



Hydrogen and decarbonization mission Torino- July 1° 2022

ENGIE



In collaboration with

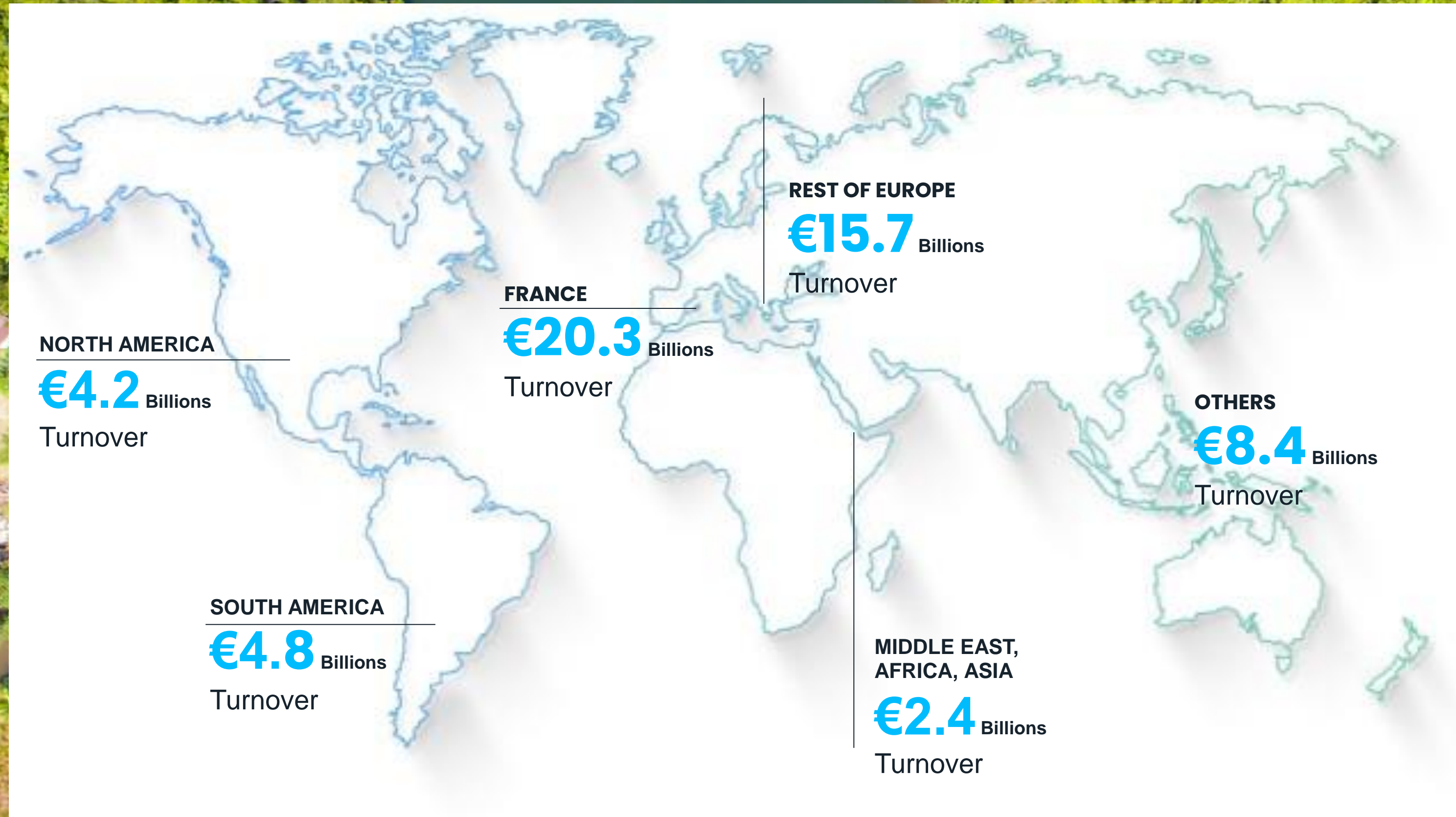


And in collaboration with the Regional
Innovation Clusters of Piemonte



per una crescita intelligente,
sostenibile ed inclusiva
www.regione.piemonte.it/europa2020
INIZIATIVA CO-FINANZIATA CON FESR

