

ASECAP DAYS



ISTANBUL 2023

Celebrating
50 YEARS
OF Successful
TOLL ROAD PROJECTS



DECARBONIZATION OF HGV : A 1ST CHARGING POINT NETWORK ON THE APRR HIGHWAYS

Bruno WEILL

Project manager

Development department

APRR | AREA

M. +33 6 77 73 79 93



Hosted by

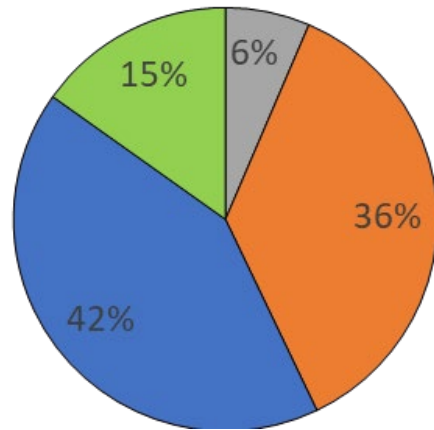
ICA

YAVUZ SULTAN SELIM BRIDGE
AND
NORTHERN RING MOTORWAY

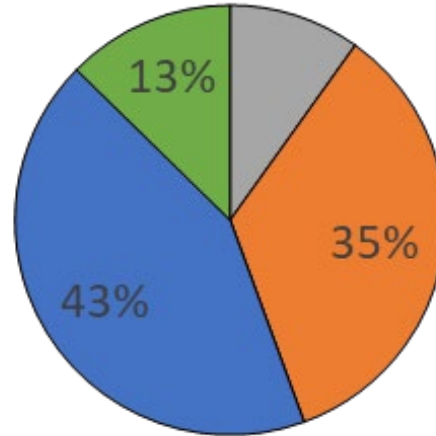
Summary

- Reflection on a scenario for the energy transition in freight transport
- Network principles
- Technical studies of recharging infrastructures
- Implementation and commissioning

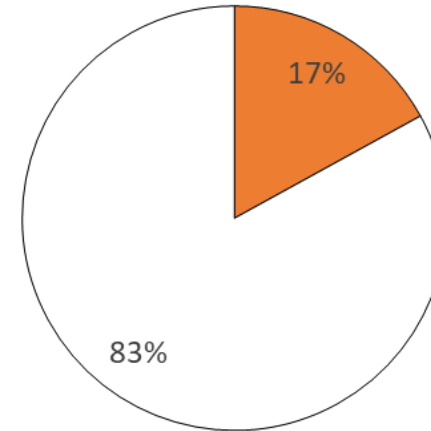
Analysis and compilation of the french HGV decarbonisation scenarios



