



52nd ASECAP DAYS

Challenges of Future
Mobility | The Role of Road
Infrastructure



Electric highway

Bruno WEILL

 **APRR**  **AREA**

Summary

**ELECTRICAL HGV
CORRIDOR**

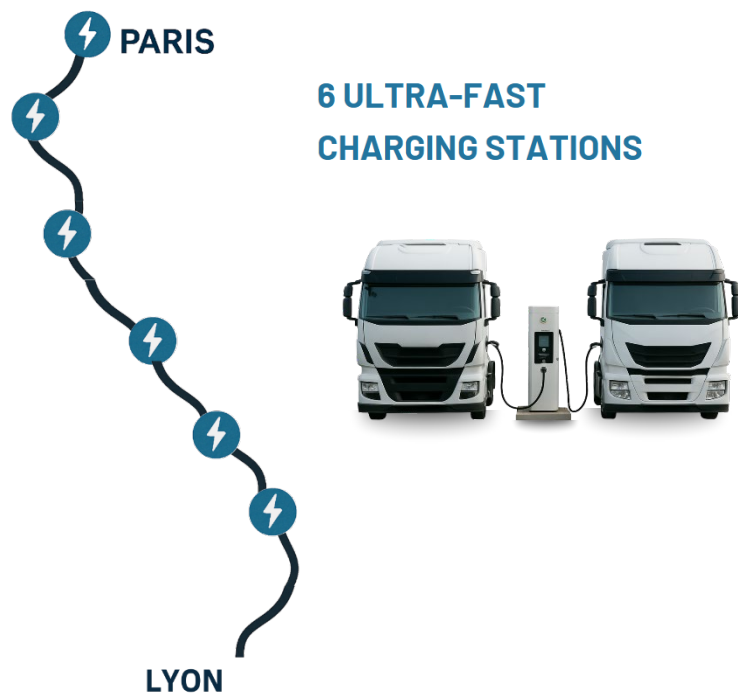
**MASTER PLAN FOR
ELECTRIC VEHICLE
CHARGING
INFRASTRUCTURE**

E4HIGHWAY

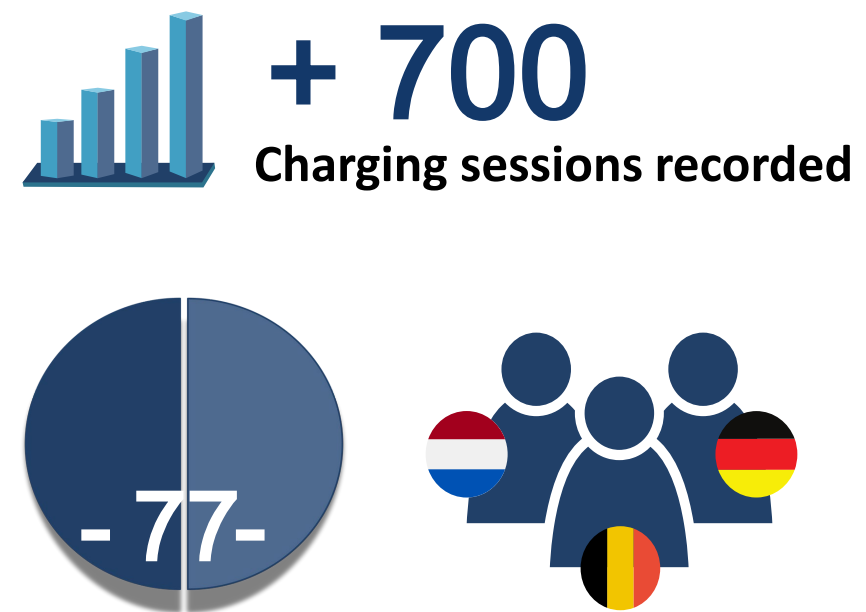
ELECTRICAL HGV CORRIDOR

Heavy goods vehicle corridor

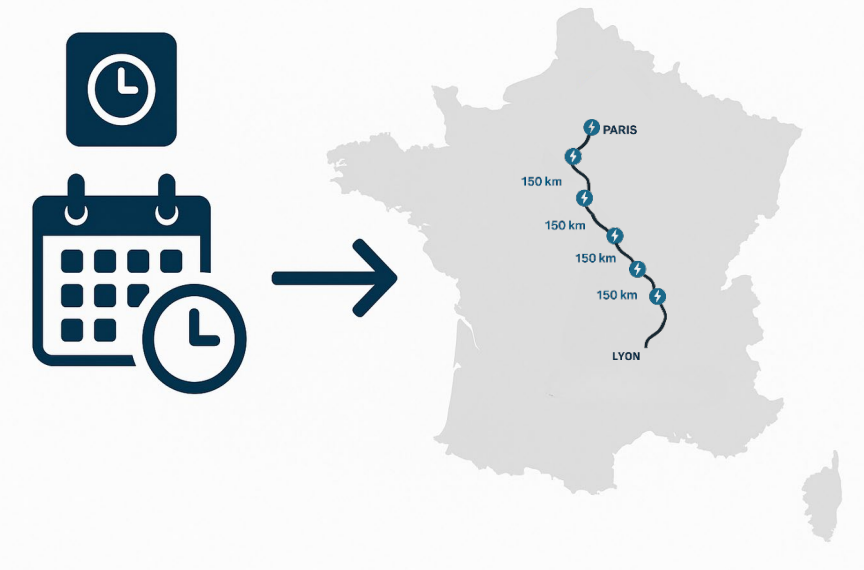
Lyon–Paris charging corridor *Initial assessment*



Results after a few months



Optimization & Development



MASTER PLAN FOR ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Power repartition – iterative analysis