ENGIE in the world



170.000 Employees

€55,8 BN Turnover

101 GW Total Power Plants Installed Capacity

3 GW RES Extra Installed Capacity

€4 BN RES New Investments

ENGIE Italy: Key Figures

3.800

Employees

1

ML of Clients

60

Offices

16

District Heating networks (about 900 GWh/y of dispatched energy)

1,7

GW Total Power Plant Installed capacity

500

MW Renewables En. Installed capacity (PV and Wind – 20 Plants)



2.200

Schools

80

Hospitals

30

Univ.Campus, Museums and Theatres

300

Local Districts

10_κ

Buildings Energy Saving Projects

2

Smart Cities

550_κ

Public Spot Lights

2.600

Private Buildings

200_κ

Home service clients



“Our group is a global reference in low-carbon energy and services”

ENGIE's purpose

“Act to accelerate the transition towards a carbon-neutral economy, through reduced energy consumption and more environmentally-friendly solutions.”

Our mission in Renewable Hydrogen

To be a leader in renewable (“Green”) hydrogen, a front runner in the development of a large-scale hydrogen economy that will enable the energy transition for customers in diverse industries and regions across the world.

Our vision

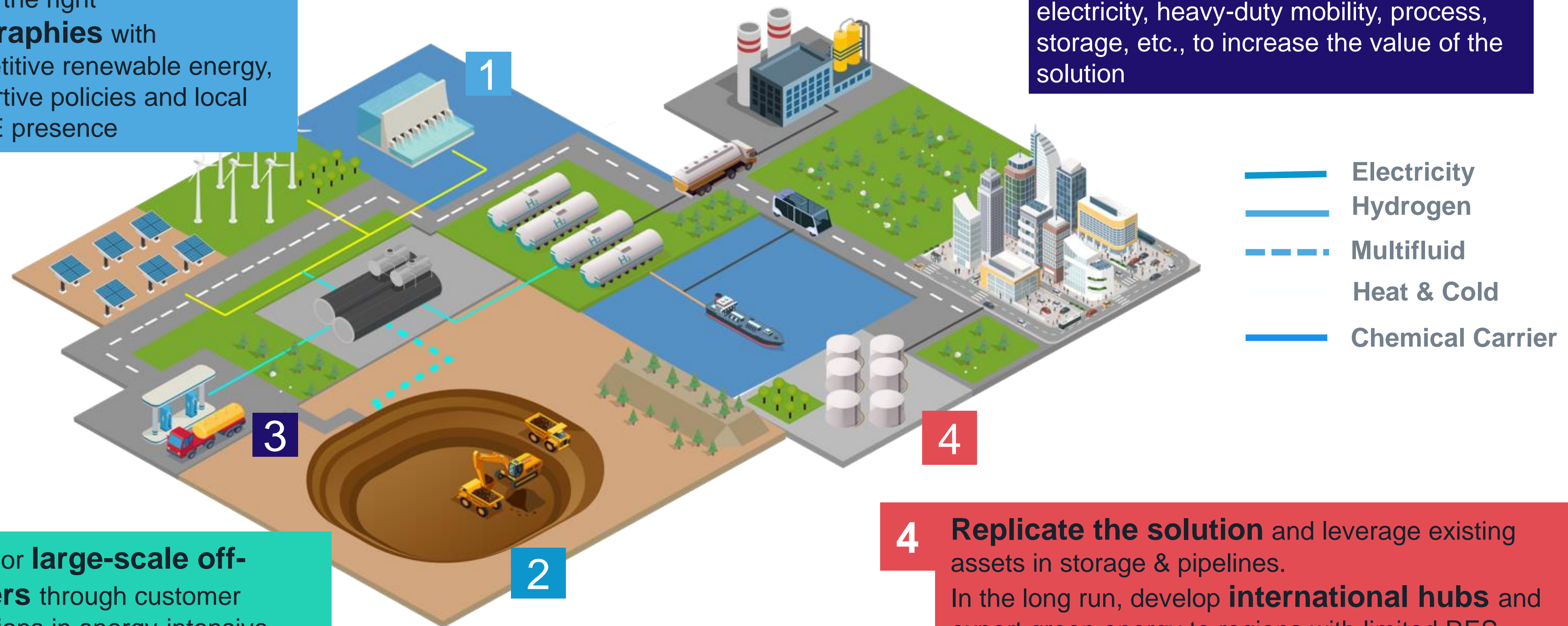
ENGIE is a front-runner in the development of an industrial-scale hydrogen economy worldwide