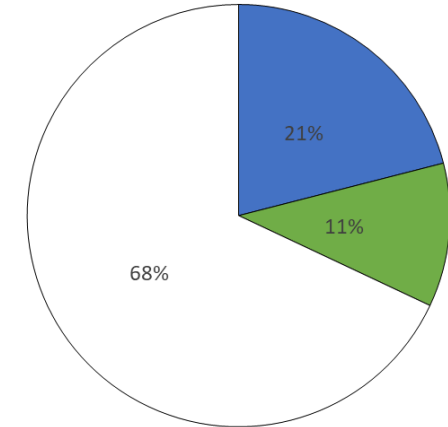
**SNBC
2050**



**ADEME
2050**



**AFGNV
2030**

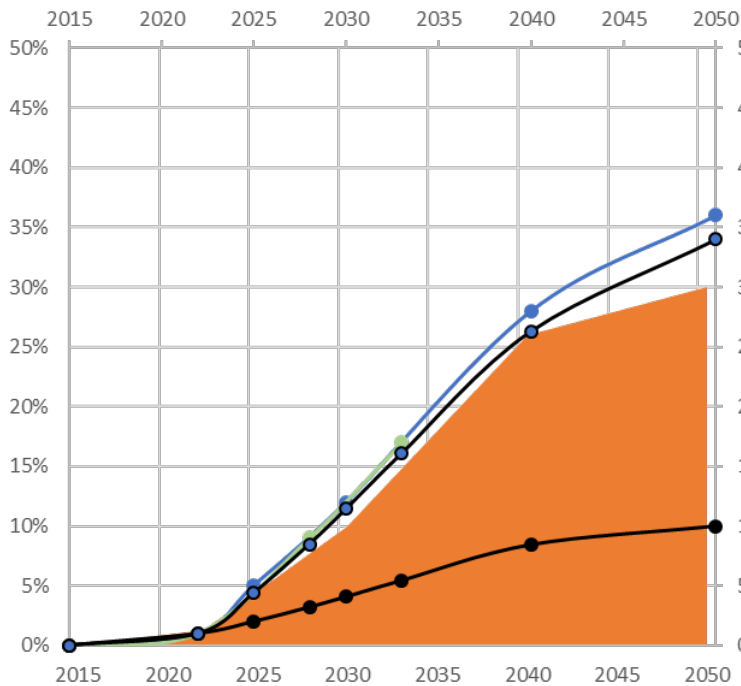


**RTE
2050**

- Diesel engine
- Natural Gas
- Electric vehicles
- Hydrogen

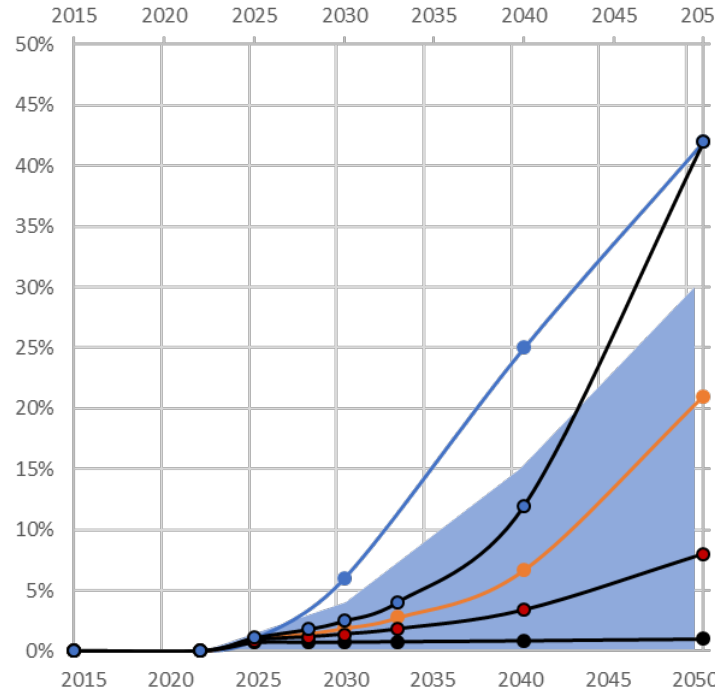
Analysis and compilation of the HGV decarbonisation scenarios

Scénarios GNV



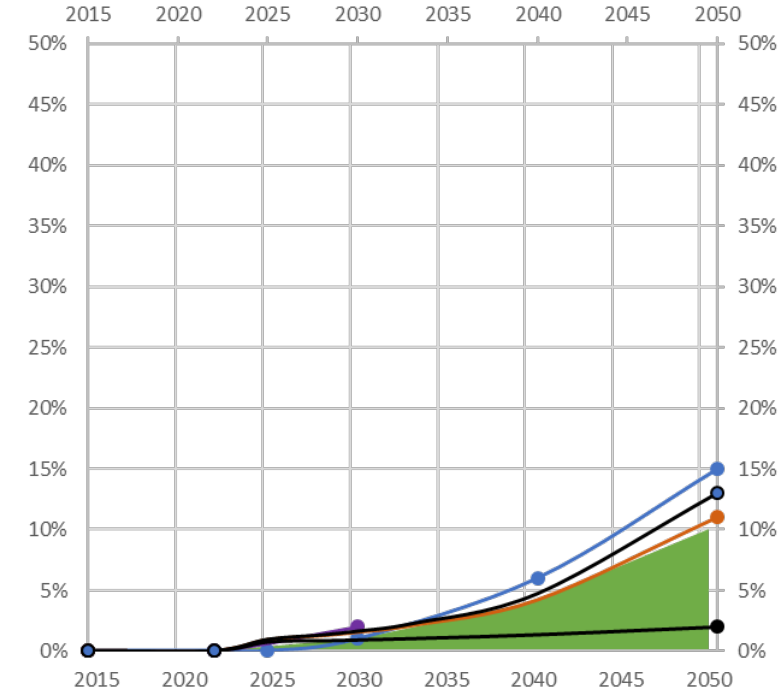
- GNV / BioGNV - Ekinos
- GNV - PPE / SNBC - AMS23
- GNV - AFGNV
- GNV - ADEME TEND
- GNV - ADEME S3

