Helsinki region electric bus activities with pre-commercial pilot ”ePELI”

Nordic Bus Initiatives, 1.9.2015, Gothenburg

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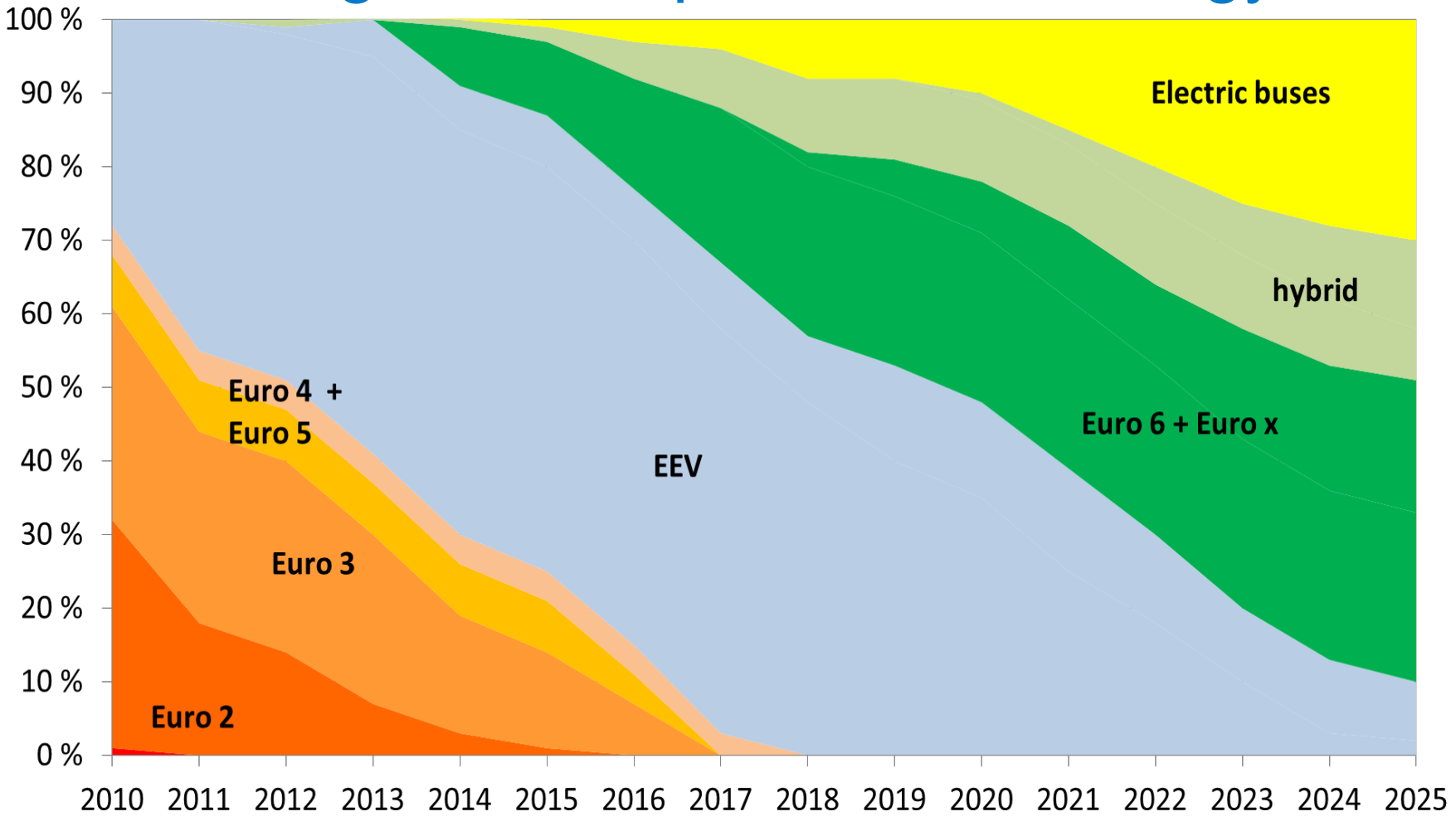
Helsinki Region Transport