1 Target the right **geographies** with competitive renewable energy, supportive policies and local ENGIE presence

2 Anchor **large-scale off-takers** through customer solutions in energy-intensive industries such as mining, ammonia, steel, refineries...

3 Develop domestic hubs with **multi usages**, aggregating other end-uses: electricity, heavy-duty mobility, process, storage, etc., to increase the value of the solution

4 **Replicate the solution** and leverage existing assets in storage & pipelines. In the long run, develop **international hubs** and export green energy to regions with limited RES potential



We act as developer, integrator & operator on the entire value chain

Subsidies



Investor
Financing



ENGIE

Developer
Integrator &
operator

Permitting
HSE



SYNCHRONIZE



FID



Orders

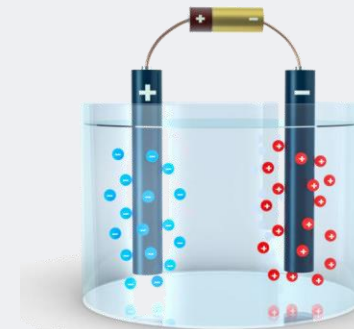
Offtakers



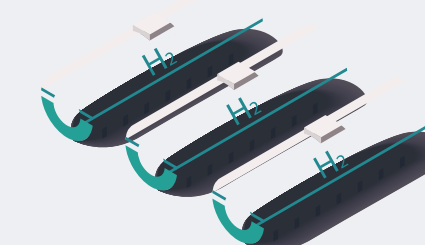
Design
Integrated
solutions



Ren



Electrolyzer



Storage



Transport



H₂O

Hydrogen Figures & Targets for long-term development

~70

Projects underway
(20 > 50 MW and +50
< 50 MW)

10

Countries in 3 regions
(Europe, Americas,
AMEA)

200

Dedicated experts

4 GW

of Green H₂ capacity
by 2030 (0.6 GW by
2025)

700 km

of Transmission
pipeline by 2030 (170
by 2025)

