

POLIS

CITIES AND REGIONS FOR TRANSPORT INNOVATION

ANNUAL
CONFERENCE
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KARLSRUHE (DE)



Baden-Württemberg
Ministry of Transport



Karlsruhe



SCALE blueprint for user-centric smart charging & V2X for European cities & regions

09:00 AM – 11:15 AM

28 November 2024

Shreesha Vaidhya, Rupprecht Consult

Presentation outline

- About the SCALE project
- Capacity building in SCALE
- Context for SCALE blueprint
- Need for the blueprint
- Legacy work
- Expectations from blueprint
- Preliminary recommendations



Source: We Drive Solar, SCALE Project

What is SCALE?

SCALE (Smart Charging Alignment for Europe) is a three-year Horizon Europe project that aims at preparing EU cities for mass deployment of electric vehicles and the accompanying smart charging and V2G infrastructure.



Learn more about the project:



Source: Utrecht city, SCALE Project



Partners

OEMs



E-mobility fleet & software



Research & knowledge institutes



Cities & associations



DSOs & TSOs



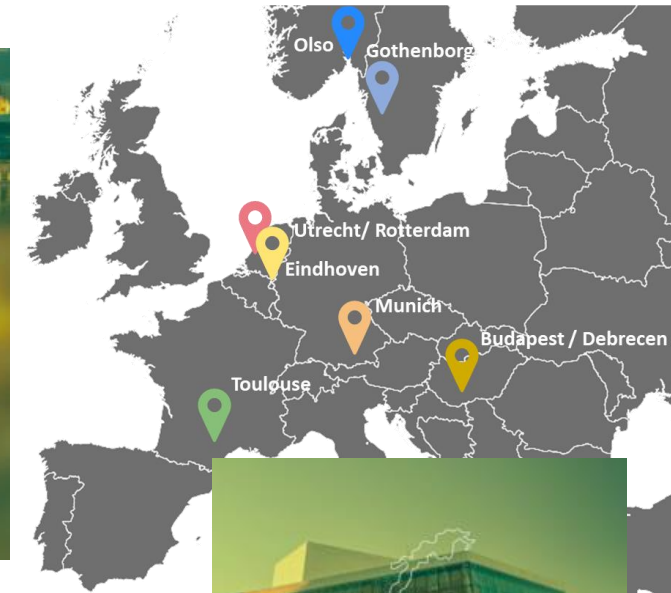
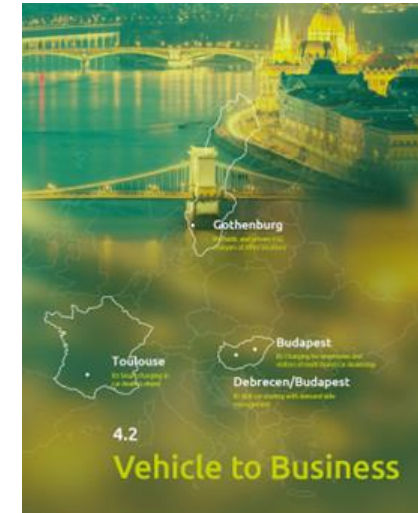
Innovation in SCALE

Clusters in which use cases are tested:

- Vehicle-2-Home (V2H)
- Vehicle-2-Business (V2B)
- Vehicle-2-Depot (V2D) and
- Vehicle-2-Public (V2P)

Main outputs include among others

- Open system architecture adapted to different use cases
- Deploying V2G chargers in cities and testing with V2G-enabled cars (Ongoing)
- Charging infrastructure planning tools
- Integrated, cross-sectoral planning guidelines



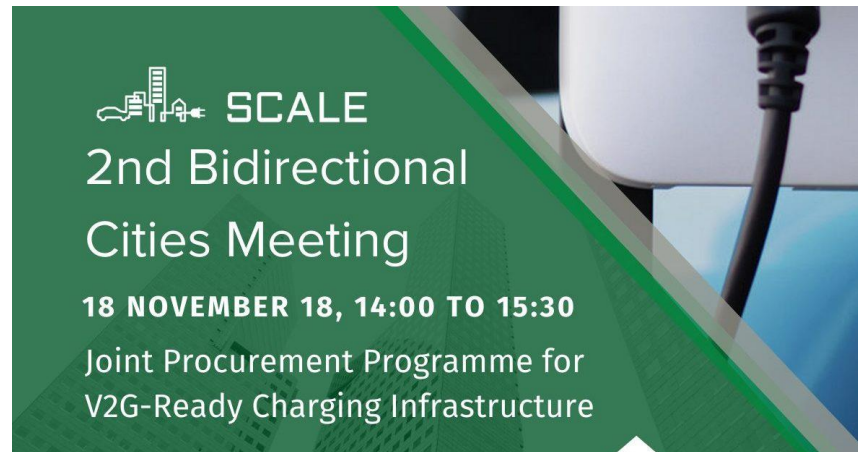
Source: ElaadNI, Stakeholder analysis report, SCALE Project

Capacity Building in SCALE

The capacity building programme includes

- Webinar series
- E-course – Scan the QR code
- Bi-directional city events
 - Joint Procurement Programme

• **Blueprint**



What is the blueprint?