Helsinki Region Transport – fleet strategy 2025



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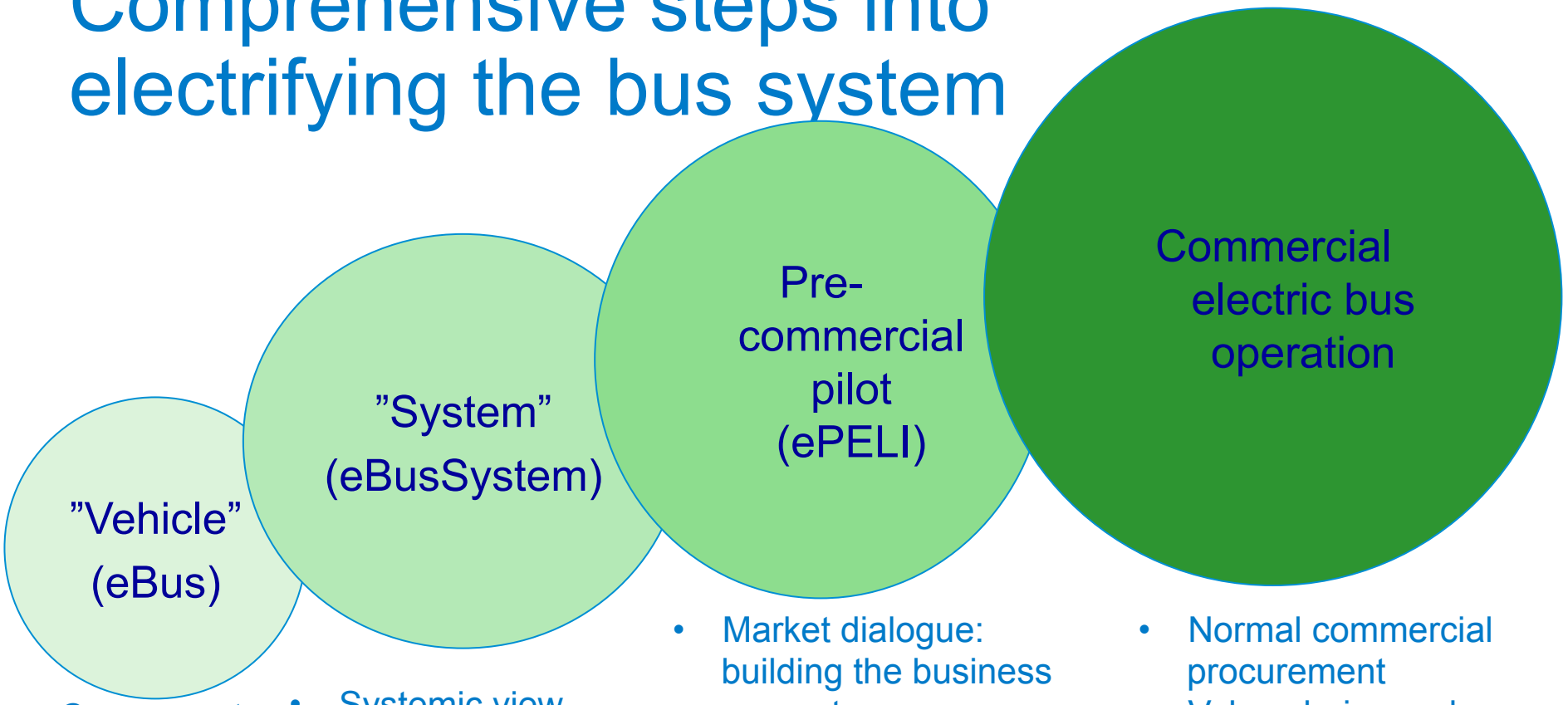
Estimated effect on emissions by 2025 (compared to 2010): reduction of NO_x (-92%), PM (-95%), CO_2 (-90%)
For conventional buses, biofuels are phased in and constitute 100% from 2020 onwards

Comprehensive steps into electrifying the bus system



- Components
- Vehicular technology
- 4 e-buses

- Systemic view
- Charging technology
- Operation concepts
- A few vehicles

- Market dialogue: building the business ecosystem
- Engaging bus operators
- ICharging infrastructure (cities)
- Charging operators
- Innovation platform

- Normal commercial procurement
- Value chains and service providers established
- Readiness to tender
- Charging infrastructure available

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HRT timeline: 2012 | 2014 | 2015 | 2016 - 2017 →

Before large scale adoption, HSL wants to secure the following

- Productivity: the size of the bus fleet must not be increased when replacing conventional buses with electric ones (fleet cost)
- Operability: the operability of the electric buses must be at the same level as that of the conventional buses
- Reliability and comfort: the level of service, reliability and passenger comfort need to be the same or better compared with conventional buses

→ Proven and reliable technology

→ Established value network and actors with business models

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Innovative procurement in “ePELI”

- Normally Helsinki Region Transport (HSL), the public transport authority (PTA) procures public transport services, not vehicles
- However, HSL realised that electric buses are a challenge for the bus operators
- **HSL took the decision to purchase 12 electric buses, and lend them to the bus operators**
- **Thereby the PTA takes the financial and technical risks for the first real electric bus fleet**
- The 12 electric buses are ”extra” vehicles, so possible problems will not affect the service level of the bus system
- The first two buses arrive in September 2015, 8 more in 2016

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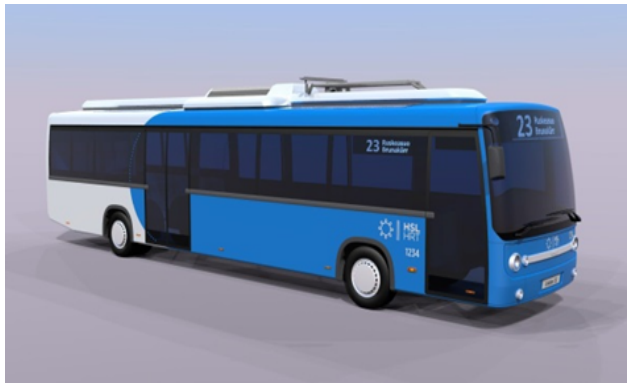
”ePELI” key players

- Helsinki Region Transport (HSL)
  - → Direct procurement of 12 Linkker buses
  - → Opening of market dialogue
- City of Helsinki
  - → Procurement of charging infrastructure in Helsinki
- City of Espoo
  - → Procurement of charging infrastructure in Espoo
- A number of enterprises participate
  - → 4 bus operators, service providers, manufacturers
  - → Related innovation platform ”Living Lab Bus”



Electric bus by Linkker ltd

Conclusions

- HSL is highly committed to good service with low environmental impact
- HSL sees a growing penetration for electric buses
- However, electric buses still pose some challenge to fleet operators
- HSL acquires a test fleet of 12 fully electric buses by Linkker Ltd, the first buses arrive in September 2015
- The buses are handed to fleet operators, to build up market readiness to offer electric bus services in oncoming tendering processes
- Cities of Helsinki and Espoo arrange the high power opportunity chargers
- HSL hereby carries its part of the risk in introducing new technology

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