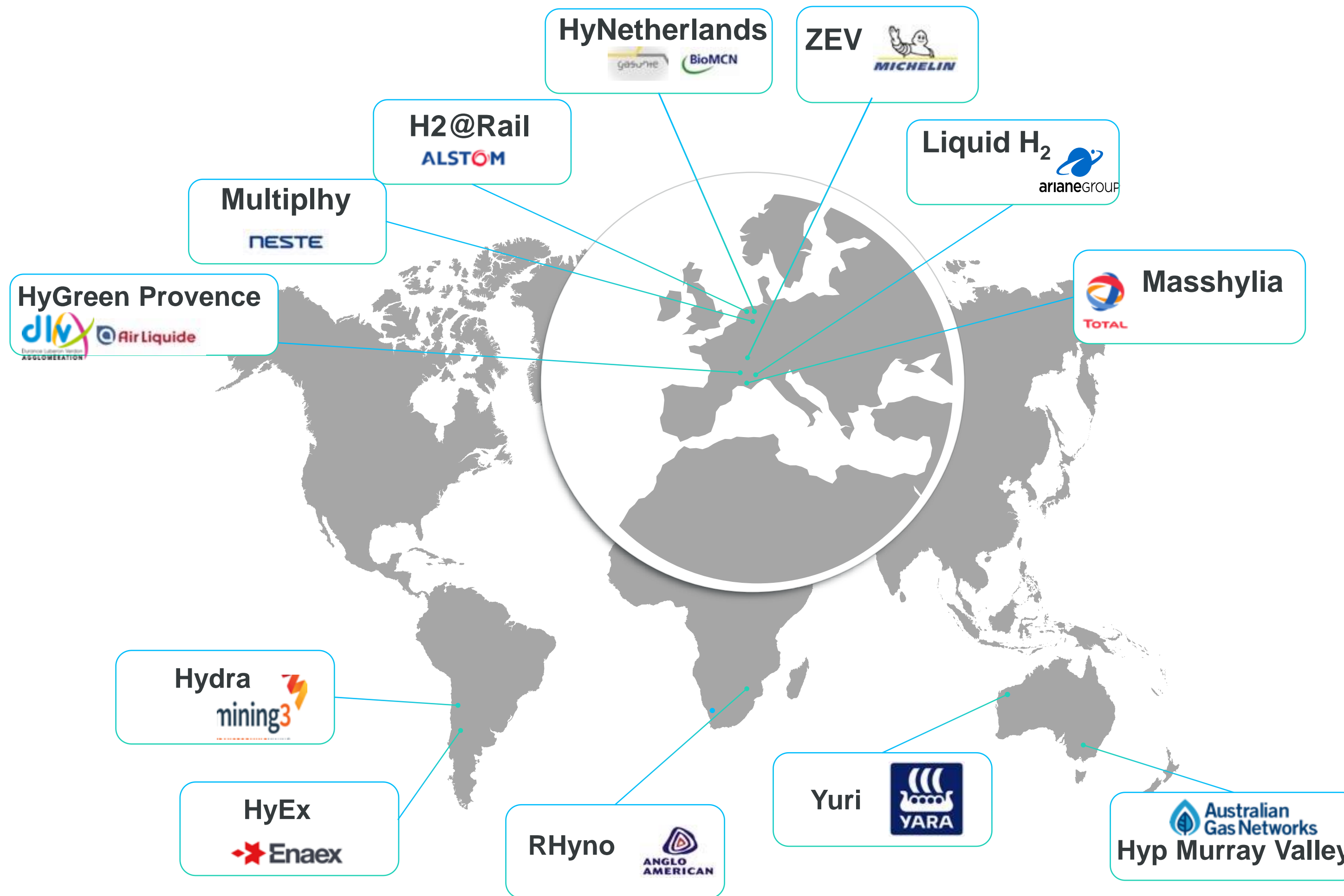
1 TWh

of Storage by 2030 (0.3
TWh by 2025)

> 100

refueling stations by
2030 (50 in 2025)

