

Beweeg mee naar minder CO₂

Electric Bus Systems @ De Lijn

Strategy & Implementation



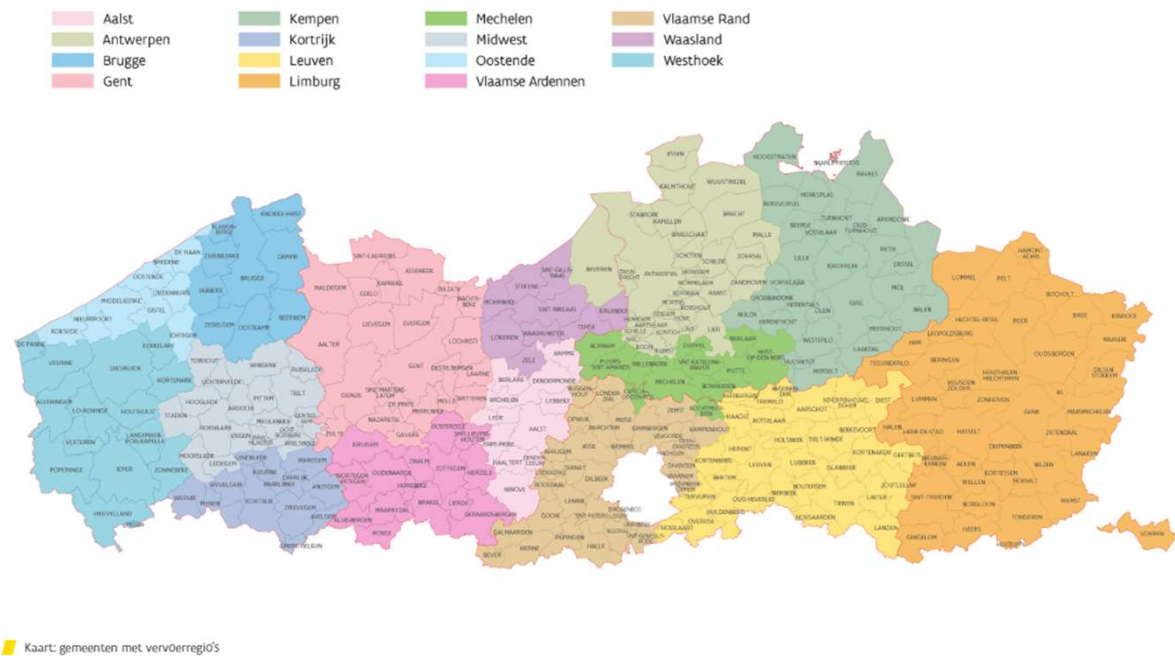
Electric Bus Systems @ De Lijn
31/01/2024

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Who is De Lijn?

- Public transport company in Flanders, Belgium
- Bus & tram
- Both Public Transport Authority and Public Transport Operator:
 - Own fleet: ± 2,200 buses, 430 trams, 60 depots
 - Subcontractors: ± 1,500 buses, 80 depots
- ± 950,000 daily clients
- ± 200,000,000 km/year
- ± 8,000 employees



Mission

Sustainable and attractive mobility for all.

**Customer oriented &
sustainable**

Vision

To facilitate a shift towards sustainable transport means via clever mobility. We are THE reliable and performant partner of attractive and future oriented mobility services.



Why does De Lijn commit to emission-free public transport?

Our contribution to reduce climate warming

Emissions De Lijn
2019

2019 = last reference before
COVID

CO_{2eq}
292.500 ton

Greenhouse gas, results from
combustion inside engine

Our solution:
Drive as many ZE kilometers as possible



Why does De Lijn commit to emission-free public transport?