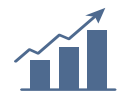
Analysis based on FCD data (manufacturer data)



Determine the 30 hours of highest traffic (TH30) of VL and HGV for the **identified** sites

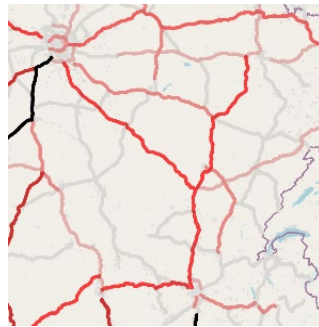


Distribute the Power and Load Points (CP) according to these TH30



Determine the distribution of HGV'S short and long stops

Traffic and diesel check



CE NF



Land analysis



1st
Master Plan

- Power repartition – iterative analysis

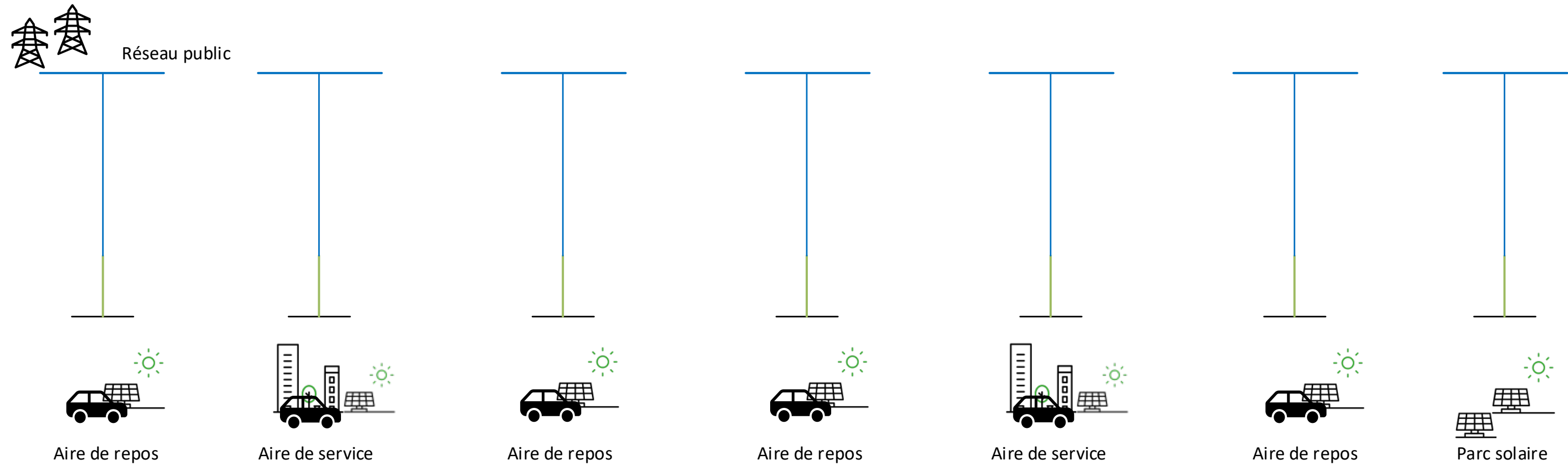
All these propositions will now be compared to the grid capacities provided by ENEDIS, who is responsible for the MV electricity connections on the public network