Scénarios Electrique



- Electrique - Ekinos
- Elec - PPE / SNBC - AMS23
- Elec - RTE
- Elec - ADEME S1
- Elec - ADEME S3

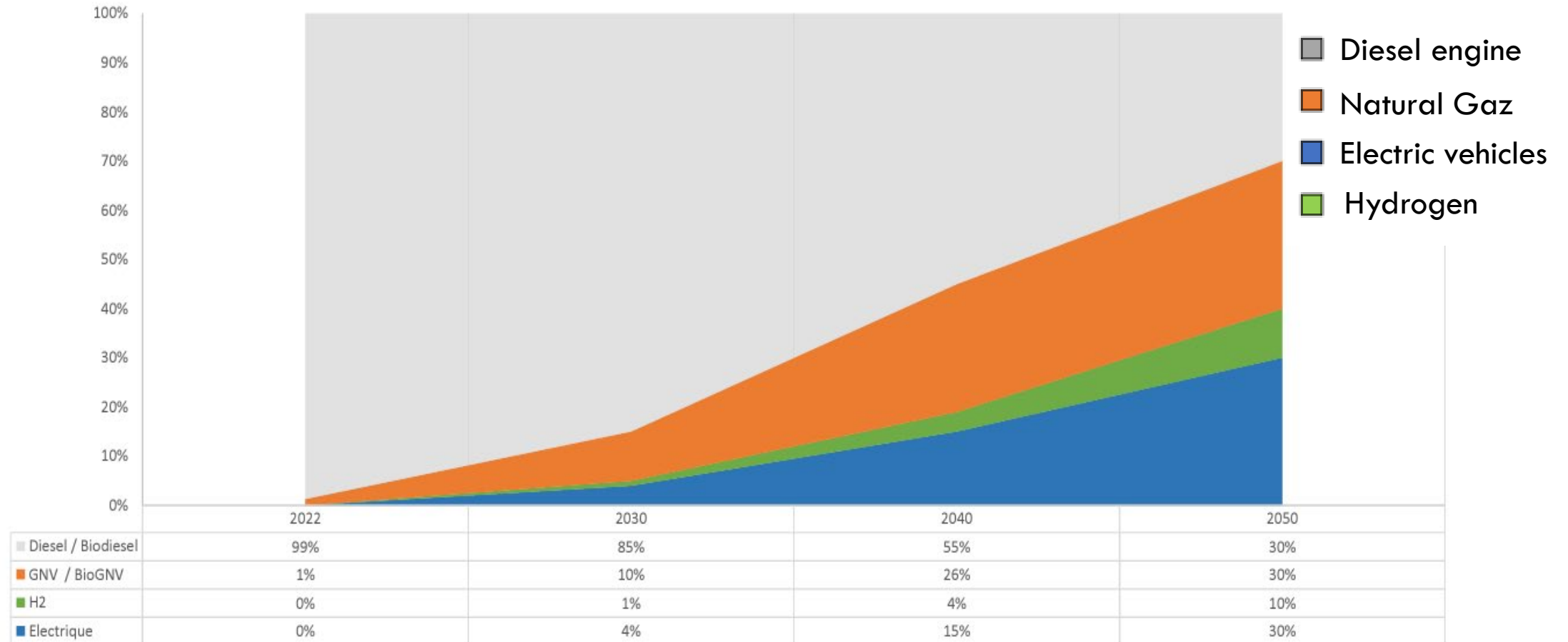
Scénarios Hydrogène



- H2 - Ekinos
- H2 - PPE / SNBC - AMS23
- H2 - France hydrogène
- H2 - RTE
- H2 - ADEME TEND
- H2 - ADEME S3

