



Clean Bus Europe Platform: Enabling the transition to clean fleets

trolley 2.0 Final Conference

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**CLEAN
BUS**
EUROPE PLATFORM

The Clean Bus Europe Platform is financed by
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Today

Clean Vehicles Directive

Clean Bus Deployment Initiative

Clean Bus Europe Platform

What's in for trolley bus stakeholders?



The Clean Vehicles Directive (CVD)

- Key aspects:
 - What is the scope of the Directive?
 - What is a “clean” vehicle?
 - How high are the procurement quotas?
 - What does the timeline look like?
- 12 July 2019: Directive published in the Official Journal of the EU
- 2 August 2019: Directive entered into effect
- Transposition into national law by MS shall be ready by August 2021



The Clean Vehicles Directive

- 2 August 2019: Directive entered into effect
- Transposition into national law by MS by Aug 2021
- List of technologies based on the AFI Directive on the deployment of alternative fuels infrastructure.

A clean bus is fuelled by:

- **electricity**
- **hydrogen**
- **natural gas (CNG, LNG)**
- most biofuels
- synthetic and paraffinic fuels
- liquefied petroleum gas (LPG)

A zero-emission (tailpipe) bus is a vehicle:

- without an ICE, or
- with an ICE that emits less than 1g CO₂/kWh or less than 1gCO₂/km

Sources: Directive (EU) 2019/1161; Directive 2014/94/EU, Art. 2(1) and 2(2)