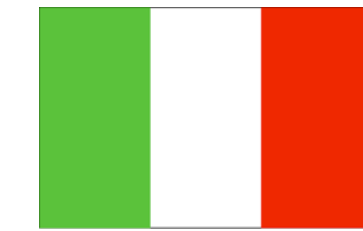
We operate Worldwide



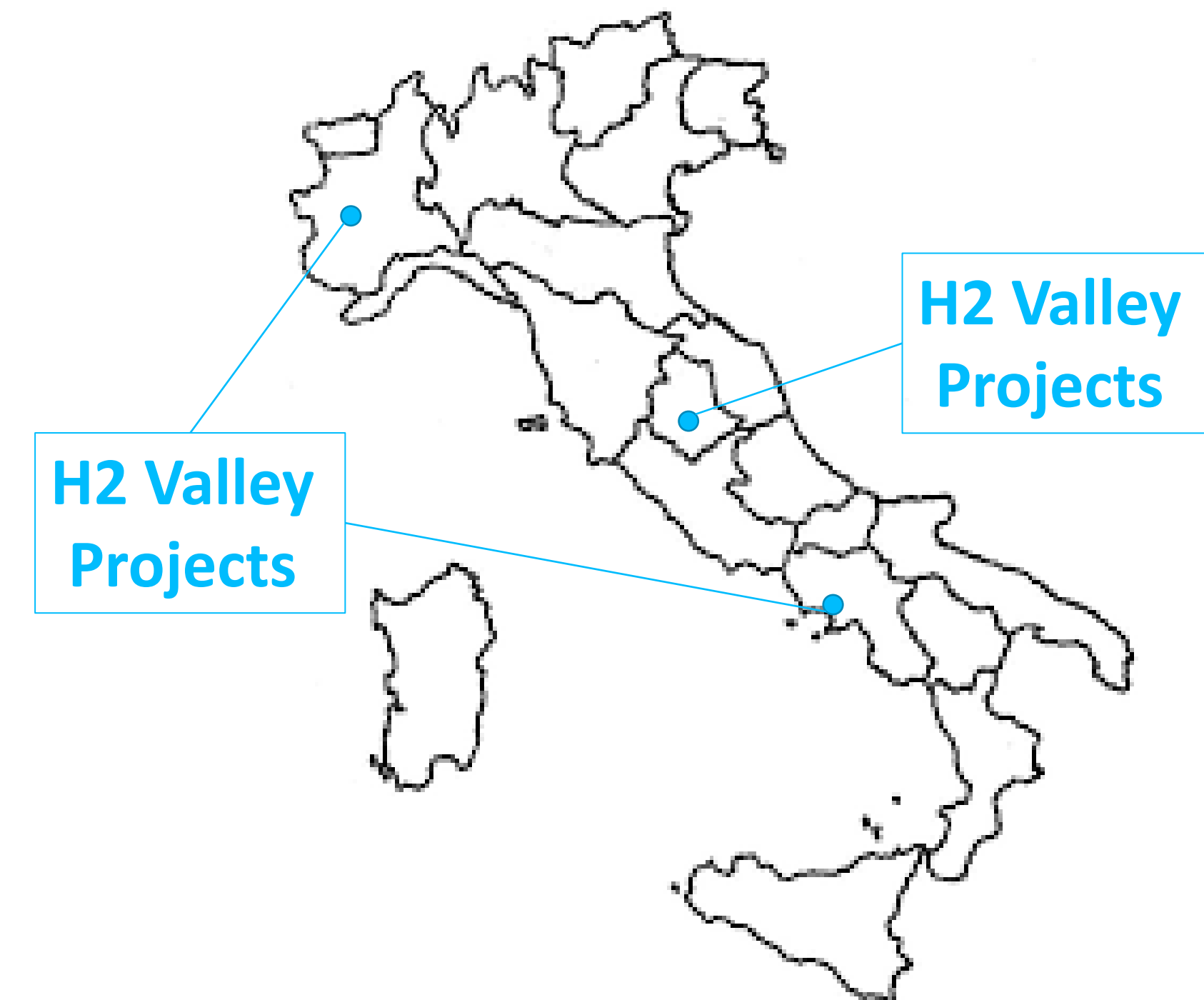
Projects	Sectors
HyGreen Provence	Mobility and industry
Multiplhy	Bio refinery
H2@Rail	Trains
HyNetherlands	Chemical feedstock, industrial fuel and transport
ZEV	Mobility
Masshyla	Bio refinery
Liquid H ₂	Maritime and more
Hyp Murray Valley	Network injection
Yuri	Green ammonia
Rhyno	Mining
HyEx	Ammonia nitrate
Hydra	Mining

Hydrogen Valleys PNRR (National Recovery and Resilience Plan)

ENGIE



M2C2-I3.1 → 500 mln € of Envisaged Funds, 50% allocated to South (Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia, Sardegna e Sicilia) for «Electrolysers installed in decommissioned industrial sites».



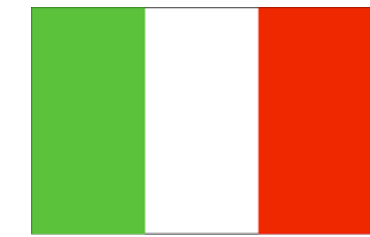
Mission 2: Green Revolution and ecological Transition

Component 2: Renewable Energy, Hydrogen, Network and Sustainable Mobility

Investment 3.1: H2 Production in decommissioned industrial areas (Hydrogen Valleys)

Hydrogen Valleys PNRR Projects

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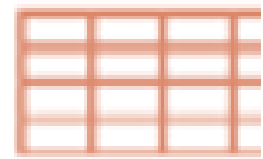
PRE-FEASIBILITY STUDIES ONGOING on
ENGIE OWNED DECOMMISSIONED SITES



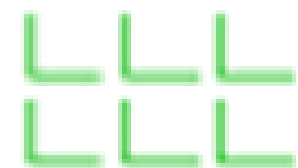
Plant's indicative Lay-out (Electrolyser: 1 MW)