E4highway

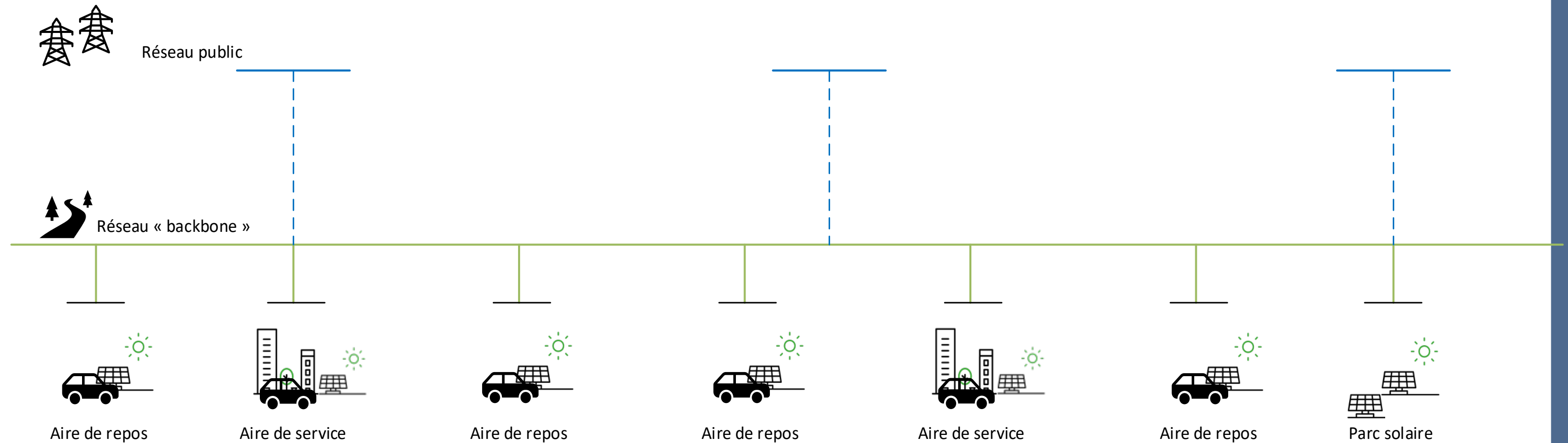
E4highway

The problem we face today

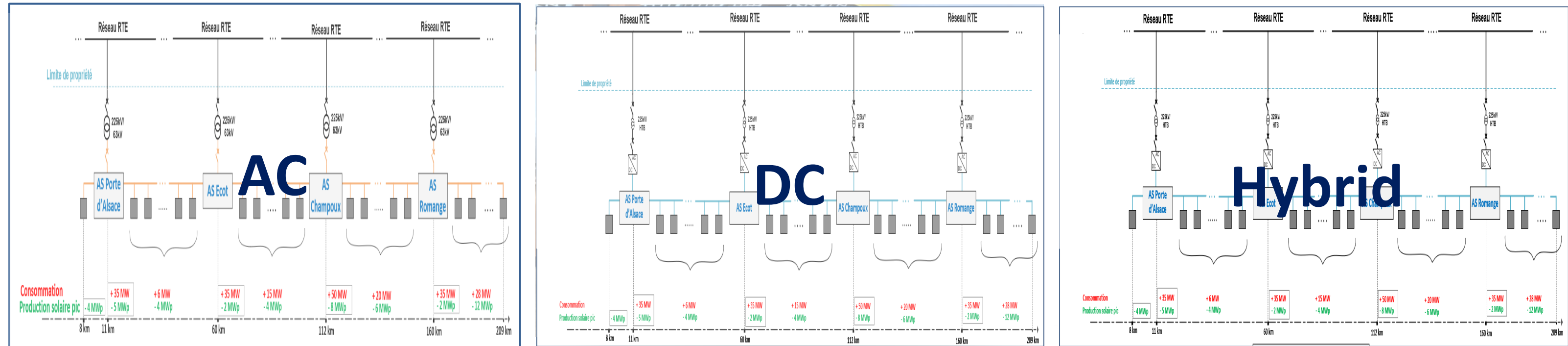


E4highway

Two ideas : optimize the infrastructure in term of energetic performances (AC vs DC) and connections to the public network with an electric backbone



