a seamless end-to-end implementation.
- Bart Sidles from Hubject Inc. gave an overview of the ISO/IEC 15118 protocol, how various stakeholders implement the protocol, and its foundation in a digital ecosystem for EV stakeholders to ensure that charging sessions are secure.

EV roaming webinar

2 hours

Organiser: NKL Nederland

www.youtube.com/watch?v=8ZASyZQXliw&feature=youtu.be

- OCPI stands for open and independent protocol. Why? To allow any EV driver to charge at any charging station in the EU.
- This webinar introduces the EV Roaming Foundation to help promote roaming according to open standards

Here Comes Zero Emission EV Charging Off-Grid

1 hour

Organiser: IDTechEx

https://register.gotowebinar.com/register/193673882371516175

- Is financing enough to sustain the rise in electric vehicles?
- Are the right investment criteria in place to accelerate the take-up EV infrastructure
- Are infrastructure targets for member states are needed?
- What des price transparency mean?
- How can roaming be further promoted
- What requirements are needed for a truly open market

Inductive charging: The future of the e-mobility sector?

2 hours

Organiser: AVERE

www.youtube.com/watch?v=DrJxpT4TMQk

- What are the newest technologies for wireless charging? When are going to see new EV models equipped with these technologies on the market? What are the main barriers to overcome?
- Insights of companies specialized in manufacturing of new technologies and vehicle models.

Electric Vehicle Infrastructure as part of Future Cities

1 hour

Organiser: SIEMENS

https://ssi.videomarketingplatform.co/discover-echarging-electric-vehicle-1/join

- How EV infrastructure will play a role in increasing the adoption of electric vehicles?
- The compelling case for a change in mobility in our cities
- Perspective: driver and infrastructure
- The 5 key enablers of EV infrastructure

Online EV seminars – Industry Talks

EV policies: What's happening in Europe?

1 hour

Organiser: EV Box

www.youtube.com/watch?v=QzZR2DcLcQo

- Is financing enough to sustain the rise in electric vehicles?
- Are the right investment criteria in place to accelerate the take-up EV infrastructure
- Are infrastructure targets for member states are needed?
- What does price transparency mean?
- How can roaming be further promoted
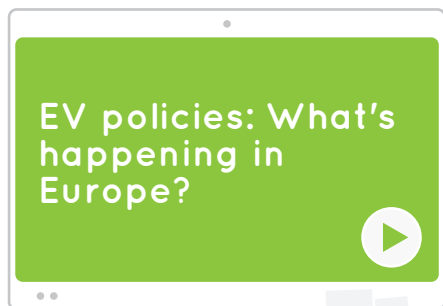- What requirements are needed for a truly open market
- Part of a series – other episodes (including Outlook on EV smart charging: Where do we go from here?) are available online

The Landscape for EV Charging

1 hour

Organiser: IDTechEx

https://register.gotowebinar.com/register/8971254427303017487
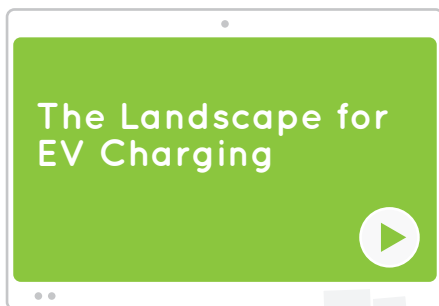
- Analysis of the major charging infrastructure including conductive, wireless and battery swapping
- Analysis of fast charging, inductive and capacitive charging, robotic and autonomous charging, off-grid charging, mobile charging and vehicle-to-home/grid (V2H/V2G) and market trends
- Market forecasts by region (China, Europe, the USA and RoW), sector (passenger cars and fleet EVs), applications (private and public) and power level (AC and DC).

Roaming in EV charging – What it is and why you should care
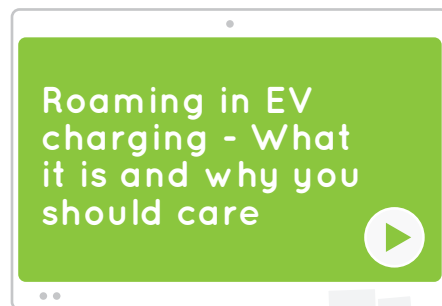
1 hour

Organiser: Virta

www.virta.global/roaming-in-ev-charging-webinar

- Roaming refers to an EV driver's ability to use various charging stations even if they're only a customer of one service provider. In practice, it means that electric car drivers can use charging stations with just one customer account.
- How and why does this play a crucial role in EV charging business?
- Internal & external roaming
- Peer 2 Peer (P2P) roaming
- The anatomy of roaming hubs & their effects

Image: Pixabay / Paulbr75

Online EV seminars
- Industry Forums

EV Forums – EV Infrastructure

▶

🕐 **2.5 hours**

Organiser: 360 Media

www.360mediagroupltd.com/post/ev-forums-gaining-momentum

- Featuring speakers from BP Chargemaster, GRIDSERVE and Bristol City Council, including:
- How Bristol is investing in its EV Infrastructure and collaborating to achieve a greener future.
- How telematics is driving mass EV adoption and what fleets need to consider within their infrastructure planning.
- What progress fleets can expect to see in the charging infrastructure n the next 12 months and also the longer term outlook.
- Part of a series of EV Forum webinars which bring together practitioners and experts to share knowledge, insights and best practice

The Electric Vehicle Café - Public Sector

▶

🕐 **2 hours**

Organiser: Jonny Berry (Renault)

www.youtube.com/playlist?list=PLAER-ysZh2syu-a7kDkJDrzYN_hKselpV

- Case studies and discussion from the UK including London, Oxford and Bristol.
- Part of the EV Café series, which brings together industry leaders and influencers in lively debate and discussion, in an informal lunchtime format.
- Further recorded episodes can be found online

Image: Pixabay / The Picture Box

In Brief

GreenCharge Newsbits

New Coordinator

We welcome Jacqueline Floch from our partner SINTEF who has taken over coordination duties for the second half of the project from our previous coordinator Joe Gorman. We wish Joe well and warmly welcome Jacqueline. You can find out more about her and her interests on the SINTEF website. www.sintef.no/en/all-employees/employee/?empid=303

New GreenCharge Project Coordinator, Jacqueline Floch of SINTEF

Hardware installed in Oslo

New outdoor charging units are being installed at the pilot in GreenCharge's apartment block experiment on the outskirts of Oslo. These will be publicly available and help test roaming interfaces, i.e. the ability for customers to access different suppliers' charging systems.

New hardware in Oslo for Fortum's Charge & Drive system

Networking with EV projects

GreenCharge had an internal online Zoom meeting in June 2020. Short pitches from other EV projects including Meister, STEVE and EFFICIENCE were followed by a short discussion on synergies with the GreenCharge project.