Our contribution to the environment near bus routes

Emissions De Lijn
2019

2019 = last reference year before COVID

CO
101 ton

Caused i.a. by imperfect combustion
inside engines

NO_x
507 ton

Caused i.a. by combustion of
hydrocarbons inside engines at low
temperatures

Fine dust
8,6 ton

Collective for microscopically small
particles

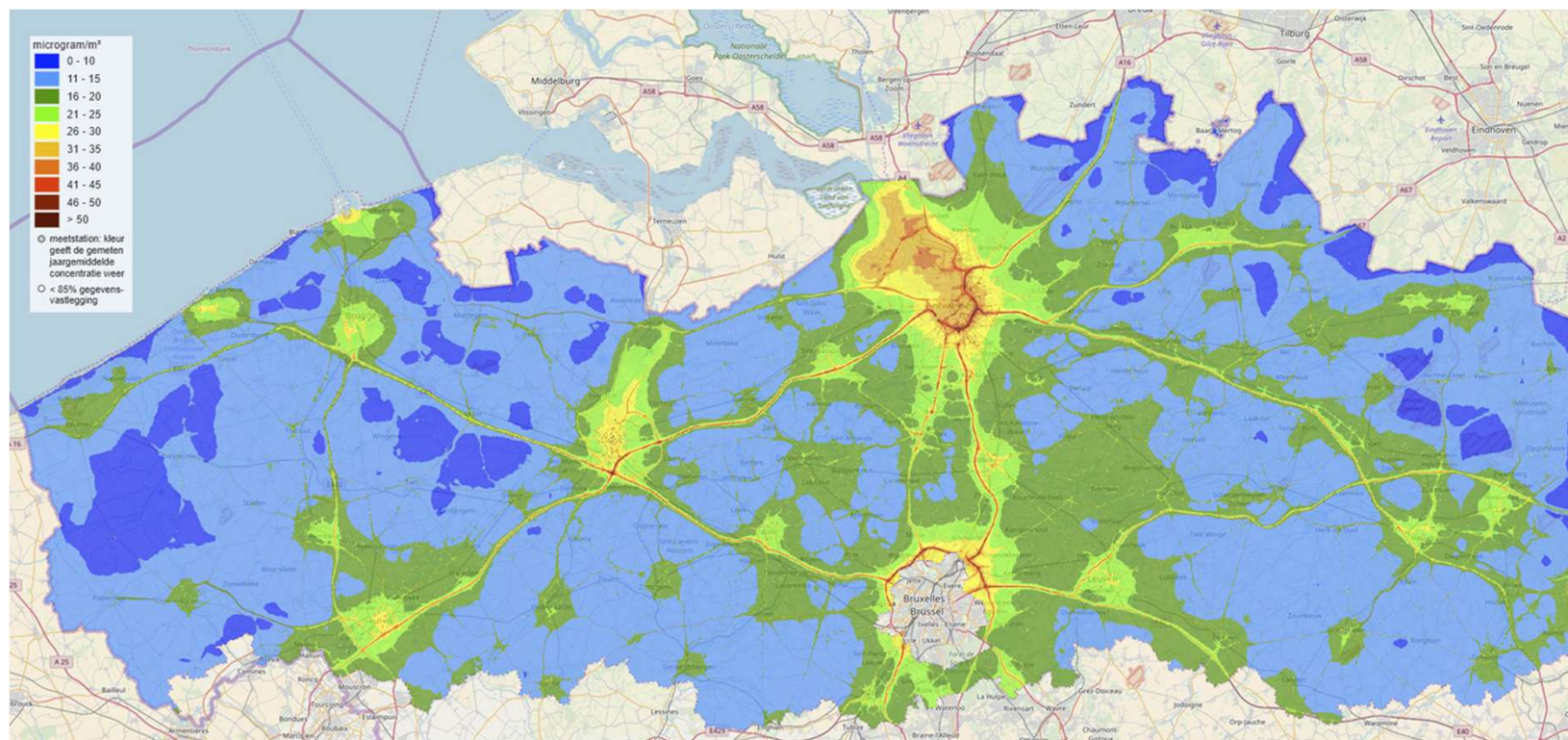
Our solution:

Drive as many ZE kilometers as possible in densely populated areas

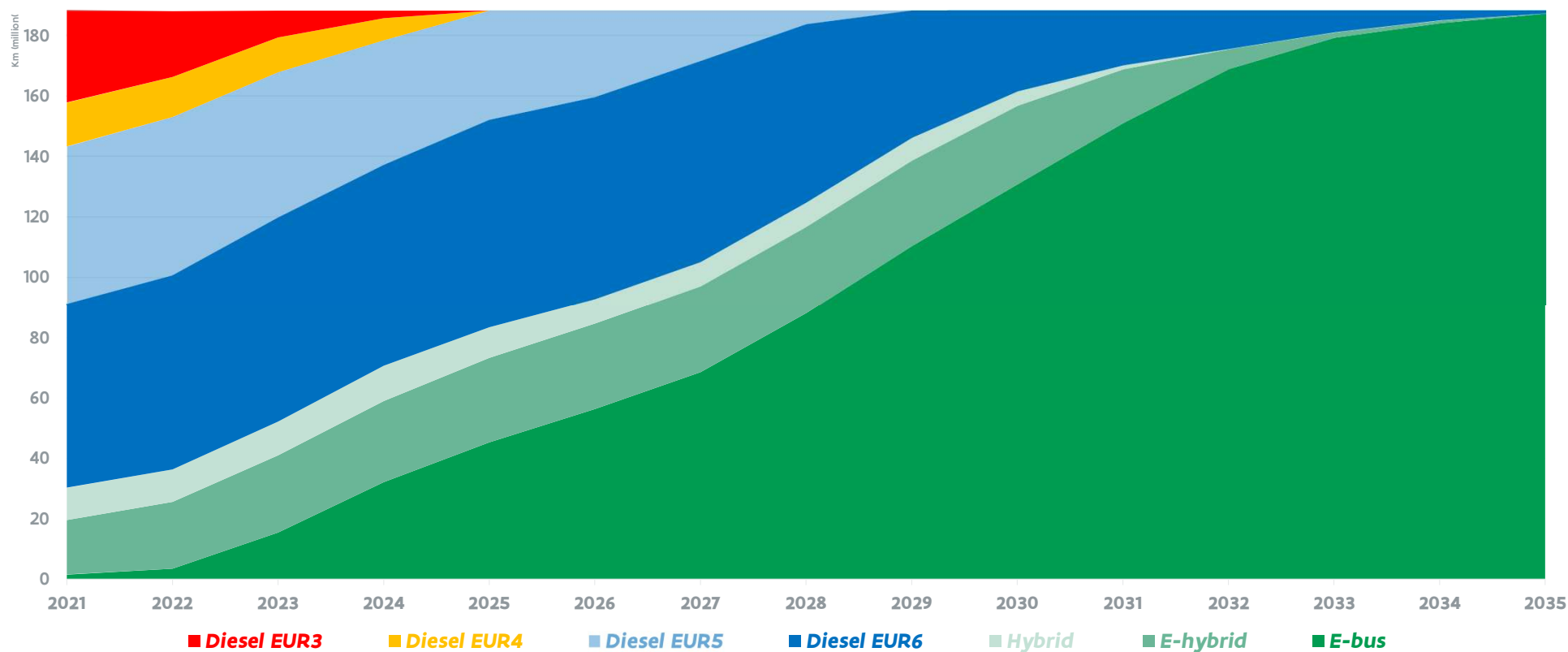