Three technologies to compare

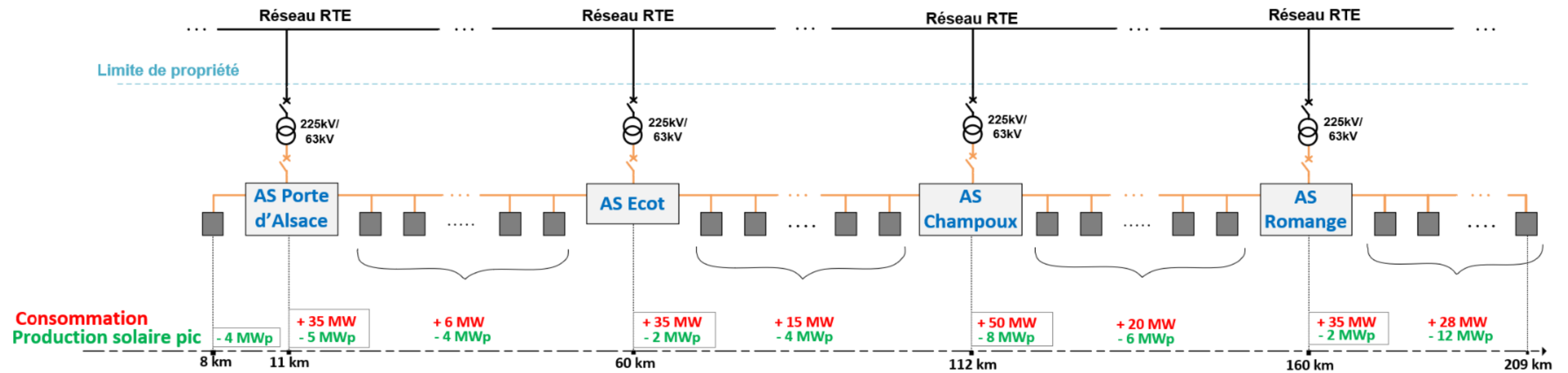


Techno-economic analysis to find the best grid architecture

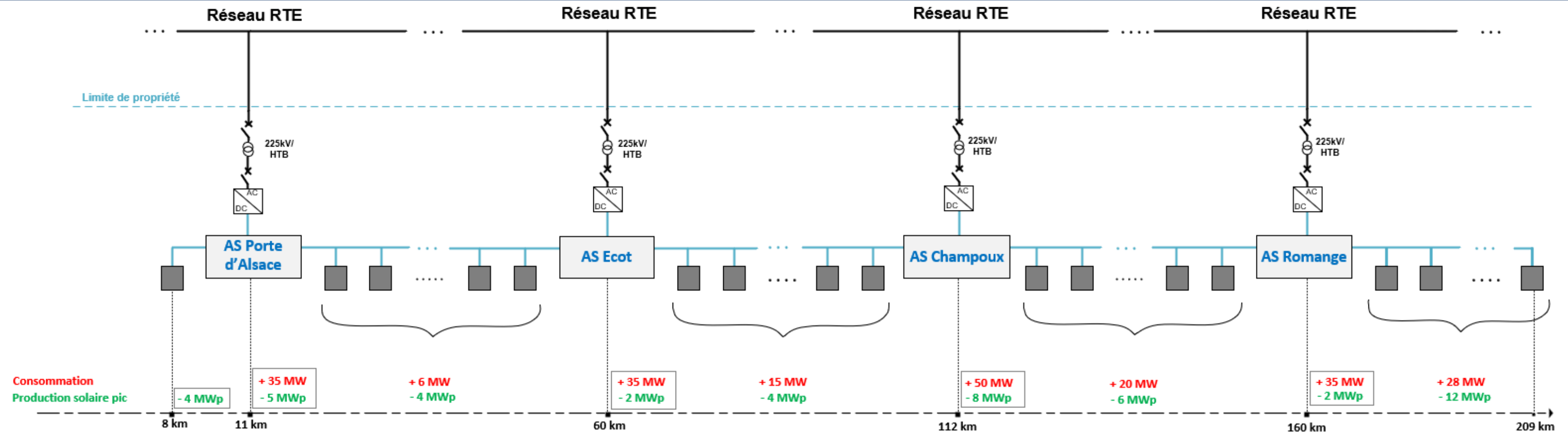
Legal evaluation of deployment and integration into the power system