GreenCharge Publications

GreenCharge has published a number of technical project reports which can be found online.

Most of these relate to internal project planning processes, but are made publicly available for anyone to view and have a short executive summary to aid easy reading. Recent publications include:

- D1.1 Data management Plan
- D1.3 Innovation News & Updates
- D5.1 Evaluation Design
- D6.1 Stakeholder Acceptance Evaluation Methodology and Plan
- D5.2 Simulation and Visualisation Tools
- D5.1 Evaluation Design
- D6.1 Stakeholder Acceptance Evaluation Methodology and Plan
- D6.2 Data Collection and Evaluation Tools
- D8.1 Communication Strategy and Plan.

www.greencharge2020.eu/deliverables

News to share? Contact us or share it with us on Twitter 🐦 @ GreenCharge2020

Image: Fotolia

Feature Photo

3 PILOT CITIES AND 6 BUSINESS MODELS

Reinhard Scholten of PNO presenting GreenCharge's work at the EV Charging Summit in Rotterdam in September 2020

GreenCharge Diary 1

European EV Charging Summit (1-2 September 2020)
GreenCharge presented at this conference in Rotterdam. A follow up story will be posted on the GreenCharge website. www.greencharge2020.eu

World EV Day (9 September 2020)
Social media campaign to promote electric car ownership, and spread awareness of electric vehicles more widely. www.worldevday.org

European Mobility Week (16-22 September)
The theme is "Zero-emission mobility for all" and once again cities across Europe will be taking part. Information on activities during the week can be found at: https://mobilityweek.eu/2020-participants

European Sustainable Cities and Towns Conference (9.30am, 2 October 2020)
GreenCharge will host a session at this conference organised by ICLEI in partnership with the City of Mannheim. This will feature speakers from partners ICLEI and the City of Bremen, our Uptake City of Stockholm, the University of Westminster and the European Commission. Attendance at the event is free and registration is available here: https://conferences. sustainablecities.eu/ mannheim2020/registration

Urban Mobility Days (2pm, 30 September 2020)
GreenCharge will be represented by our partner from the City of Oslo at this free online event, featuring various aspects of urban mobility. Registration is available here: www.eumd.org

Keep an eye on our website for other public electric mobility-related conferences and events, and follow our twitter feed for our latest updates @GreenCharge2020.

Who are We?

Missed a copy?
See our previous newsletters at:
www.greencharge2020.eu/newsletters

Issue 1:
Introduction to Pilots

Issue 2:
Business Models

Issue 3:
Simulation of Impacts

Project Partners

SINTEF
Coordinator

eSmart SYSTEMS

HUBJECT

PNO

I·C·L·E·I
Local Governments for Sustainability

motii

pmc
personal mobility center

Fortum charge & drive

V: Università degli Studi della Campania Luigi Vanvitelli — Scuola Politecnica e delle Scienze di Base — Dipartimento di Ingegneria

UiO : University of Oslo

Freie Hansestadt Bremen

ZET.Link

ATLANTIS
TRACKING YOUR WORLD

eurecat

enchufing

Interested in finding news from our technical partners?
Check out their news pages:
ATLANTIS | ESMART | EURECAT | FORTUM | HUBJECT
ICLEI | OSLO UNI | PNO | SINTEF

2020 CIVITAS
Cleaner and better transport in cities

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016

informed cities

www.informedcities.eu

Twitter: **GreenCharge2020**
Linkedin: **GreenCharge Project**
Email: **info@greencharge2020.eu**

www.greencharge2020.eu

GREEN CHARGE

Our next newsletter (published through Informed Cities):
Due Spring 2021!
Previous copies at: www.greencharge2020.eu/newsletters

Received this from a friend? Sign up on our website.

informed cities

newsletter   September 2020

"Cleaner modes are high on the agenda both at a political and technical level, and this reflects in the general public which is very curious to test new technologies "

Maria-Angeliki Evliati, Project Manager for Clean Vehicles, City of Stockholm
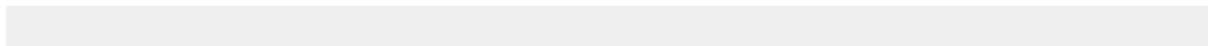
Electric Mobility
Newsletter

Issue 4 | September 2020

This edition we take a roam around the world of EV charging and how we can make it work together across Europe

For our 4th newsletter, we talked to Jürgen Werneke and Arjun Subramanian from Hubject, one of the world leaders in EV charging roaming and partner in GreenCharge

Why is roaming important?
Roaming offers EV drivers the option to charge their vehicles at all charging stations – regardless of any contracts with specific charging point operators. The billing occurs subsequently via the customer's own contractual partner.

What could the future hold?
International standards form an important part of electric mobility governance, and help to ensure systems are compatible across nations and operators. ISO 15118 is one of these, and deals with "vehicle to grid" communication interfaces

A roam around sustainable mobility

As people have found it difficult to travel between houses, towns, cities and countries recently, patterns and choices of travel may have changed for the long term. What is clear is that clean environments are at the forefront of many citizens' desires for their local areas, and by tackling mobility and energy solutions together this can be achieved. This issue of Informed Cities includes a look in at some of the solutions to ensuring that electric vehicles do not recognise borders that people are travelling across, as cities invest in cleaner charging technologies for the future.

Read the GreenCharge project newsletter »

Trending

Electric mobility needs to be clean, smart and efficient

How we get around is central to how we live, where we work, what we do to enjoy our lives, and the services we can access. However, as recent events have shown, we are not locked-in to particular mobility patterns or choices, even though this has been perpetuated for many years. There is the opportunity to reduce the huge negative impact from transport, and to accentuate the many positives of travelling sustainably. For this to be happen, we need to refresh our transport methods, so that they are clean, smart and efficient.

Read more »

Join a dialogue on future urban mobility

In 2020, all those that can make change happen will gather online for inspiration, to take commitment and action on sustainability to the next level. Clean and Efficient Mobility forms part of the programme for this free upcoming conference organised by ICLEI and the City of Mannheim.

Register for free here»

Sustainable mobility planning

This year's award will focus on sustainable urban mobility planning (SUMP) which includes aims to create zero-emission and inclusive transport. The topical focus is based on this year's EUROPEAN**MOBILITY**WEEK theme, which puts the spotlight on zero emission mobility for all.

Apply today »

Greater Manchester protects people on bikes with pioneering design

The UK's first CYCLOPS (Cycle Optimised Protected Signals) junction was recently launched in Hulme, South Manchester. The unique design separates pedestrians and cyclists from traffic, reducing the possibility of collisions or conflict. By fully segregating cyclists, it improves safety for all road users.

Read more »

Spotlight: European Commission public consultation on the future of transport

The European Commission has launched a public consultation on the future of transport to allow both stakeholders and citizens to comment and identify their priorities. The consultation will close tomorrow 23 September and will enable the Commission to better understand how the EU can help the sector become more sustainable and competitive, more modern and resilient to crises.