Our priority: densely populated areas

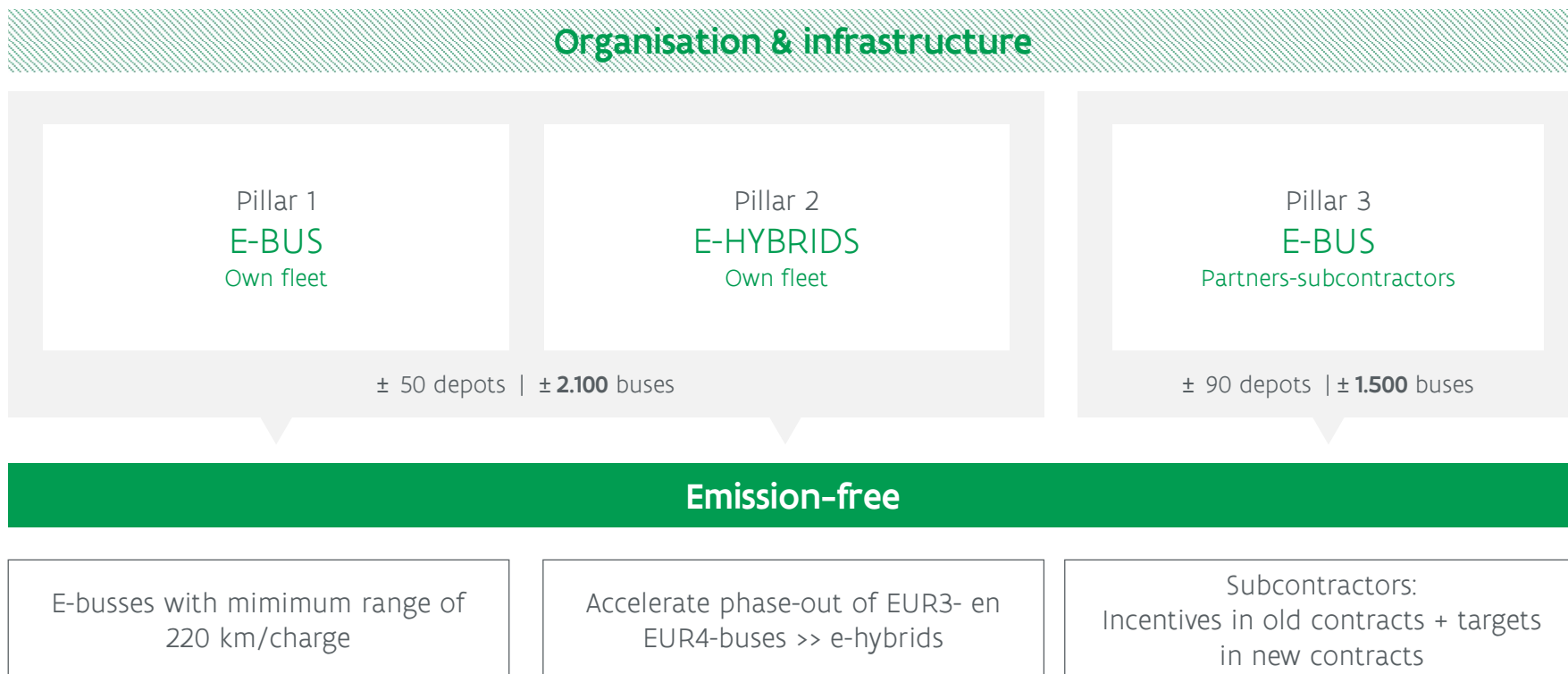
2018 survey: NO_x distribution in Flanders