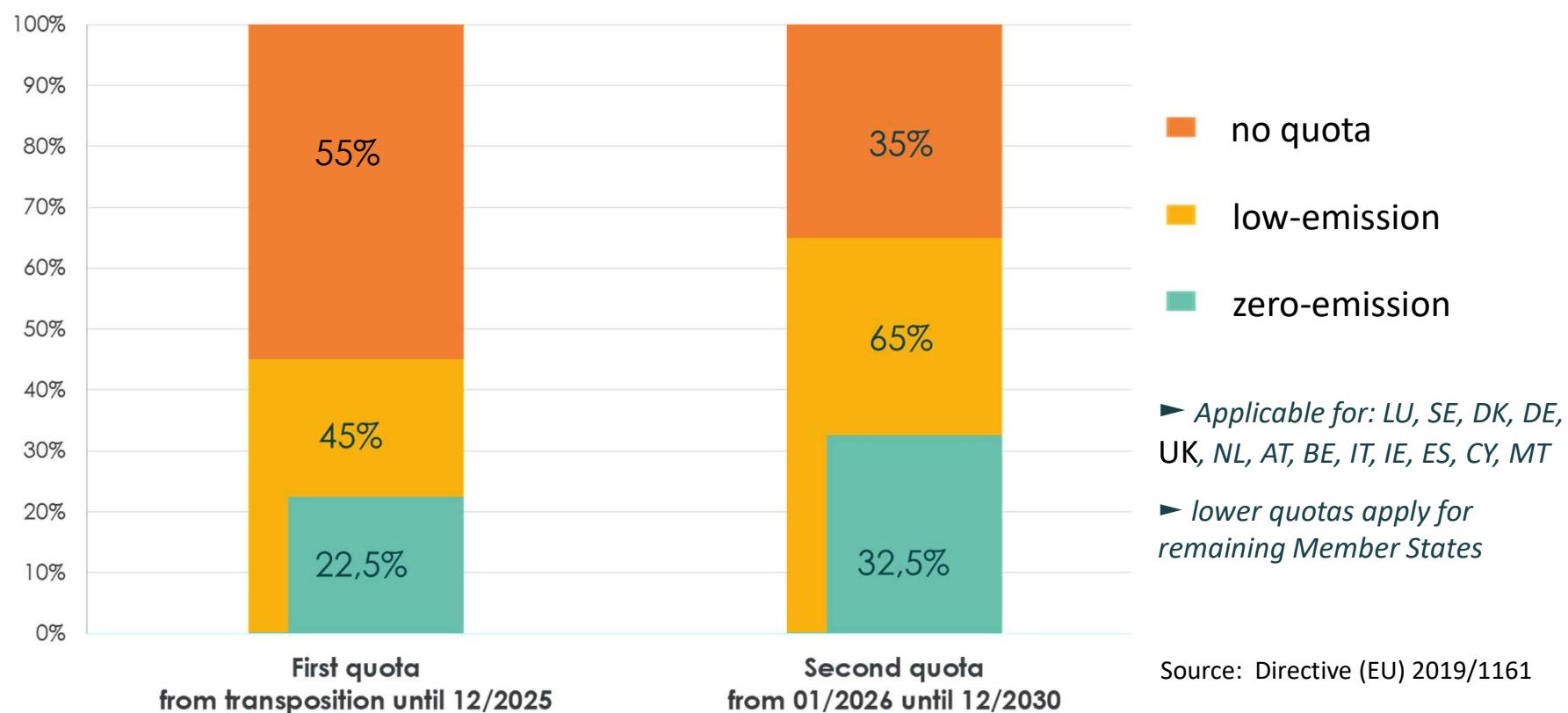
Trolley buses in the CVD



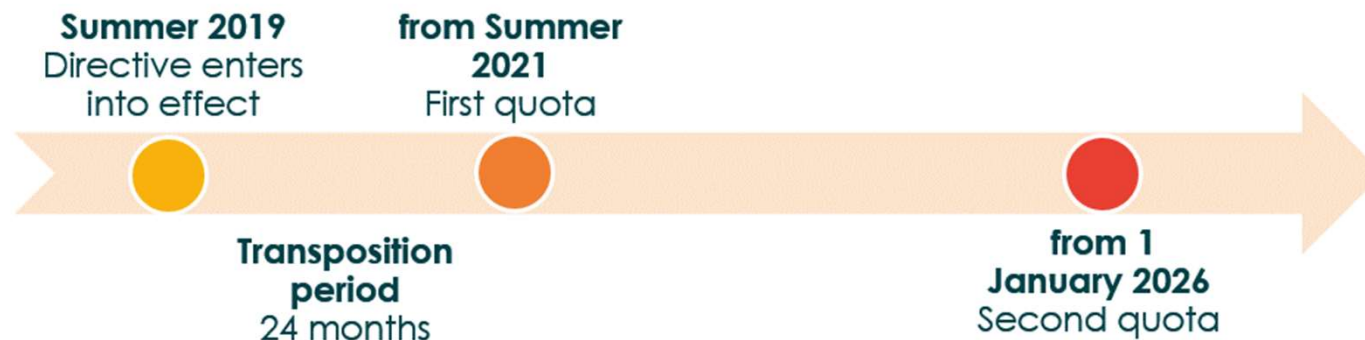
- Trolley buses are considered to be zero-emission buses, provided that they run only on electricity; or
- They use only a **zero-emission powertrain when they are not connected to the grid**
- Otherwise they still count as **clean vehicles**.
- Opportunity and challenge for trolley bus countries in Europe
 - How will the transposition in different MS look like?
 - Opportunity and challenge for trolley bus countries in Europe



Quotas for public procurement of buses



Accelerated deployment of clean and energy efficient buses



- Challenge for cities, authorities and operators
- Exchange of expertise can facilitate the transition towards clean buses

Source: Directive (EU) 2019/1161



Clean Bus Deployment Initiative

- In 2017 the EC launched the Clean Bus Deployment Initiative to speed up the introduction of clean buses across Europe.
- Elements for the scale up:
 - Policy framework
 - Financial & funding framework
 - Exchange of best practices and knowledge.
- The Clean Bus Europe Platform is the strategic line of action to develop, implement and support the transition towards clean bus fleets.

Members of the CBEP must sign the Clean Bus Declaration to formalise the adhesion to the Platform



House of the Regions, Brussels (BE)



Clean Bus Europe Platform: enabler of large scale deployment

- Policies on decarbonisation & clean bus technologies are driving both market and cities towards clean buses
- Cities have political will, but lack the capabilities and know-how
- The CBEP supports cities and operators in the transition to clean fleets and thus compliance with CVD:
 - Fostering knowledge and expertise exchange among EU MSs
 - Providing technical support along the process
 - Matching supply and demand