Read more »

New factsheet presents 10 lessons learnt during COVID-19 lockdown

A new factsheet has been launched presenting towns and cities with 10 lessons learnt from the COVID-19 lockdown regarding better urban mobility.

Read more »

COVID-19 mobility practitioners' briefing now available

The newly released briefing investigates how cities can respond to the exit from lockdown whilst prioritising long-term goals and ambitions for sustainable urban mobility. It draws on best practice from across Europe during the COVID-

mobility during recent months to keep cities moving.

Read more »

COVID-19 SUMP
Practitioner Briefing
July 2020

Registration for Urban Mobility Days 2020 - the European Commission's first free large-scale digital urban mobility conference - has now closed, but join the conversation online by following #UrbanMobility

Read more »

Three Good Reads

Britain Is Creating a Government Organisation Devoted to Biking and Walking

Feargus O'Sullivan, City Lab (29 July 2020)

[Web article]

One company is looking to change that

Royce Kurmelovs, The Guardian (29 July 2020)

[**Web article**]

Carbon emissions have dropped under lockdown. Will it make a difference?

Natalie Huet & Lindsay Rempel, Euronews (20 May 2020)

[**Web article**]

---

social media

🐦 Facebook   🐦 Twitter   🔗 Informed Cities Website

Informed Cities is an initiative by **ICLEI – Local Governments for Sustainability** to share and discuss activities and results of governance and social innovation research among local governments and a variety of other stakeholders across Europe. Informed Cities publishes this newsletter and organizes the Informed Cities Forum conferences.

This edition of the Informed Cities newsletter is published in cooperation with the **GreenCharge project**. GreenCharge receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016. The content of this publication does not necessarily reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).

Find GreenCharge on Twitter and LinkedIn!

imprint

ICLEI - Local Governments for Sustainability
European Secretariat
Leopoldring 3, 79098 Freiburg, Germany

Email: **newsletter@informedcities.eu**

Read our Data Privacy Policy **here**. You can also update your subscription preferences and unsubscribe from the Informed Cities Newsletter at any time through the links at the bottom of the newsletter.

🐦 Share   🐦 Tweet

A. Appendix A

5. Fifth GreenCharge and Informed Cities Newsletter

GREEN CHARGE

Electric Mobility
Newsletter

Issue 5 | September 2021

Fusing new energy with green mobility

For our 5th newsletter, we talked to Shanshan Jiang, Technical Manager of the GreenCharge project based at SINTEF in Norway.

The underlying concept behind GreenCharge is smart and green charging that is built upon cross sectorial collaboration, involving businesses and technical systems from three sectors:

- Transport – to support users' mobility needs and electric vehicle (EV) charging demands

- Electric energy supply – to manage smart energy use and its storage

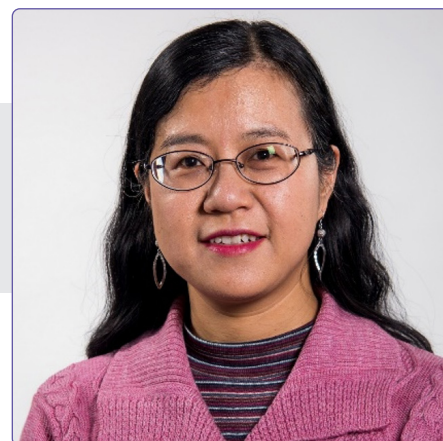- Buildings – to coordinate energy use across consumptive activities in neighborhoods

Electric vehicles, charge management and local energy management need to work together – this is essential to facilitate smart EV charging with green energy. The integration of the three sectors is highly complex as many stakeholders with different motivations and concerns are involved. In many instances there are legacy systems with different scopes to be integrated. Yet currently there is a lack of standards to support such integration. This is what GreenCharge has been exploring and trying to overcome the challenges for the past three years.

A "reference architecture" for complex smart and green EV charging systems

The RA is generic and holistic, describing a possible architecture open to different specific underpinning technologies. The Reference Architecture serves as a blueprint for the planning and construction of GreenCharge demonstrators in the pilot sites, and at the same time, supports deployment and further exploitation outside the project.

The term "reference architecture" means that the focus is on the integration of logical services, from different providers. The detailed realisation of the physical system which contains these software services is not emphasised and

may differ from system to system, depending on the provider. However, they must be compliant with the RA.

To understand the role of the GreenCharge RA and its intended use, we will give a brief description of its content with some examples and show how GreenCharge uses the RA in the demos on the following pages.

Keep in touch with GreenCharge for further information.

Shanshan Jiang, SINTEF

To cope with the complexity and bridge the different sectors, we need a full-fledged specification for the ecosystem for smart and green charging. In GreenCharge, what is known as a Reference Architecture (RA) provides such a specification. It contributes to a common understanding of the GreenCharge concept and supports the integration of legacy systems into the ecosystem in a well-defined way.

informed cities

www.informedcities.eu

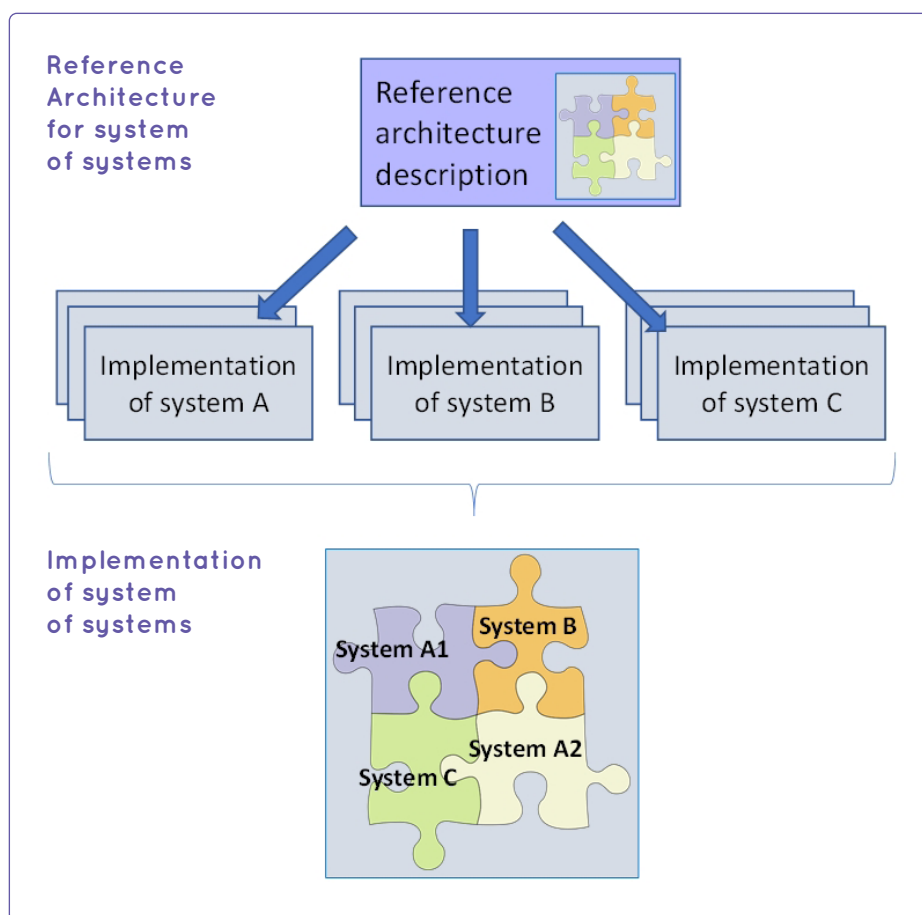# The role of the GreenCharge Reference Architecture