Our target: 100% emission-free public transport by 2035

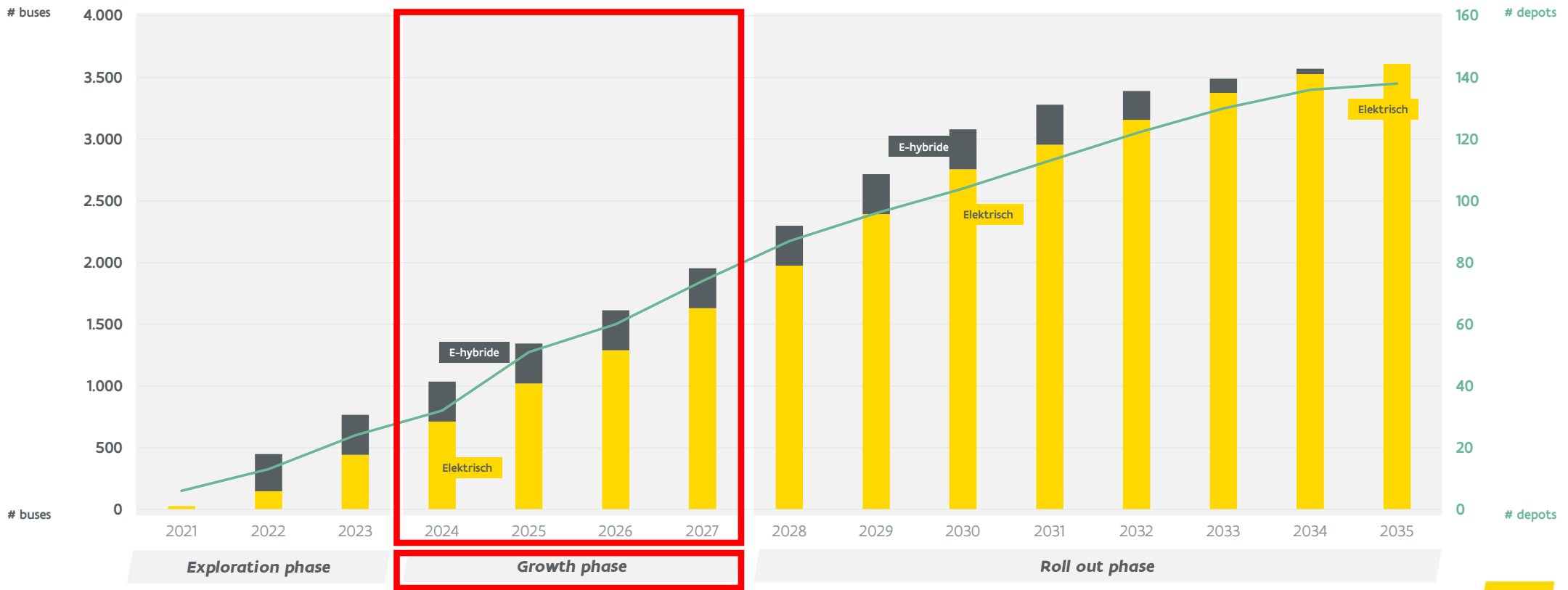


Our electrification strategy: 3 pillars

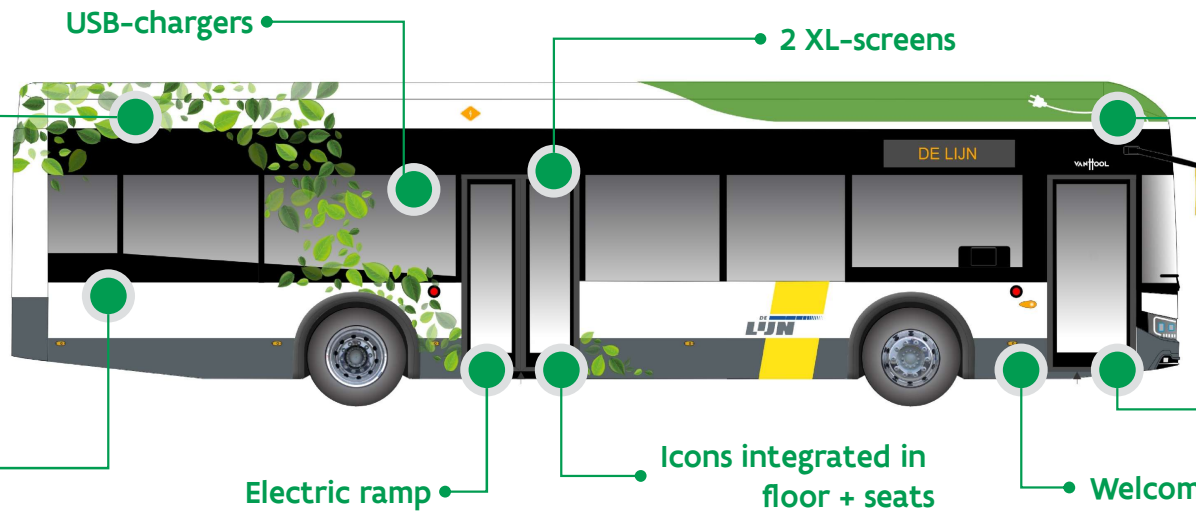
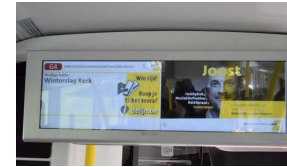


Electrification in 3 phases

2035: ± 3.600 buses (excl. standby buses) & 140 depots – own fleet + subcontractors