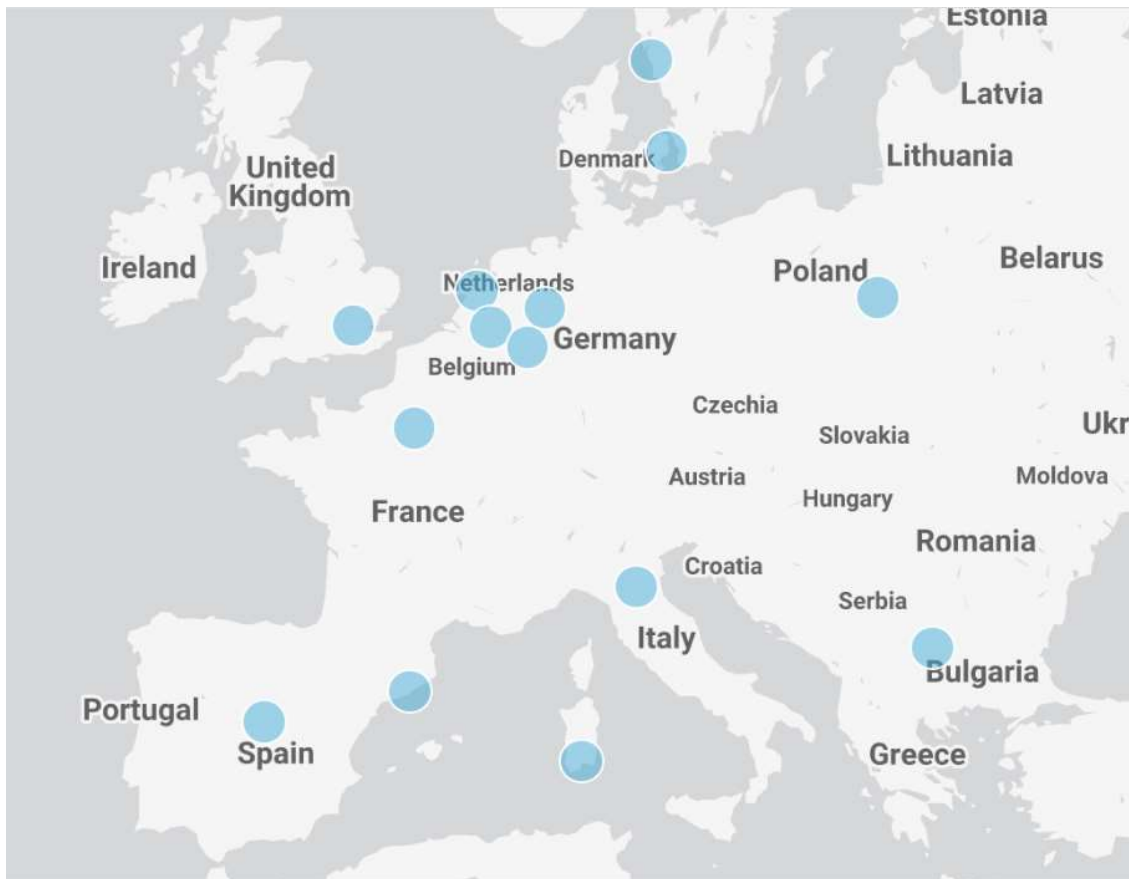


The CBE Platform

- The CBEP brings together all stakeholders related to CBD
 - PTOs, PTAs and city authorities
 - UITP bodies: BUS, TBUS, VEI, BHRM, OA
 - Associated Partner: European Transport Workers' Federation
 - Funding/financing institutions
 - Associations
- Technologies
 - Battery electric, Plug-in hybrid, Fuel cells & hydrogen, Natural gas, In-motion-charging trolleybuses (IMC)
- Twining approach learning cities & more advanced cities