The GreenCharge RA is a reference architecture for a system of systems as it provides a well-defined way for the integration of three sectors – transport, electricity, and buildings - and the integration of legacy systems.

Our approach to realising the GreenCharge concept is to extend the functionality of and the collaboration between these already existing systems.

In GreenCharge, each of the demonstrations being run in the GreenCharge pilot cities of Barcelona, Bremen and Oslo involves local businesses with their own existing systems and technologies. Each demonstration thus implements a subset of the GreenCharge concept according to the local needs and context. Each aims to adapt the selected technologies to comply with the specification of the RA, which ensures that these systems are able to collaborate and function smoothly together.

The Reference Architecture specifies:

- the new and/or added responsibilities,
- adapted/extended functionality,
- new collaboration patterns, and
- new/changed interfaces for realizing the "system of systems".

GREEN CHARGE

The role of the GreenCharge Reference Architecture

Intended readership and content of the RA

The content of the RA is categorised according to the required technical competence to understand it. Some diagrams describe the GreenCharge concept without requiring technical knowledge (the below green and yellow categories), for example, motivation diagrams describing the stakeholder concerns and use case diagrams describing functionality in the context view.

For stakeholders who are interested in a deeper insight into smart and green charging, the RA provides an overview of the GreenCharge concept.

For example, policy makers can benefit from this understanding and get a better position to influence the transition towards sustainable eMobility. Commercial actors within eMobility can get a better understanding of the role they can play and obtain input on the requirements to their system components and services/products.

From a cities' perspective, we believe most transport and mobility officers will be concerned with the overall issues and basic architecture views. However, trusted suppliers and partners local authority officials work with and rely on will need to understand the technical specification ("architecture views") for designing such a smart and green charging system.

Such "architecture views" are comparable to architecture drawings of a building with different views and models using diagrams with standard software modelling notations and various technical details.

The most advanced diagrams are formal technical specifications with details for software implementation (the red category), for example, component view with system information model specifying information to be exchanged, system component and interface model as well as collaboration model for interoperability via interfaces.

For technology providers who plan to design and implement smart and green charging, the RA provides specifications that can serve as input to their software engineering processes.

Details and more information can be found in project deliverables D4.1 and D4.2 at: **www.greencharge2020.eu/ deliverables**

Three content categories of the reference architecture

The role of the GreenCharge Reference Architecture

Communicating the systems
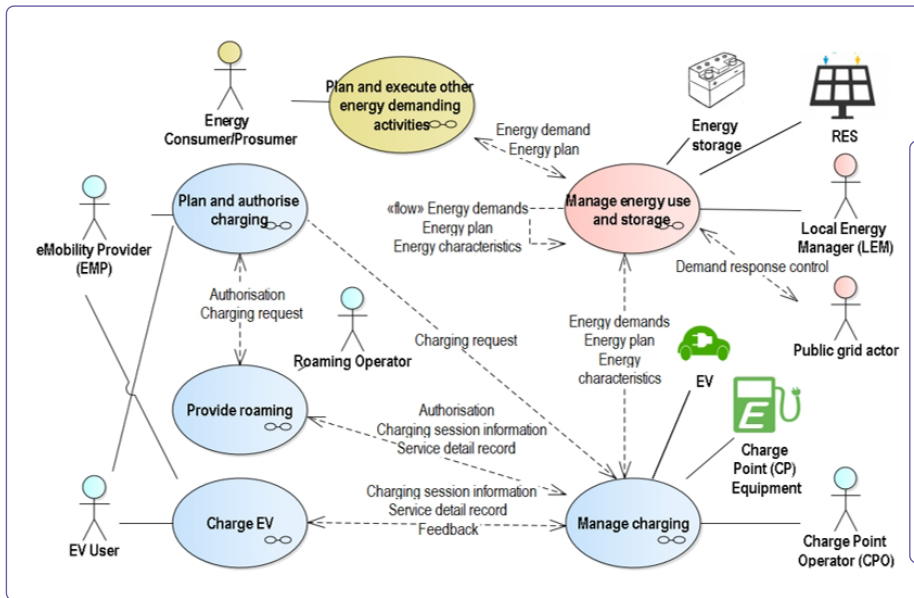
An overall diagram describing new functionality and overall information flows in the charging system.

A more advanced diagram showing logical services providing functionality and interoperability via interfaces.
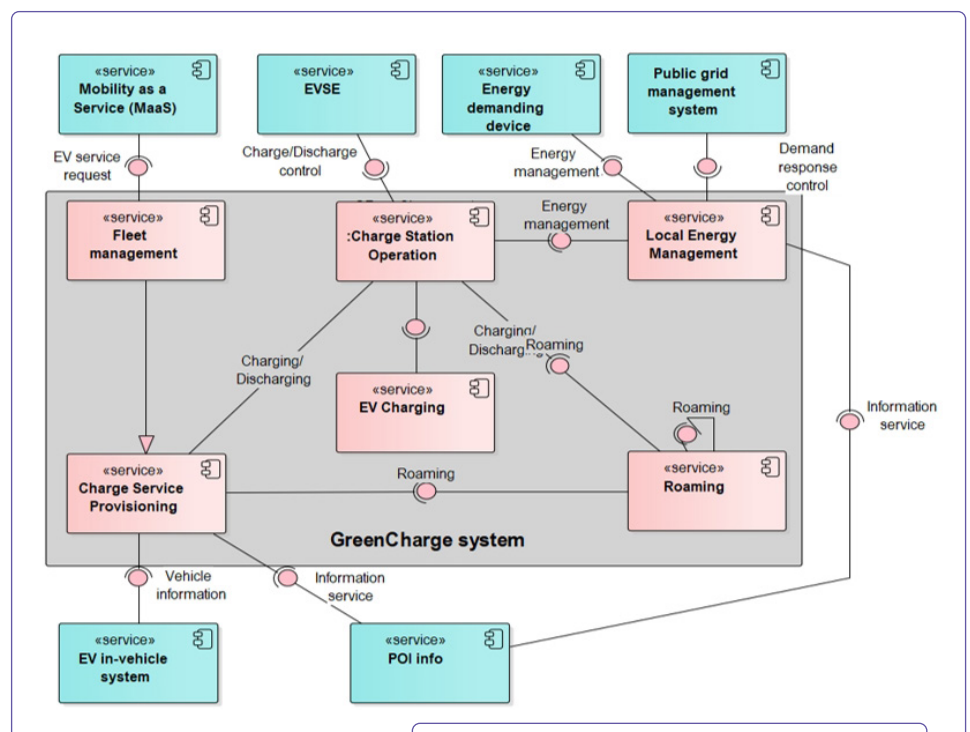
Further information on graphics used in diagrams:

www.smartdraw.com/use-case-diagram
www.smartdraw.com/component-diagram
www.sparxsystems.com/enterprise_architect
_user_guide/14.0/model_domains/generalize.html
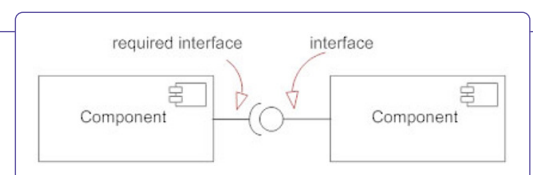
The role of the GreenCharge Reference Architecture

The GreenCharge RA is a reference architecture for a system of systems as it provides a well-defined way for the integration of three sectors – transport, electricity, and buildings - and the integration of legacy systems.

Our approach to realising the GreenCharge concept is to extend the functionality of and the collaboration between these already existing systems.

To illustrate the use of the RA, in the following table we show the relationship between the "logical services" defined in the RA and the physical components/systems realising them in 3 of the 7 demos in the GreenCharge pilot sites. Each demonstration implements a subset of the features of the RA, in this case, electric car charging at different contexts (charge at home or at work).

Each RA service is realised by one implementation (software system or component provided by project partners) in each demo, either through new development in the project or by adapting / extending existing systems or components.

You can find out more background to the GreenCharge demonstrations by visiting the democards on the website: **www.greencharge2020.eu/ pilot-overview**

GreenCharge Demo (implementation of system of systems)		
Service (stakeholder role providing the service) defined in the RA	**Energy smart housing cooperative in Oslo**	**Charging at work in Bremen**	**Energy smart workplace in Barcelona**
Charge service provisioning - EV charging app (EMobility Provider)	ZET.charge APP (new)	PMC "GreenCharge" App (new)	Eurecat Booking App (new)
Charge station operation & EV charging (Charge Point Operator)	Fortum charge & drive management system (adapt / extend) ZET charge algorithm (new)	PMC gridctrl.ENCORE (adapt / extend)	Eurecat charge management system (new)
Local energy management (Local Energy Manager)	eSmart Connected prosumer platform (adapt / extend)	PMC gridctrl. aggregator (new)	Eurecat SEM scheduler and forecaster (adapt /extend)

GreenCharge Uptake Cities – What's up in Porto?

Up to 12 Uptake Cities will learn from the three pilot GreenCharge cities, through site visits and an advanced webinar programme. The included cities are still at early stages of their electric mobility journey, who seek to learn from our GreenCharge pilots and demonstrations. In this issue we hear about electric vehicle strategies from our friends in Porto, Portugal.

Electric charging stations are set up and running in Porto

Porto already provides 12 electric charging stations (PCE) for automobiles, in eight different locations within the municipality. This measure is part of the municipal strategy to promote an increasingly less polluting city. Ten spots are already in place, out of 15 estimated charging stations.

Following the setup of two electric vehicles charging stations last February, one in the Rua de Leonardo Coimbra and the other in the Avenida do Parque, the setup of the new PCE in the city has accelerated over the past months with the implementation of another 10 charging stations, namely at the Praça Francisco Sá Carneiro (2), at the Avenida do Conselho da Europa (2), at the Rua do Doutor José António Marques (1), at the Rua de Henrique Medina (1), at the Rua do Jornal de Notícias (2), and the Rua de Nove de Abril (2).

The operators for the ten electric charging stations for automobiles are in place, following the **draw** held among the candidates. Permits were dispensed, alongside the respective public space license. Electric charging stations are now operating, with the estimates pointing that by October all equipment should be installed.

EDP Comercial, Horizondistance, Kilometer Low Cost and Mobiletric are the operators in charge of managing the ten car Electric charging stations, distributed throughout the city. The type of voltage is 50 kilowatts DC (direct current) and 43 kilowatts AC (alternate current).

The tender to implement electric charging stations was launched in the end of 2019 and the application deadline was held throughout the first two months of the year.

As regards the setting up of electric charging stations (PCE) in car parking, it will be implemented this year, with the Empark Company already expressing interest in the issue.

The Municipality of Porto has been pioneering electric mobility both by purchasing an entire municipal fleet of electric vehicles and promoting policies of positive discrimination and educational guidance in municipal parking.

See **here** the location of all the PCE already running in the city.

www.porto.pt/en/news/ electric-charging-stations-are-set-up-and-running-in-porto

Used with permission from the City of Porto.

Image: Filipa Britto / City of Porto

In Brief

EV News - EU Projects updates

USER-CHI project videos
4 episodes on emobility challenges from Barcelona, Turku, Murcia and Berlin now available:
www.youtube.com/watch?v=a0 fYC64ioqU&list=PLvzHLhum83v tT6cpfssA85GBh3489MM7H

Visit USER-CHI for further resources:
www.userchi.eu/products

CleanMobilEnergy new digital seminar series
Introduction event on 28 September 2021:
www.nweurope.eu/ projects/project-search/ cleanmobilenergy-clean- mobility-and-energy-for-cities/ events/cleanmobilenergy- digital-seminar-series-an- introduction-to-cme

EV Energy final conference materials
Presentations from event in June 2021 available for download:
www.interregeurope.eu/ evenergy/library/#folder=2968

Other EV News and updates

How to fit EVs into UK transport policy
Some still think electric cars are no panacea. Read more at:
https://theecologist.org/2021/ feb/23/electric-cars-are-no- panacea

Procuring EV infrastructure?
New handbook for public authorities on how to design tenders for e-charging infrastructure. Read more at:
https://ec.europa.eu/transport/ themes/urban/news/2021-02- 15-stf-handbook_en

GreenCharge in Brief 1

Re-purpose. Re-charge. Re-think. Heritage and e-mobility at the crossroads

**Mark your calendars:
9th Informed Cities Forum to take place 26-28 October 2021!**

To celebrate the return of our popular interactive "un-"conference, not one, but two topics will be explored through the 9th Informed Cities Forum. Organised under the title: "Re-purpose. Re-charge. Re-think. Heritage and e-mobility at the crossroads", the Forum will cast light on cultural heritage and electric mobility.