Well equipped e-buses attract more clients



E-buses and enhanced safety levels



Budget requirements

Estimates/assumptions

- Buses:
 - Standard e-bus (depot charging) € 500K
 - Articulated e-bus (depot charging) € 750K
- Infrastructure:
 - € 100K/bus (depot infra)
 - € 50K/bus (charge point)
- ICT:
 - € 2.5 m/y (for 2023-2027)
- Project resources:
 - ~€ 5 m/y (for 2023-2027)



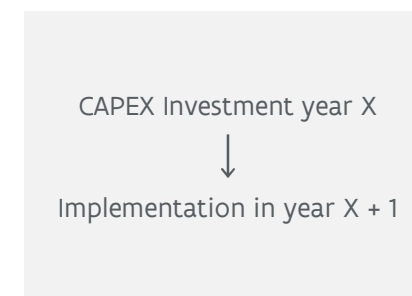
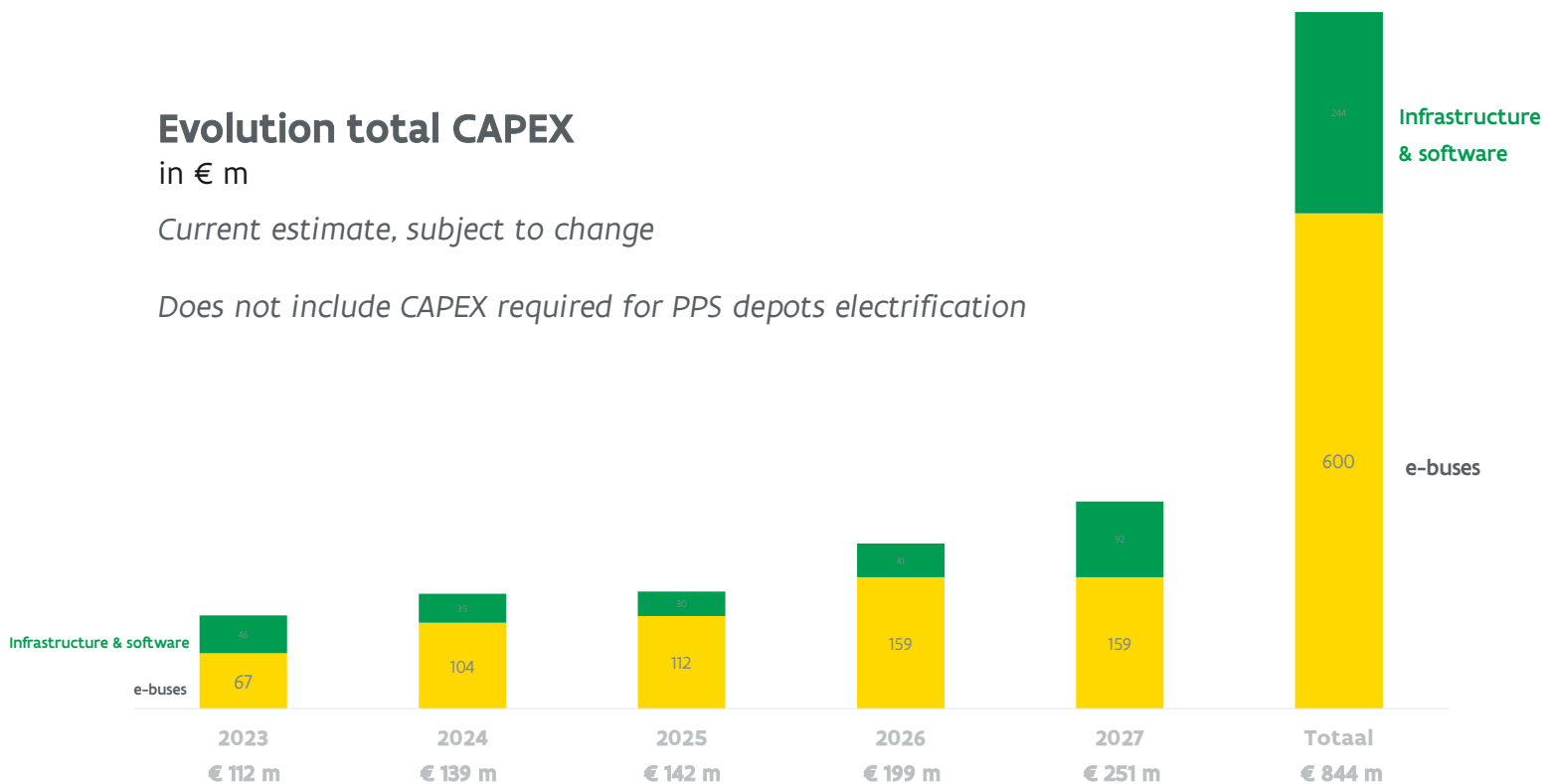
Financing 2023 – 2027 (own fleet)

