



# Electricity grid in the context of energy transition

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# Introduction



Clean energy and clean mobility subjects are becoming ever more inter-linked



Legislative proposals of recent years have been well co-ordinated and complementary



Now is the right moment to ensure closer co-operation between clean mobility and clean energy R&I streams (and not only within H2020)!



# H2020 ongoing smart grids & storage projects: BRIDGE

**All key smart grids projects** (especially with demos) are gathered under **BRIDGE cooperation cluster**

Between  
2014 and 2017  
420 MEur of EU funding  
has been made available  
under H2020

1<sup>st</sup> session of EGVIA  
event will allow to get  
insight into a number of  
BRIDGE family projects!

Data  
management

Business Models

Regulations

Customer  
Engagement



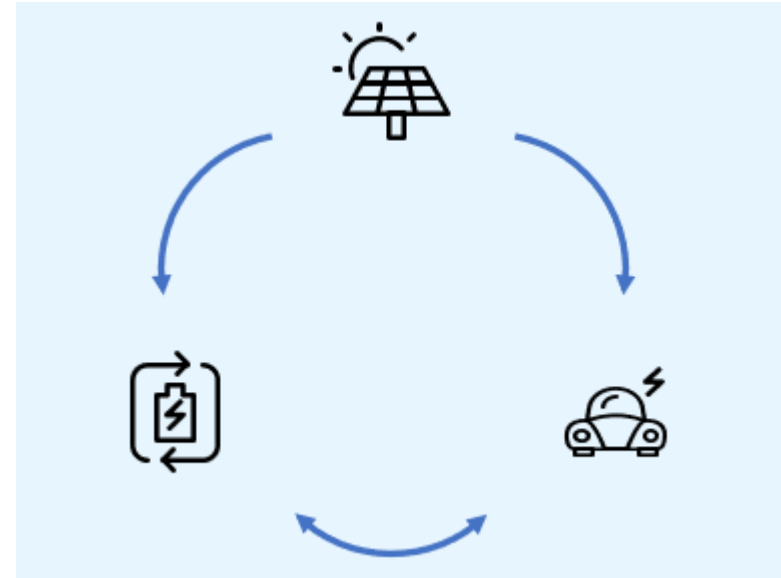
<http://www.h2020-bridge.eu/>

# Examples of e-mobility topics within BRIDGE



**Large-scale central storage unit to enhance electrical vehicles smart charging**

→ Dutch Demo



- **Electric Vehicle charging stations combined with PV installations and battery** with capacity between 250-500kWh
- **Congestion problems solved by using batteries & smart charging** (postponing or even interrupting the EV charge)



# BRIDGE and e-mobility (continued)

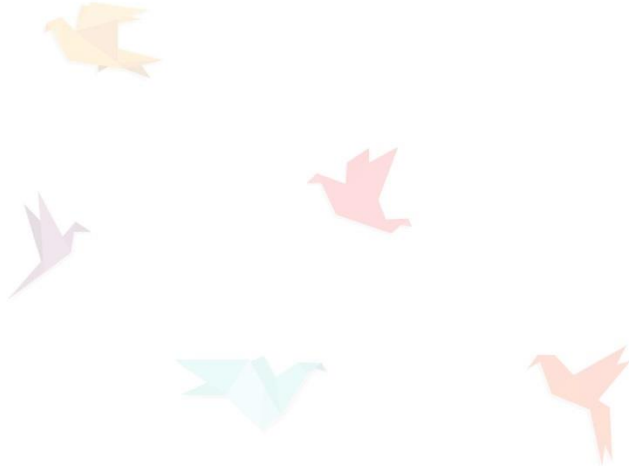


The project *inter alia* involves development of **WiseGRID Electric Vehicle Platform** for vehicle-sharing companies and companies like e-taxi companies, to optimise charging and reduce energy billing. The e-car fleet will serve as an aggregation of moving batteries.