Analysis and compilation of the HGV decarbonisation scenarios

Evolution of vehicle motorization to 2050



General assumptions

- Available Electric HGV

 200 à 400 kWh
 120 à 300 km (WLTP)
 DC max: 150 kW



RENAULT TRUCKS

 224 à 336 kWh
 220 à 300 km (WLTP)
 DC max: 160 kW



DAIMLER TRUCKS

 225 à 540 kWh
 200 à 380 km (WLTP)
 DC max: 250 kW



VOLVO TRUCKS

 165 à 624 kWh
 130 à 350 km (WLTP)
 DC max: 375 kW



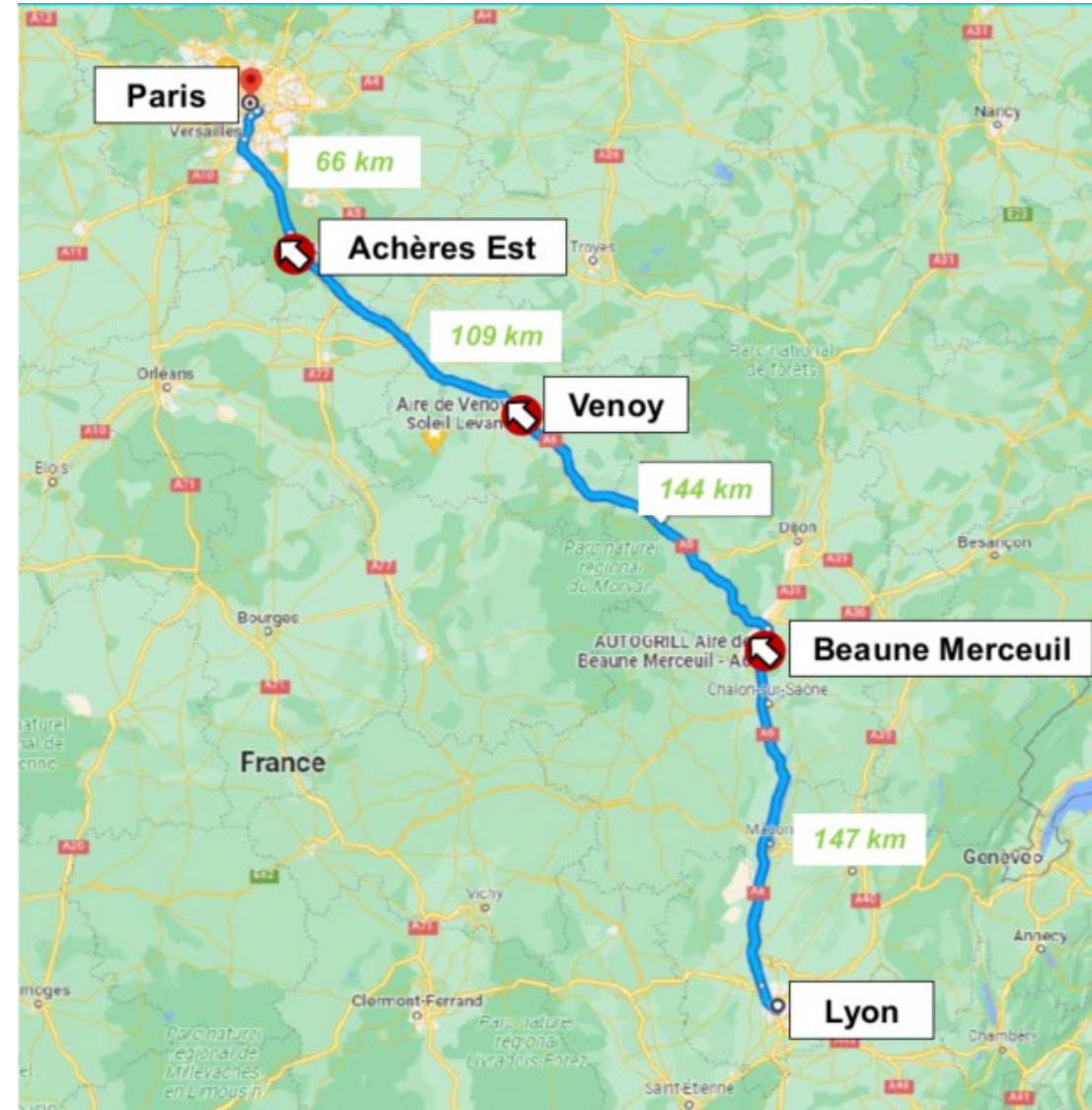
SCANIA

General assumptions

- Equipment on the **Lyon-Paris corridor**
- Average fuel consumption of vehicles : **150kWh/100km**
- Average range of vehicles : **200 km with 300 kwh batteries**
- Connection to a **500 kVa** electric transformer
- **2** charging point per area and 1 emergency charging point
- **maintenance of overall parking capacity**
- Commissioning on the **june 2024**