Evolution total CAPEX

in € m

Current estimate, subject to change

Does not include CAPEX required for PPS depots electrification

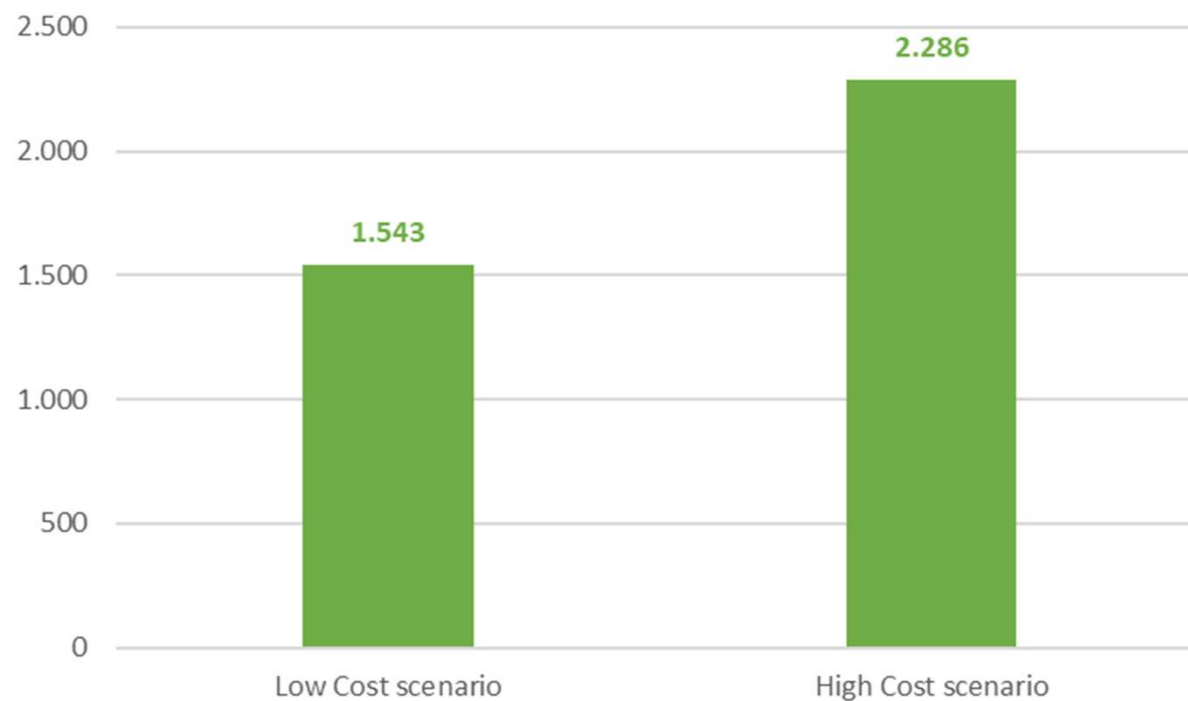


Financing 2028 – 2035 (own fleet)

Estimate total CAPEX

In € m

Current estimate, subject to change related to depot strategy and DBFM opportunities



G4 GENK STATION GELIEREN GELIEREN VIA GENK VIADUCT

→ Berkenlaan Eikenlaan Hoefstadstraat Colruyt

Halte
aanvraag: Berkenlaan

Joost

Hobbykok,
Muzieklijfhebber,
Reisfanaat,
Controleur

Onze medewerkers zijn
meer dan hun job.
Behandel ze met respect.

