





A third of the 200,000 buses in European public transport will be zero-emission by 2030. In that year, according to ING, ZE buses will cover two thirds of the new city bus registrations.

Not to forget, according to the EU's Clean Vehicles Directive, a minimum of 22.5% of all new buses ordered in 2021 across Europe will have to be zero-emission. In 2020 the share was a 15 percent on average.

Reinforced by the EU's 'FitFor55' ambition, the future of urban public transport is sealed and relies on the growing deployment of zero emission buses.

Metropolis' transition plans are clear enough: Berlin and Milan aim to switch the full bus fleet to electricity by 2030; all new buses ordered by TfL for the capital will be zero-emission starting in 2021. In the Netherlands, from 2025 on, newly bought buses for public transport can only be emission-free.





The Sustainable Bus Tour's initiative was launched in 2021. Two webinars took place in May and October, focusing on charging infrastructures for depots and on hydrogen buses respectively.

The goal? Discussing key issues and outlooks with the participation of operators, manufacturers, providers of components and technologies.

With a keen look at today's projects and the focus on the challenges the public transport sector is facing.





#### NEW TECHNOLOGIES / NEW ECONOMICS. COSTS, TRENDS AND TOOLS FOR THE TRANSITION TO ZERO EMISSION BUSES

MAY 2022

E-bus upfront prices are among the barriers for their adoption. As zero emission bus volumes grow in Europe, the spotlight moves on the ways to make the transition affordable, and how to finance it. Which is the breakeven point on a TCO basis between electric and diesel buses? To what extent maintenance costs are going to be lower? How decrease in battery prices will impact zero emission bus costs, as BloombergNEF finds lithium-ion battery prices fell 6% from 2020 to 2021 (89% between 2010 and 2021)?

Fundings has been provided by the EU and national governments, as the path for zero emission in public transport has been set. Technical issues have been left behind, financial issues are still in place. A look at best practices, outlooks and analysis, trying to outline challenges and opportunities.





## ENERGY TRANSITION OUT OF THE CITIES. BATTERIES, GAS, HYDROGEN FOR INTERCITY AND LONG-HAUL APPLICATIONS

OCTOBER 2022

Intercity and long-distance bus markets are still based on diesel applications. On the other hand, things are moving fast: gas-powered buses for intercity services are taking a growing share in some markets, while pilots have been established on the way to the future development of hydrogen coaches.

Out of cities, the imperative of the commitment to energy transition goes along with uncertainty about which technological solutions to adopt in order to achieve the goal. Are batteries going to allow longdistance operations without compromising passenger or luggage capacity? Is CNG a viable solution in the long term? What about LNG? How long should we expect before hydrogen becomes a feasible (and affordable) technology for coaches?





### MOBILITY AS A SERVICE AND THE FUTURE OF URBAN MOBILITY. HOW TO INCREASE THE MODAL SHARE OF PUBLIC TRANSPORT?

NOVEMBER 2022

Smart ticketing. Contactless paying. Dematerialized ticketing. Seamless mobility. Intermodal travels. In one acronym: MaaS, i.e. Mobility as a Service.

Along with the challenge of energy transition, digitalization is the other key trend affecting the strategies of public transport companies and authorities nowadays. Especially in a post-pandemic framework that sees public transport providers striving to get users back: improving user experience and offering easy access to public transport becomes instrumental in order to increase the share of public transport travels, with cities such as Barcelona - for instance - aiming at a 65% modal share by 2025.





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# POWERING THE FUTURE OF PUBLIC TRANSPORT. CHARGING STRATEGIES FOR BUS FLEETS

MARCH 2022

Plug-in or pantograph charging? Slow or fast? In the depot or at terminus? Smart charging? What happens as the number of buses and power increases? The 'battle' of energy transition in public transport will be fought on the infrastructure's terrain.

The way an operator powers an e-bus fleet demands a clear understanding how the city will evolve in the future.

Several aspects come into play: depots to be converted, a growing energy demand, the reorganizations of parking lots and depot-based procedures, a careful planning of the routes depending on the location of charging points.

This is not without challenges. Developing a future-proof charging strategy is essential for city and public transport operators.







Sustainable Bus is the only international media fully focused on clean buses and sustainability in the field of public transport. It belongs to the editorial platform of the publishing house Vado e Torno Edizioni.

Founded in 2018, it has established itself as an essential tool for professionals involved in the planning and implementation of low/zero emission public transport projects and operations.







Sustainable Bus saw the light in 2018 in a specific historical and sociological framework. Urbanization and climate change are global challenges that ask public transport to change attitude.

Public transportation is heading toward a transition that implicates a new paradigma. Future societies will be sustainable only if they will be able to grant both the right to an efficient mobility and to a cleaner air.

## PARTNERSHIPS

Since 2020, Sustainable Bus is technical partner of UITP for the Clean Bus Europe Platform (CBEP) and is providing the platform with news contents on clean bus tenders, orders, deployment.