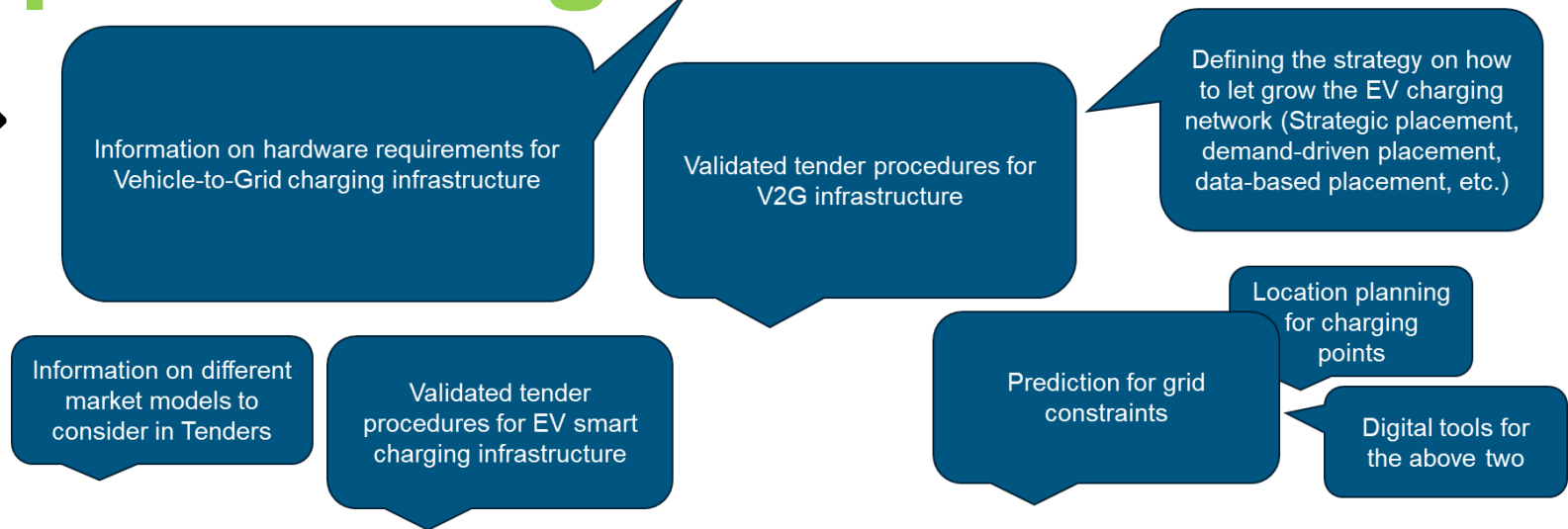
SCALE blueprint is an **integrated G2X (energy) - V2X (mobility) cross-sectoral planning guideline** that intends to enable cities & regions to **bring change on-ground and build capacities on change/transition management** as part of their climate action and sustainable mobility plans



Source: [IRENA report](#)

Need for blueprint-like guidelines

Knowledge gaps surfaced from an initial survey in SCALE



Constant dialogue with cities reveal



- Reorganization
- Breaking away from silos
- Transition management
- Innovation teams

Change Management



- Charging infrastructure
- Shared mobility
- Energy communities
- Renewable energy integration

Integrated planning



Wider context (also a need)