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Current status

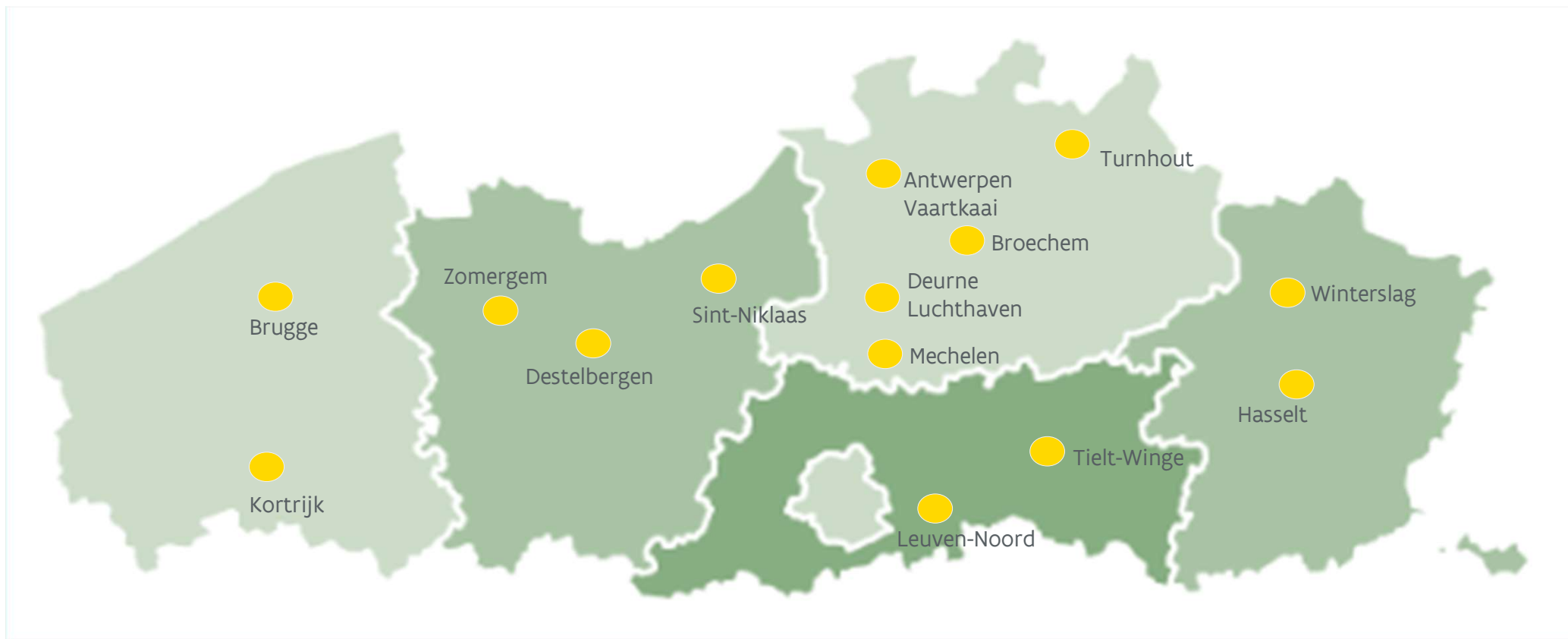


E-buses

Bus type	In service	In delivery	Ordered
12 m (Van Hool, VDL and BYD)	40	33	92
8.5 m (Yes-EU)	7	6	
18 m (Iveco)			109
BRT (VDL)			17



Depots: (phased) electrification 2024-2025





Challenges



Our main challenges



E-bus delivery delays

Depots: licensing

Fire risk: insurance + fire brigade

→ Allocation of e-buses to depots

Implementation of depot and charging software

**Impact on change
within De Lijn**



How can authorities contribute?

Facilitate bus and tram traffic flow

Licensing

Financing





Thank you