**Winner of EUSEW 2018 Citizen's Award and Business category!**



# Smart grid projects with 2<sup>nd</sup> life EV batteries





# Videos and PPPs from H2020 info-days

- **Energy Systems - related videos**

<https://webcast.ec.europa.eu/horizon-2020-energy-info-days-smart-citizen-centred-energy-systems>

- **Energy Systems - related PPPs**

[https://ec.europa.eu/easme/sites/easme-site/files/02\\_info-days-remy-mod20mvs.pdf](https://ec.europa.eu/easme/sites/easme-site/files/02_info-days-remy-mod20mvs.pdf)



# Some upcoming calls explicitly mention e-mobility

LC-SC3-ES-1-2019: Flexibility and retail market options for the distribution grid

..improvement of the capability to manage future energy loads including EVs.. Electricity storage, including V2G to play a key role in providing services to the grid.

LC-SC3-ES-3-2018-2020: Integrated local energy systems

Storage of all energy vectors, including batteries and EVs attached an important role.

## ICT WP 2018-2020

- DT-ICT-10-2018-19: Interoperable and smart homes and grids
- DT-ICT-11-2019: Big data solutions for energy



## Secure societies WP 2018-2020

SU-DS04-2018-2020: Cybersecurity in the Electrical Power and Energy System



# Clean Energy Package: an important enabler

Parts of the package already  
adopted/agreed

## **Amended Energy Performance in Buildings Directive**

Minimum requirements on charging  
points and pre-cabling in residential  
and non-residential buildings as well  
as other enabling provisions.

## **Recast of Renewable Energy Directive (RED II):**

2030 renewables' target in transport  
sector = 14% with renewable  
electricity benefiting from multiplier 4.

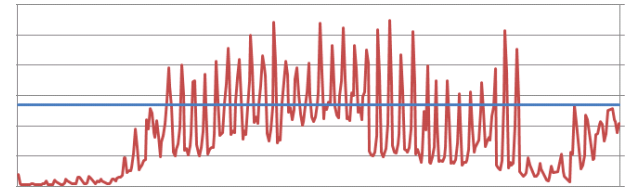


# Clean Energy Package: new market design

**Reinforced rules on smart metering systems**, their interoperability as well as their connectivity with consumer energy management platforms.



**Right to dynamic electricity contract for consumers and enabling provisions for aggregators**



*NB: good will of MS is crucial to unlocking full potential of dynamic pricing. Ideally not only electricity price but also grid charges should be dynamic!*



# New Market Design (continuation)

- **Abolition of discriminatory network charges for storage**
- Possibility of **price caps will largely be removed**
- **Energy trading – close to real time** and modest **minimum bid sizes** will be modest (day-ahead & intra-day market)
- Better access to **ancillary services market** and their fair remuneration



Let's see today how can we best strengthen co-operation between



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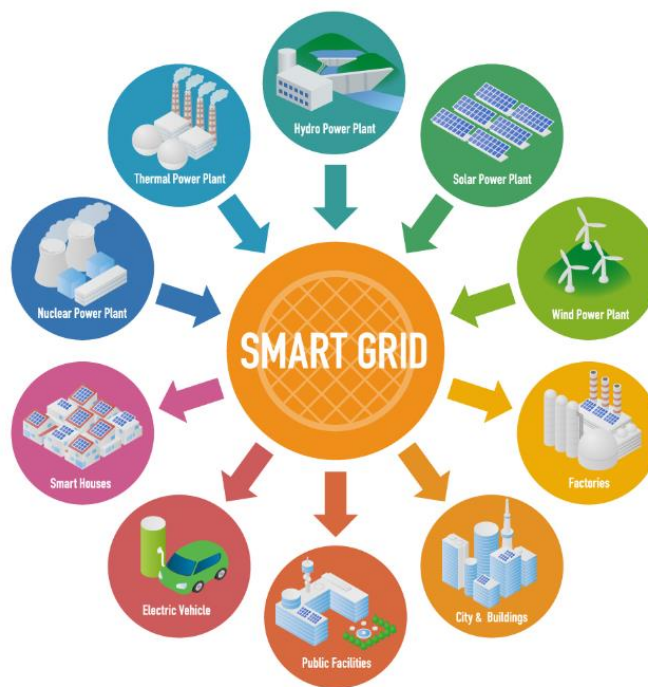


and even go beyond!

(+not to forget good testing facilities  
JRC has in Ispra)



# Thank you for your attention!



## Questions?

<https://ec.europa.eu/energy/en>

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European  
Commission