Specifying the main equipment ratings

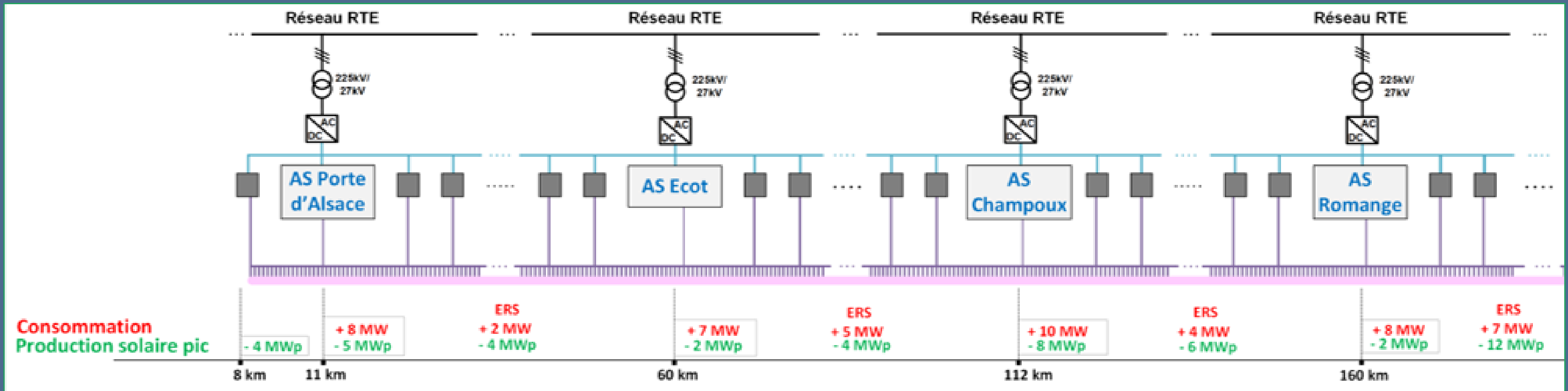
Possible AC architecture solution



Possible full DC solution



Hypothesis to integrate the ERS project



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