Through a series of interactive sessions, we will explore how these topics align, and how problem solving, or specific processes might be addressed differently. Themes explored through the joint sessions include: How do experts from the different fields respond to the same administrative hurdles, how do they interact with interest groups and the public? How do we approach new technology? Do we see similar patterns, or different ones?

In addition, participants will be able to explore the individual topics of cultural heritage and electric mobility in more depth through deep dive sessions.

Unlike other online conferences, Informed Cities Forum is an interactive, collaborative event, which makes use of innovative formats, and is willing to explore unconventional topics. Active participation by the audience is not just encouraged, but is required, and will be rewarded with lively and energetic discussions.

Interested?
Join us on 26-28 October 2021 for this unique experience.

The 9th Informed Cities is co-organised by the **GreenCharge**, and **OpenHeritage** projects.

www.informedcities.eu/events/9th-informed-cities-forum

Who are We?

Missed a copy?
See our previous newsletters at:
www.greencharge2020.eu/newsletters

Issue 1:
Introduction to Pilots

Issue 2:
Business Models

Issue 3:
Simulation of Impacts

Issue 4:
Roaming

Project Partners

SINTEF
Coordinator

eSmart SYSTEMS

HUBJECT

PNO

ICLEI Local Governments for Sustainability EUROPE

motii

pmc» personal mobility center

Fortum charge & drive

V: Università degli Studi della Campania Luigi Vanvitelli — Scuola Politecnica e delle Scienze di Base Dipartimento di Ingegneria

UiO : University of Oslo

Freie Hansestadt Bremen

ZE7.Link

ATLANTIS TRACKING YOUR WORLD

eurecat

enchufing

Interested in finding news from our technical partners?
Check out their news pages:
ATLANTIS | ESMART | EURECAT | FORTUM | HUBJECT
ICLEI | OSLO UNI | PNO | SINTEF

CIVITAS
Sustainable and smart mobility for all

informed cities;

www.informedcities.eu

Twitter: **GreenCharge2020**
Linkedin: **GreenCharge Project**
Email: **info@greencharge2020.eu**

🌐 **www.greencharge2020.eu**

GREEN CHARGE

Our next newsletter (published through Informed Cities):
Due Spring 2022!
Previous copies at: www.greencharge2020.eu/newsletters

Received this from a friend? Sign up on our website.

informed cities

newsletter   September 2021

"The 9th Informed Cities Forum, taking place in October, will be very interactive and creative, bringing together two topics that normally don't join forces: electric mobility and heritage."

Jasmin Miah, Officer, Governance and Social Innovation, ICLEI Europe

Electric mobility to take centre stage at 9th Informed Cities Forum

Registration is now open for the **9th Informed Cities Forum**, taking place online 26-28 October. Organised under the title "*Re-purpose. Re-charge. Re-think. Heritage and e-mobility at the crossroads*", the Forum will cast light on cultural heritage and electric mobility. The Informed Cities Forum event series is a popular European interactive "un-"conference, which aims to bridge the gap between research, policy-making and action in sustainable development, both at and for the local level.

The 9th Informed Cities is co-organised by the GreenCharge and OpenHeritage projects. GreenCharge aims to demonstrate how technological solutions and associated business models can be integrated and deployed to overcome barriers to wide-scale adoption of electric vehicles in Barcelona (Spain), Bremen (Germany), and Oslo (Norway).

Read the GreenCharge newsletter to learn more about the project »

Trending
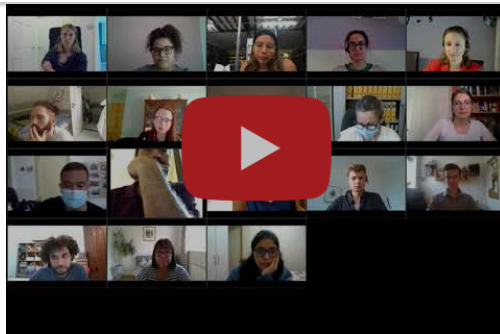
In July, EUROPEAN**MOBILITY**WEEK organised an online workshop, which brought together young people (aged 16 to 24) and policy-makers to discuss the importance of collaborating on urban mobility policy-making processes and campaigns. Participants heard from youth activists, academics, city planners, and representatives of youth networks, and together co-developed a list of five **recommendations** cities can follow to better engage young people in urban mobility initiatives and campaigns.

Dublin more than doubles cycle parking spaces

In 2015, Dublin City Council (Ireland) undertook a survey which found that there were 4,625 cycle parking spaces in the city centre. Since then, the city has committed itself to increasing this number, and has achieved impressive results - 6,054 additional cycle parking spaces have been created, representing an increase of 130% since the 2015 survey.

Read more »

Mobility Match: connecting cities with mobility tools

On September 30, the CIVITAS Initiative will organise a Mobility Match session, to introduce cities to the CIVITAS Urban Mobility Tool Inventory - an online database of 100+ tools and methods that will help local authorities make better informed decisions about which planning tools to apply in their given local context. The inventory can be accessed **here**.
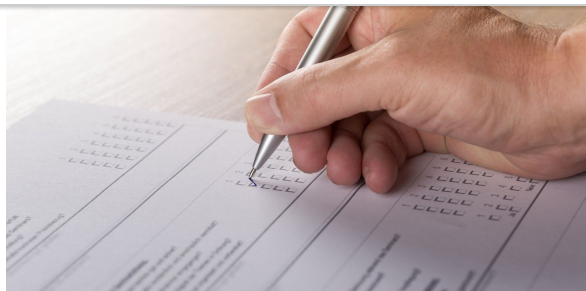
Read more »

Helsinki "well on its way" at Helsinki Summit

Last month, cycling took centre stage in the Finnish capital, as Helsinki organised a summit to discuss the role of cycling in the sustainable and human-centric cities of the future.

Read more to discover what was discussed »

Have your say: New Urban Mobility Initiative – Open Public Consultation

To help the EU build on its 2013 Urban Mobility Package and meet its 2050 climate target, the new Urban Mobility Initiative will propose measures to encourage EU countries to develop urban transport systems that are safe, accessible, inclusive, affordable, smart, resilient, and emission-free. The European Commission is inviting the general public and stakeholders to express their opinion on this new initiative. The Open Public Consultation closes **23 September 2021**.

Have your say »

EUROPEAN MOBILITY WEEK
celebrates 20th anniversary

Watch out for car-free streets, walking tours and interactive workshops as EUROPEAN**MOBILITY**WEEK comes to towns and cities across Europe from 16-22 September. The clean and sustainable transport campaign, which celebrates its 20th anniversary, will see close to 3,000 towns and cities from over 40 countries hosting events on the theme "*Safe and healthy with sustainable mobility*".