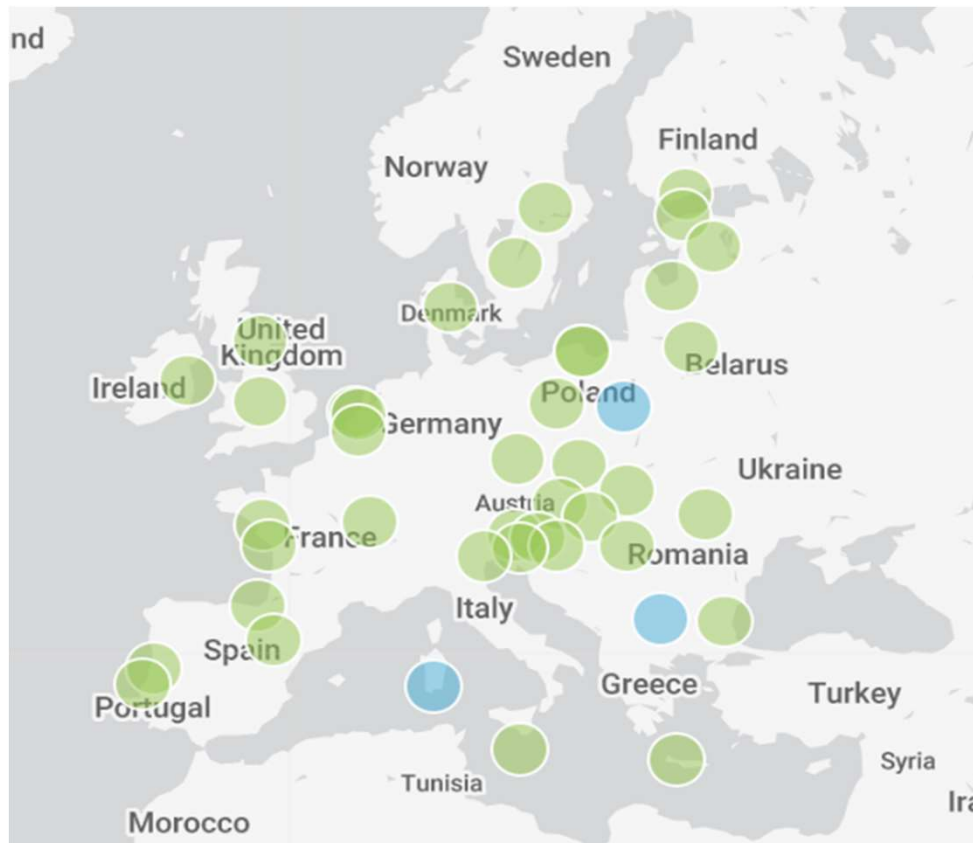
Host Cities



- Gothenburg
- Copenhagen
- London
- Paris
- Amsterdam
- Eindhoven
- Cologne
- Munster
- Madrid
- Barcelona
- Bologna
- Cagliari
- Sofia



Target Cities & Regions



Klagenfurt, Antwerp, Burgas, Sofia, Koprivnica, Nicosia, Prague, Ostrava, Tallinn, Aarhus, Tartu, Helsinki, Nantes, La Rochelle, Dijon, Rethymno, Budapest, Cagliari, Dublin, Treviso, Riga, Vilnius, Rotterdam, The Hague, Warsaw, Gdynia, Poznan, Coimbra, Caldas da Rainha, Arad, Suceava, Bratislava, Košice, Maribor, Zaragoza, San Sebastian, County of Västmandland, County of Örebro, Jönköping, Tyne and Wear, West Midlands



CBEP Main pillars



Capacity building & knowledge transfer



Technical support & facilitation



Social dialogue on impacts on workforce



Dissemination & Monitoring

Activities, services, products

Webinars
on general
& specific
aspects of
CBD

Study
tours to
Host Cities

Market
Places
Industry &
Financing

Technical
support:
meetings
with local
experts

Social
Dialogue
activities

Market
evolution,
tenders,
orders,
deploymt

Specific
products,
material,
info



KNOWLEDGE BRIEF

IN MOTION CHARGING INNOVATIVE TROLLEYBUS

MAY 2019

INTRODUCTION

Urban sprawl and the significant environmental degradation are among the main factors that have led to a renewed interest in urban development and sustainable urban mobility. The latest technologies answered the public call for better environmental and cost-efficient alternatives. The electric transition is not expensive but by using high efficiency systems, like light or heavy rail, the electrical drive can be cost-effective, sustainable and, in the end, a green no-brainer solution.

IN MOTION FEEDING

Electric transport solutions are based on the permanent supply of electric energy to the vehicle in motion, what is called **In Motion Feeding**. The development of electric batteries led engineers to propose new environmentally friendly solutions and make electric vehicles more flexible and manoeuvrable for operators.

A VERY EFFICIENT AND INTERESTING SOLUTION

There are several ways of charging electric systems such as **Flash charging**, charging at the bus stops for about 10

seconds during the boarding of passengers, **Opportunity charging**, charging at the terminus stops between the shifts, **Overnight charging**, charging during the night at the bus depot or **In Motion Charging**.

In Motion Charging provides a very efficient and interesting solution for the electrification of city transport. All other means of charging on the spot have their potential limits, as electrical energy is approximately 100 times longer than chemical energy transfer, pouring diesel into the bus.

In Motion Charging can be also combined with opportunity charging.

This Knowledge Brief presents the benefits of installing infrastructure with In Motion Charging into a city. It also describes the benefits of upgrading an already existing trolleybus system with In Motion Charging technology, combining passing under the overhead wires network with battery charge while operating in autonomous battery mode (with lowered current collection).



Charging with In Motion Charging current collection - Capitalcity



What's in for you?

- Become a Follower City and enjoy access to:
 - Webinars on clean bus technologies and related topics
 - Study visits to experienced cities*
 - Market places with the Industry & Financing entities*
 - Regional networks to facilitate exchange with your neighbouring cities
 - Clean Bus Forum and other project main events
 - Showcase your system in the Clean Bus Report!
 - Follower Cities must sign the EC Clean Bus Declaration
- Become a CBEP supporter as an Interested stakeholder
- Apply via website www.cleanbusplatform.eu
 - or contact me: aida.abdulah@uitp.org



Projects in the field of clean buses



- www.cleanbusplatform.eu
- www.assured-project.eu
- www.fuelcellbuses.eu
- www.trolleyemotion.eu/trolley2-0
- www.e-lobster.eu
- www.eliptic-project.eu
- www.zeeus.eu
- www.ebsf2.eu

Thank You!

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