

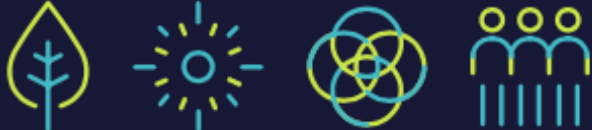
**VALO'MARNE**

**MODIFICATION OF THE PLANT – INCREASING THE  
TONNAGE TREATED WHILE INCREASING THE ENERGY  
VALORIZATION**

26/05/2023



# INITIAL SITUATION



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- **2 waste treatment lines with a total capacity of 225 000 t/year  
unit capacity of 15 t/h (MSW, CIW and clinical wastes)**
- **1 line specific for clinical wastes with a capacity of 19 500 t/year (2,6 t/h)**
- **Flue gas cleaning of wet type**
- **Export of heat to Créteil's district heating network : 130 GWh th/year**
- **Electricity production (turbine)**

# INITIAL SITUATION



- 2 waste incineration lines (225 000 t/y) with wet flue gas cleaning
- 1 line specific for clinical wastes
- 1 turbine for electricity production
- Export of heat to Créteil's district heating network



# THE PROJECT (2021 – 2024)



- **An increase of waste heat export to Créteil's district heating network : +67 GWh th/year**
- **The creation of a new high-LHV incineration line : +140 kt/year ; combined with**
  - **a new steam generator turbine : +65 GWh e/year**
  - **an additional thermal export (for industrial and residential customers) : +187 GWh th/year**



# THE PROJECT (2021 – 2024)



- **A decrease of electricity and gas consumption with**
  - the clinical waste line shutdown
  - the implementation of a new dry flue gas treatment system on the existing lines (instead of wet flue gas treatment)
- **The creation of greenhouses using waste heat to grow plants (herbs and vegetables)**
- **Creation of an educational greenhouse intended for the educational reception of citizens and school groups**