Read more »
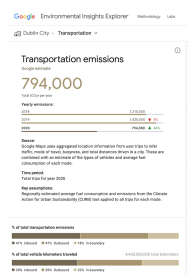
Google EIE makes sustainable mobility data available to cities

Google Environmental Insights Explorer (EIE) has expanded their offering, making transportation emissions data freely available to cities.

Read more »

The CIVITAS Forum Conference 2021 will take place on 20-21 October in Aachen (Germany). The 18th edition of the EU's CIVITAS Initiative's flagship event will gather the keenest sustainable mobility minds to debate and analyse the most urgent topics in the field. The Forum will take place over the course of two days as a hybrid event, combining online and onsite activities. The programme will consist of, among other things, interactive workshops, intriguing sessions, and interesting site visits.

Click here to attend »

Three Good Reads

New study: EVs' greenhouse gas emissions are lower than those from combustion engines
Electric Autonomy Canada (July 2021)

Topic Guide: Sustainable Urban Mobility Planning in Smaller Cities and Towns.
ELTIS (July 2021)

[Web article]

E-scooters are replacing more walking and cycling than car journeys
The Bristol Cable (July 2021)

[Web article]

9th Informed Cities Forum

Re-purpose. Re-charge. Re-think. Heritage and e-mobility at the crossroads

26-28 October 2021
Online

Registration for the 9th Informed Cities Forum is now open. Under the title: "*Re-purpose. Re-charge. Re-think. Heritage and e-mobility at the crossroads*," the Forum will cast light on the adaptive reuse of cultural heritage and the design of zero emission transport systems, enabling an unconventional, interdisciplinary dialogue about sustainable urban development.

Register now »

social media

Facebook   Twitter   Informed Cities Website

Informed Cities is an initiative by **ICLEI – Local Governments for Sustainability** to share and discuss activities and results of governance and social innovation research among local governments and a variety of other stakeholders across Europe. Informed Cities publishes this newsletter and organizes the Informed Cities Forum conferences.

This edition of the Informed Cities newsletter is published in cooperation with the **GreenCharge project**. GreenCharge receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769016. The content of this publication does not necessarily reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).

Find GreenCharge on Twitter and LinkedIn!

imprint

ICLEI - Local Governments for Sustainability
European Secretariat
Leopoldring 3, 79098 Freiburg, Germany

Email: **newsletter@informedcities.eu**

Read our Data Privacy Policy **here**. You can also update your subscription preferences and unsubscribe from the Informed Cities Newsletter at any time through the links at the bottom of the newsletter.

Share   Tweet

A. Appendix A
    6. Sixth GreenCharge Newsletter (draft)

For our 6th, and final, newsletter, we talked to Jacqueline Floch, Project Coordinator of the GreenCharge project, based at SINTEF in Norway. What have we learnt over the last 3.5 years, and how can the rest of the world benefit?

GreenCharge2018-2022

This is a farewell from the GreenCharge project. I jumped into the project as Coordinator mid-way through. I had the opportunity to influence the work since, but much work was decided when I joined. Therefore, I look at the project from two angles, one internal and one external. The project is both mine and not mine, and this is what this final summary might reflect.

A complex projects with multiple lines of focus

GreenCharge is one of the most complex projects I ever contributed to. The project has tried to address so many concerns. We wished to increase confidence in the availability for charging such that **more drivers go for e-mobility**. This is important for private ownership, and even more for fleet managers where charging management is paramount. We wished to **maximize sharing of the greenest** available energy, and to reduce the demand for grid infrastructure that would only preserve reliance on the status quo of existing (carbon intensive) energy sources. And we wished to define **good ways to do business** to make all this work and motivate mobility users to adopt flexible behaviours in when they travel and how they charge.

Beyond these concerns, GreenCharge targeted different mobility cultures in 3 pilot cities, in Oslo with a high density of electric cars, in Bremen with focus on combining different mobility modes and reducing car usage, and in Barcelona where light vehicles (ebikes and escooters) are widely used. Demonstrators addressed concerns in different ways, and they were a means to evaluate different factors. At times it can be difficult to make sense of this level of complexity, and project participants strove with this too. We therefore developed one page "demo cards" that helped us -and will hopefully help you -to quickly understand what the demonstrators are about. We repeated such one page guides with Uptake Cities on their own road maps, and we hope these newsletters –of which this is the sixth –have distilled some complex ideas into easily digestible forms.

Transport and energy going through transitions in parallel

GreenCharge is a project that was very ambitious. The most ambitious goal was to support smart energy management across neighbourhoods–rather than only in private households or offices. E-mobility adds demand on the energy infrastructure. Smart energy management is about controlling energy use to make the best use of energy when it is available. Of course, keeping in mind the goal of climate-neutrality, it aims at best exploiting renewable energy and prioritising new investment in developing those new sources, provided through the grid or produced more locally. Predicting consumption and production is needed. Previous consumption patterns, weather forecast, and other parameters can be used for prediction. Solutions were demonstrated by GreenCharge partners at a workplace in Barcelona and in a residential area Oslo.

Going forward and using our results

This has not been an easy journey. Much of what we are doing is at the crossroads between different domains, i.e., transport, energy and buildings. The development of solutions thus required the integration of technologies from these different domains. Understanding these domains is of course challenging. Even more challenging is the lack of standardised interfaces. The GreenCharge Reference Architecture–a form of masterplan bringing software, policy and stakeholders together, from the knowledge of all our pilots -can help build understanding about the main concerns for e-Mobility, as well as developing the more detailed technology aspects. It also identifies opportunities for formal standardisation, that

would allow better integration of systems, data sharing and ultimately a better, more sustainable customer experience.

The COVID-19 pandemic has prevented GreenCharge to collect as many data from demonstrators as planned. The confinement measures have led to less mobility and less users for the implemented solutions. People simply stopped travelling for much of the project. Fortunately, GreenCharge planned to develop a hybrid evaluation approach where the evaluation of real cases could be extended with the simulation of new scenarios.

The GreenCharge evaluation approach extends the CIVITAS evaluation framework with a set of measures related to e-mobility (i.e., actions that can be introduced), associated Key Performance Indicators (KPIs) to measure the effects, and algorithms to calculate KPIs from collected data. Using simulation, it is possible to evaluate new "scenarios". For example, it is possible to scale up a test or experiment to a real case, to combine elements from different demonstrators and to introduce new elements, e.g., Vehicle to Grid (V2G). Still simulation does not start from scratch. It builds upon real data, so COVID-19 has hampered us to come as far as envisaged. We have developed a solid framework that is available openly after the project.

GreenCharge has made a tiny step towards achieving the ambitious Green Deal target goal of climate-neutrality. Far more steps are needed. Hopefully, new projects will learn from the knowledge generated in GreenCharge and build upon our results. Let us keep in touch, find new opportunities for collaboration and exchange knowledge.