Decarbonization of energy

- Hand-in-hand with electric mobility



Energy efficiency

- Systemic change



Decentralized energy system

- Smart grids, EVs and RE



Land use planning

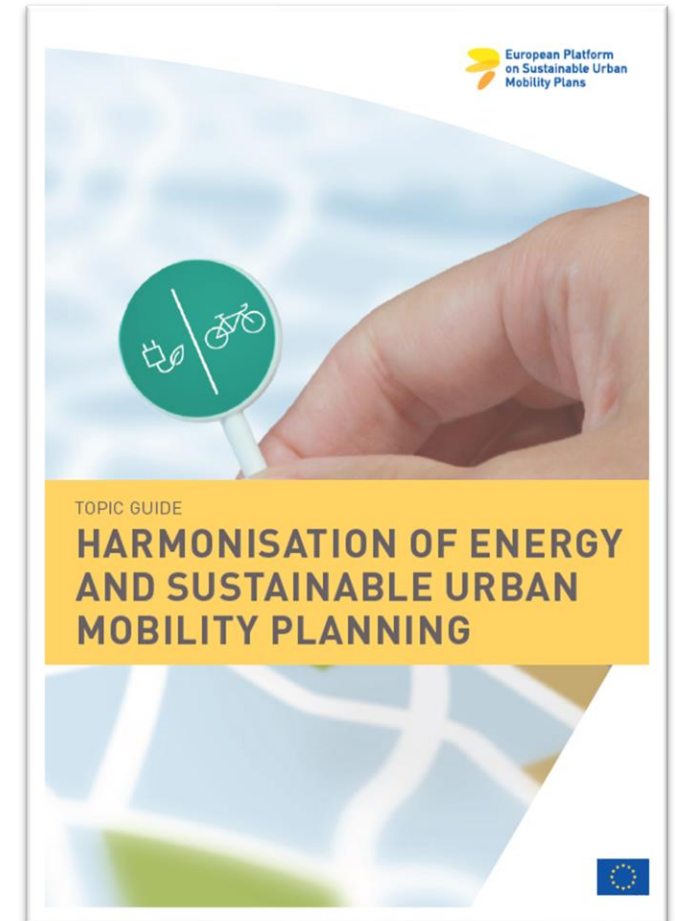
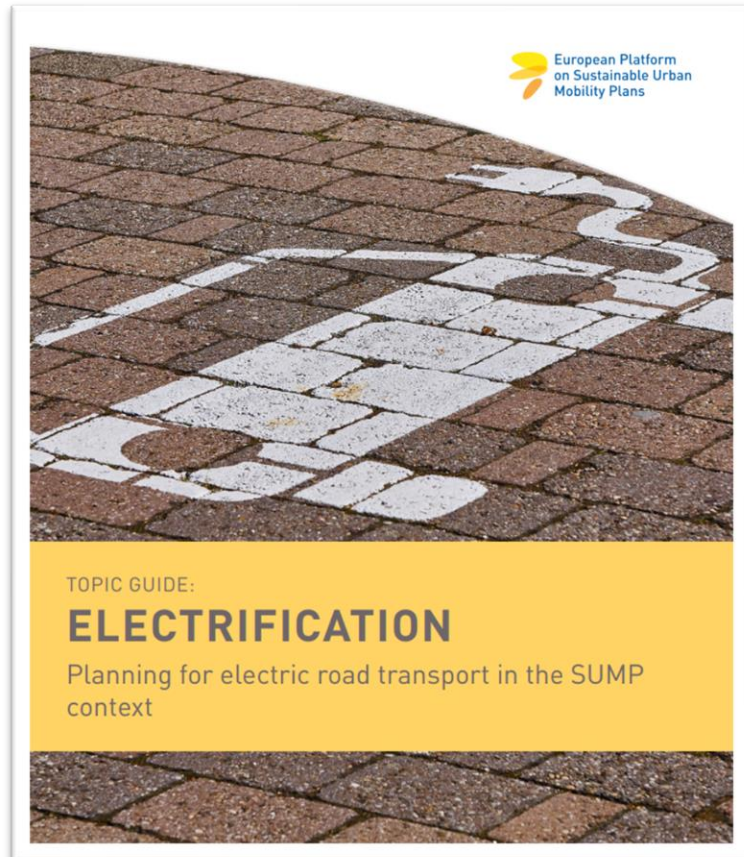
- Public space and charging strategies
- Spatial planning



EU policies

- AFIR
- RED II
- EPBD


Not reinventing the wheel

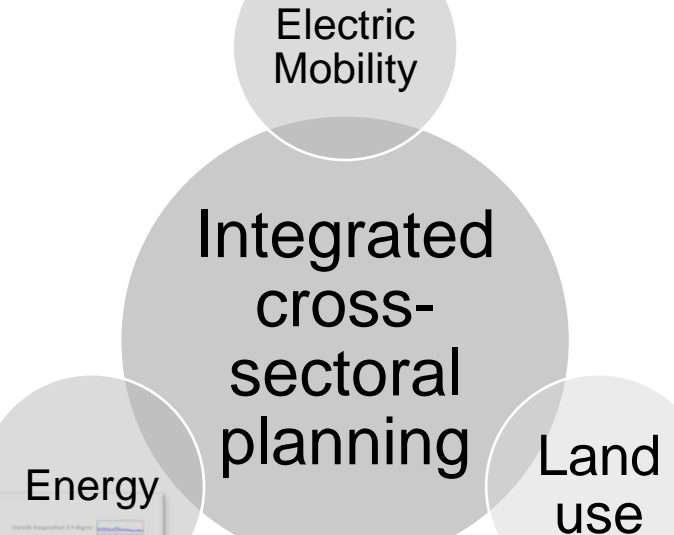


Building on existing work and projects..

..... and more.

What can be expected in the blueprint?

- Breaking down complex value chain of smart charging and V2G
- New services in the energy and mobility ecosystem
- Motivation from each stakeholder to participate in this integrated ecosystem
- Planning tools coming out of SCALE 
- Case studies/ground report
- Recommendations





First look at the recommendations

Provide support and simplify procedures for smart charging installation and keep the pace on installing charging infrastructure

Promote the interoperability between charging networks to enable chargers to be controlled by approved third parties (such as DSOs and aggregators) that can gather data that is used to support smart energy management;

Existing standards must be extended to cover vehicle integration with smart grid and home energy management systems.

Restructure or create new cross-functional innovation team to implement integrated planning practices



Thank you for your attention!





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For more information:

Shreesha Vaidhya

s.vaidhya@rupprecht-consult.eu



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