# THE PROJECT (2021 – 2024)

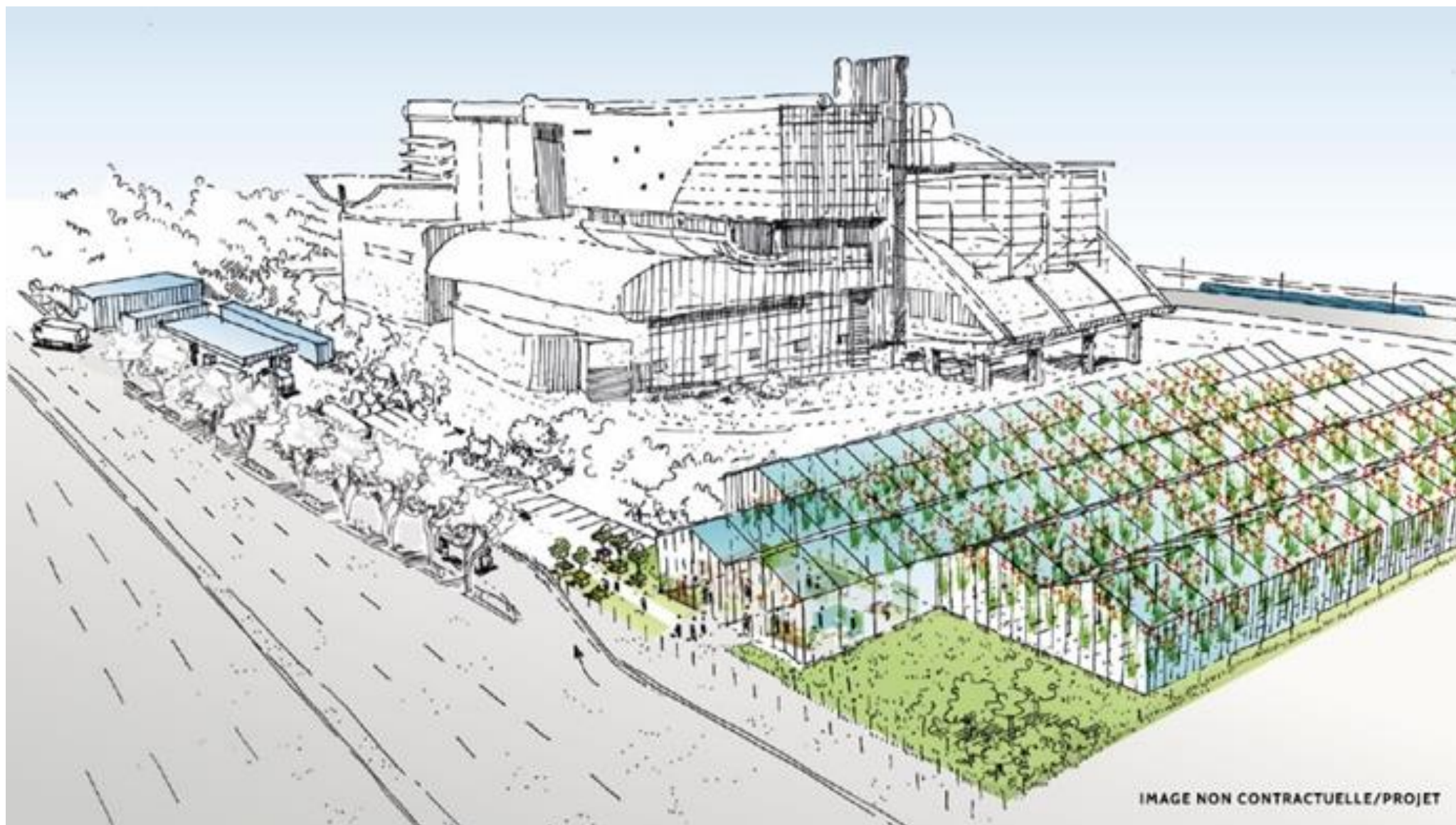


IMAGE NON CONTRACTUELLE/PROJET

# THE PROJECT (2021 – 2024)



- The implementation of a hydrogen station for bus, waste transport trucks, trucks (taxi in option).

Hydrogen will be produced through electrolysis, using the electricity generated by the EfW plant.

500 kg/day; extensible to 1 000 kg/day (2,6 MW)

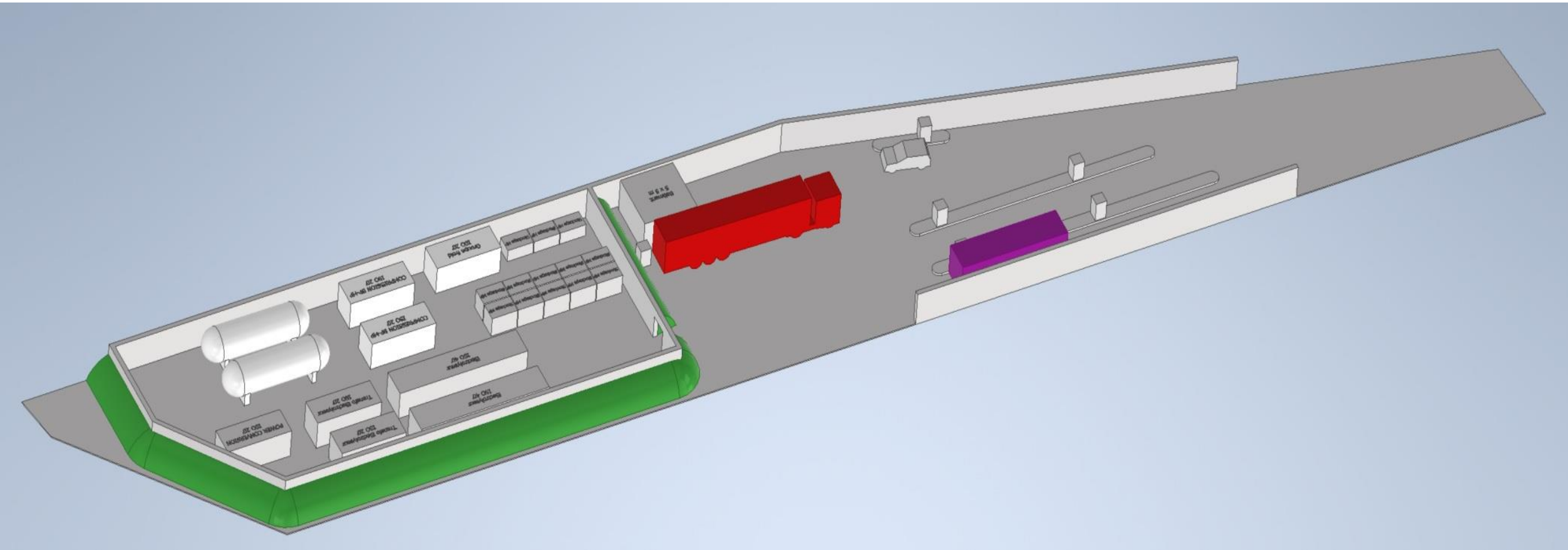




# THE PROJECT (2021 – 2024)



- The implementation of a hydrogen station for bus and waste transport trucks.