Jacqueline Floch, Project Coordinator of the GreenCharge project

GreenCharge's deliverables – how to learn more about the project and apply it in your own city or country

Among 54 deliverables produced in GreenCharge, we have selected a few ones targeting readers with different backgrounds. Most of our deliverables will be available openly on GreenCharge community on Zenodo after acceptance by the European Commission. Take a look at the diagram below which highlights some of the best written outputs from the project to start with.

•A light approach to understanding GreenCharge is to go through the project "demo cards". The cards summarize the challenges to be solved, the goals and the measures implemented to achieve the goals.(D1.4)

•For those who want to understand more about the GreenCharge concept, we recommend the GreenCharge Reference Architecture that describes an ecosystem for smart and green charging. Architecture may sound very technical. The Architecture covers several viewpoints though that are relevant for readers with different backgrounds. For instance, it describes stakeholders and their concerns. For those developing technical solutions, it provides formal and technical specifications.(D4.2)

•For city planners and policy makers, we provide recommendations and guidelines for integrating e-Mobility into SUMPs. Cities and rural areas face several mobility problems . It is not simply about electrifying vehicles. Congestion, parking, road safety and connectivity are other challenges facing the transport sector. With SUMPs, priority is put on reducing transport needs, shifting to active modes, strengthening public transport and electrifying fleets.(D7.1/2)

•The GreenCharge evaluation approach is also a central deliverable in the project. It describes in detail the measures being evaluated as well as the indicators used to evaluate the impact of these measures. Measures are defined for EV fleets, charging, smart energy management and business aspects. Some measures are innovative. Some are state of the start and used in combination with innovative ones.(D5.1)

2

GreenCharge's results – what key technologies or products can you make use of yourself?

Included within our deliverables are GreenCharge's key results –this is the equivalent of our product catalogue. The diagram below summarises our technological solutions and policy advice that we offer you to explore and use in your own city.

"Working as Innovation Manager in GreenCharge, it has been fascinating to see this family of products grow, as the world around us has also grown to take e-mobility and green energy more and more seriously." Reggie Tricker

Example roadmaps

Uptake Cities learnt from the three pilot GreenCharge cities, and from each other, through site visits and an advanced webinar programme. This included cities are still at early stages of their electric mobility journey, who seek to learn from our GreenCharge pilots and demonstrations. Through GreenCharge, our Uptake Cities produced roadmaps to show how they intend to move forward with e-mobility after GreenCharge.

The results of the Uptake Cities programme

"I enjoyed the project not only being about technology. The project organised several workshops with mobility planners in Uptake Cities with the aim to discuss needs in the cities, actions undertaken and experiences, as well the project results. We found that smart energy management is not a main concern yet. Today a priority for many European cities is to build a charging infrastructure. Where the energy comes from and how it is managed is still a blurry issue. Based on these workshops as well as the project experiences, GreenCharge provides e-Mobility guidelines for Sustainable Urban Mobility Planning (SUMP). These differences in approach and backgrounds have also been evident within the consortium, but it has been great to see people understand each other's ideas and professions over three years –but the challenge will also be present in the outside world as transport and energy needs to operate in lockstep with one another."

New "Urban Mobility Framework for the EU

"Measures ... include obligations to put in place recharging and refuelling infrastructure for electric and hydrogen vehicles in cities, improved coordination, dedicated funding for cities under the EU Mission on Climate-neutral and Smart Cities, and integrate sustainable urban logistics plans (SULPs) within the SUMP framework."

https://www.eltis.org/in-brief/news/european-commission-releases-new-urban-mobility-framework

eMobility Expertise Centre (EeMEC) Webinar: "Driving the future of eMobility. Best Practices from 3 EU Cities"

23 February 2022 at 10:00 AM CET

https://meisterproject.eu/eemec-webinar-driving-the-future-of-emobility-best-practices-from-3-eu-cities/

Fifth European conference on results from road transport R&I in H2020 projects

29-30 March 2022

https://www.2zeroemission.eu/event/h2020rtr21-5th-edition/

Where are they at with USER-CHI?

"It's with the users in mind that USER-CHI wants them to charge "anywhere, anytime". So, where are we at now?"

https://www.userchi.eu/news/where-are-we-at-with-user-chi/

New projects on mobility behaviour:

PS Lifestyle https://www.cscp.org/pslifestyle-kick-off/

Shared Green Deal http://www.sharedgreendeal.eu/

Visit the following websites to find GreenCharge's final results as they are available:

Zenodo - https://zenodo.org/communities/h2020-greencharge

•GreenCharge's open source results will be stored to the GreenCharge community on Zenodo after approval of the deliverables by the EC.

CIVITAS - https://civitas.eu/projects/greencharge

•The Reference Architecture, the Evaluation Framework and the Recommendations and Guidelines for integrating e-Mobility into SUMPswill be uploaded to the CIVITAS platform after approval of the deliverables by the EC.

Cordis - https://cordis.europa.eu/project/id/769016/results

•All open deliverables are also published by the EC on CORDIS. The description of results is however more concise than that we provide on Zenodo.

App Stores – **ZET.Share** https://play.google.com/store/apps/details?id=com.zetshare and https://apps.apple.com/us/app/zet-share/id1497321575;

ZET.Charge https://apps.apple.com/us/app/zet-charge/id1533967472 and https://play.google.com/store/apps/details?id=com.zetcharge

GitHub - search for GreenCharge

"Zenodo is a catch-all research data repository that enables researchers, scientists, EU projects and institutions to share research results, make research results citable, and search and reuse open research results from other projects."

GreenCharge on stage

Re-purpose. Re-charge. Re-think. Heritage and e-mobility at thecrossroads:

Informed Cities Forum 26-28 October 2021

NOW AVAILABLE ONLINE

Run by ICLEI with an online audience from studios in Freiburg, members of the GreenCharge consortium gathered to discuss the results and concepts behind GreenCharge with external stakeholders and audience members –as well as with members from the Open Heritage project partnering us with the event. Recordings from the session are available online, and a report of the event summarises what was discussed in less detail.

Event home page: https://informedcities.eu/events/9th-informed-cities-forum/

Conference summary report: https://informedcities.eu/fileadmin/user_upload/9th-Informed-Cities-report.pdf

Video playlist: https://www.youtube.com/playlist?list=PLv-mhCFisOsXBFXpU1UpELWBgx3KfnuIU

"The most memorable event to me will not be COVID-19. It will be a glad one. GreenCharge and OpenHeritage co-organized the 9thInformed Cities Forum online. What happens when people from two worlds, electric mobility and cultural heritage, meet? Indeed, we found a common ground discussing the importance of sharing, of involving communities towards making changes. Then I realized that e-mobility is much more that recharging cars, it is about recharging people with knowledge so they can change behaviours. Sessions were recorded and are available to all. Enjoy!"