Lyon Paris Network

- Lyon → Beaune Merceuil : 147 km
- Beaune Merceuil → Venoy : 144 km
- Venoy → Achères Est : 109 km
- Achères Est → Paris : 66 km



Paris Lyon Network

- Paris → La Galande : 50 km
- La Galande → La Réserve : 109 km
- La Réserve → La Forêt : 163 km
- La Forêt → Lyon : 172 km



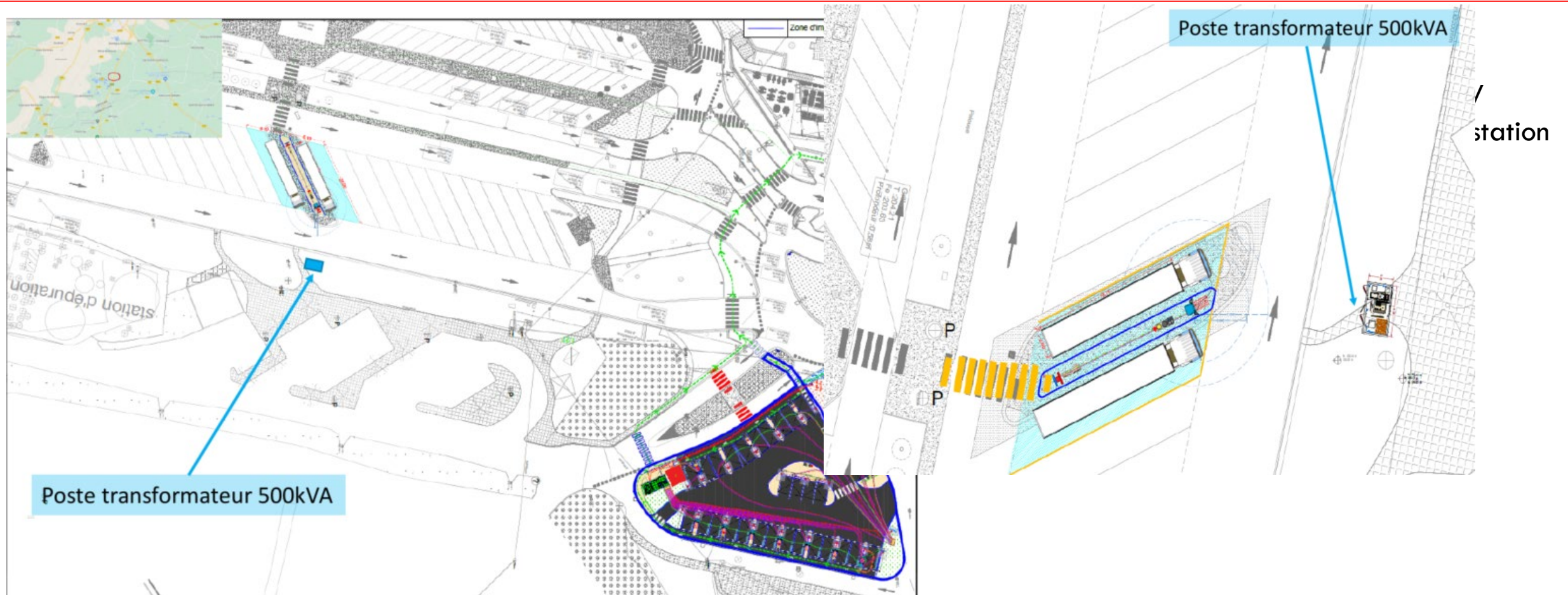
Partnership with Engie

- Signature of a contract between **APRR** and **ENGIE** as an extension of the LV recharging contract
- Installation of each area :
 - Electrical transformer up to 500 kW
 - One 400-480 kW electric charging facility
 - A second 100 kW emergency electric charging facility

EVBox Troniq Modular Heavy Duty 480



Typical installation - Beaune Mercueil



Resume

- **An innovative and ambitious network to encourage the decarbonation of freight transport**
- **A very high-powered recharging system to minimise stopping time of the HGV**
- **High availability with two terminals and a back-up terminal**
- **Supply of energy from renewable sources**

THANK YOU

- **Bruno WEILL**
- Project manager
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