# THE PROJECT (2021 – 2024)



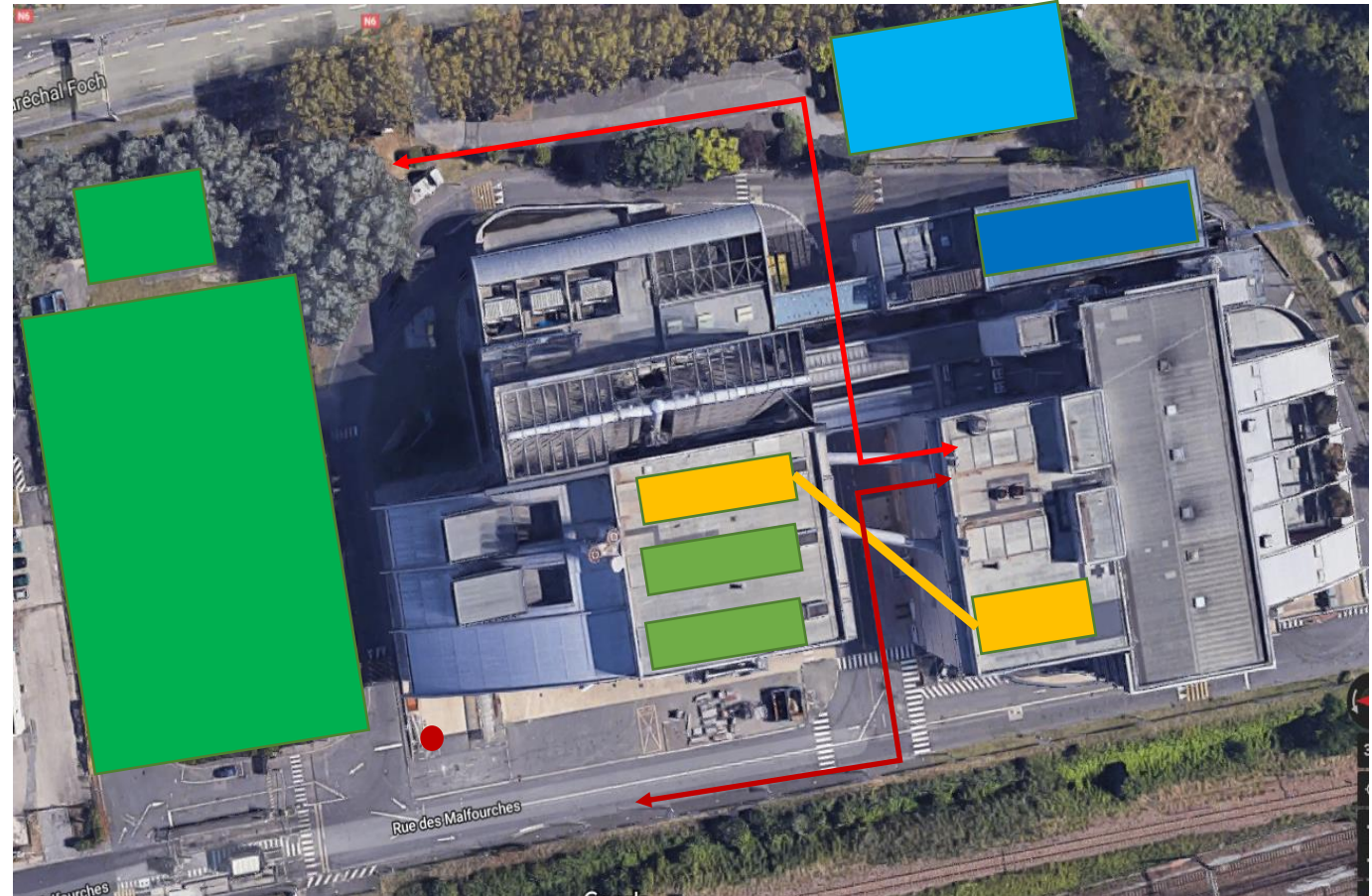
- **A small CCS prototype using algae will be installed to study CO2 removal possibilities from flue gases**



# THE PROJECT (2021 – 2024)



- Modernisation of the flue gas cleaning → dry system
- New high LHV incineration line (+ 140 kt/y)
- New turbine for electricity production (for the 3 lines ; + 65 GWh e / y)
- Increase of the export of heat to the Créteil's district heating network
- New heating network for industrials & residential (+ 187 GWh th / y)
- New production of hydrogen (through electrolysis with the electricity produced by the plant)
- Greenhouse dedicated to citizen & schools
- New greenhouse using waste heat of the plant
- CCS (carbon capture & storage) prototype



# ENERGY BALANCE OF THE PROJECT

