

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 mobility 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.



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



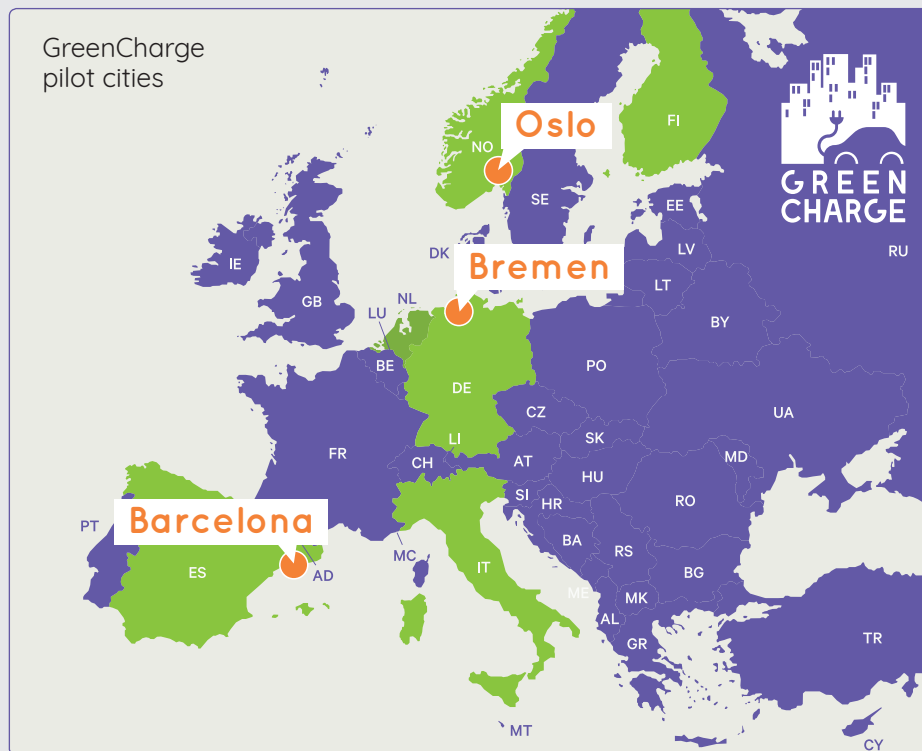
www.informedcities.eu

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 pages (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 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



Feature Article: Introduction to GreenCharge eMobility



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.



• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

energy
saving
trust



Electric Vehicle Infrastructure
An Investment Case for Edinburgh
August 2018



GreenCharge Uptake Cities

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)

Miljöbilar i Stockholm

Hyllningsbrev 4/2018

Temat: Eccentric Special

En jakt på goda idéer

ECCENTRIC testar nya tekniska lösningar för smarta och smartare transporter i Stockholm. Projektet har utvecklats under ledning av Stockholm och är ett av de mest framgångsrika i EU-projektet. Det har också fått mycket uppmärksamhet från media och allmänheten.

• Ökad trafiksäkerhet
 • Ökad trafiksäkerhet
 • Ökad trafiksäkerhet
 • Ökad trafiksäkerhet

Eccentric har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.

Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm. Det har varit en viktig del i att utveckla och förbättra den offentliga transporten i Stockholm.



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

Newsweek 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.thenewsweek.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 Publications



GreenCharge Diary



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 mobility at each of the three pilot cities involving a mixture of consortium members and representatives of the local reference groups in each city.

Read more at:

www.greencharge2020.eu/news

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**

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

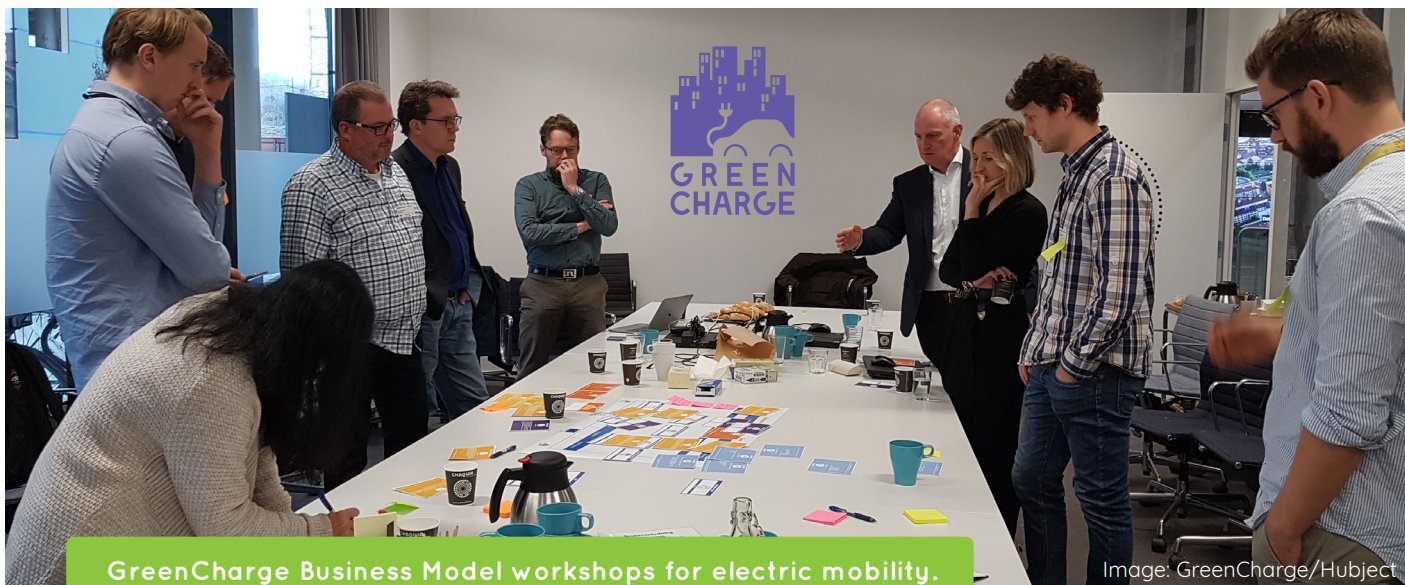
www.meisterproject.eu

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



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



www.informedcities.eu



Twitter: [GreenCharge2020](https://twitter.com/GreenCharge2020)
 LinkedIn: [GreenCharge Project](https://www.linkedin.com/company/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](http://www.greencharge2020.eu).