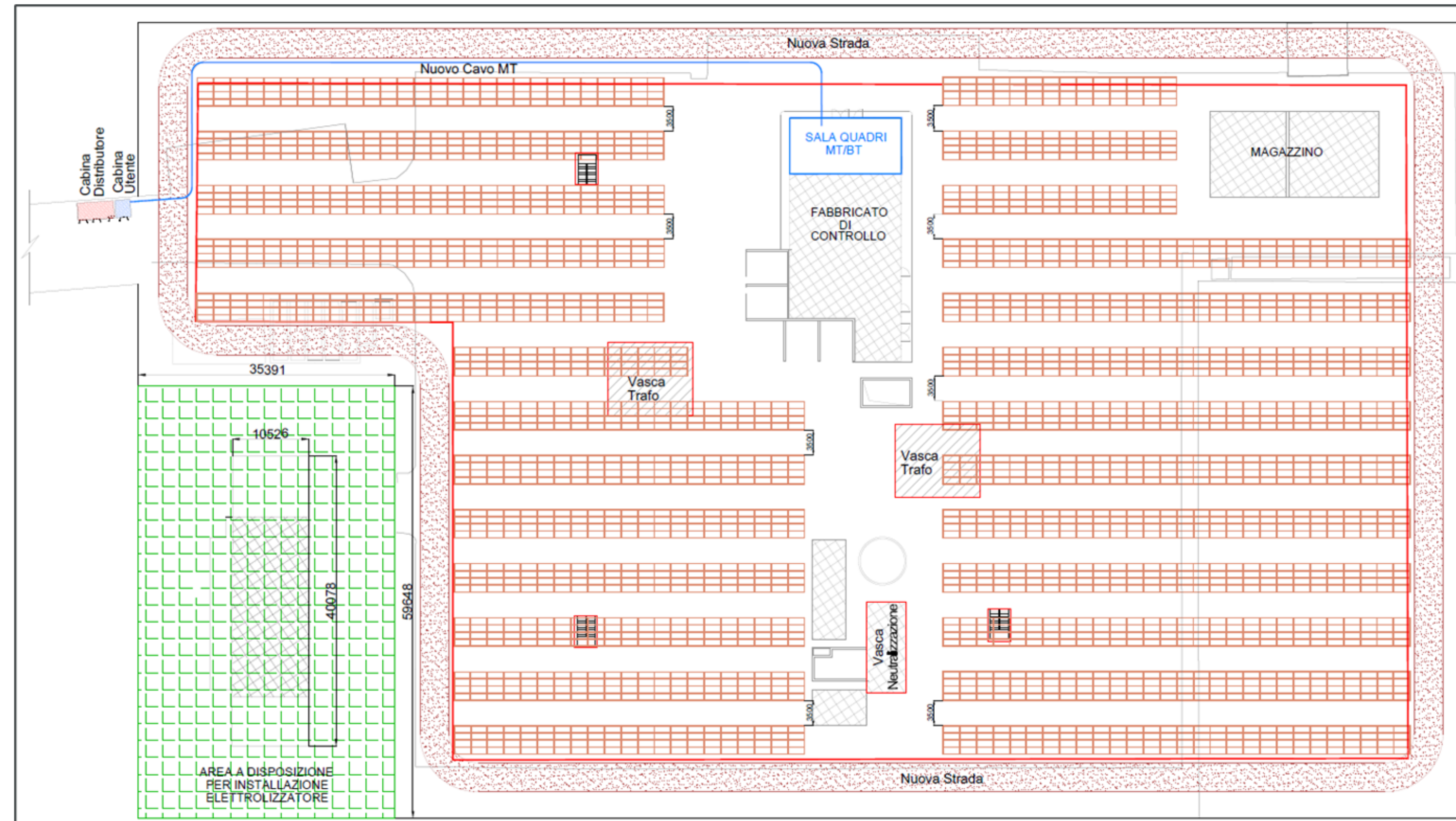
Available Foot Print:
about 20.000 sq.m (each site)



- Solar PV array – 13.000 m²
c– 1,35 MWe



- Electrolyser & H2 Storage
area



- **H2 local networking facilitators**
- **H2 Plants Components manufacturers**
- **Specialized Technical consultants
(familiar with H2)**



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THANK YOU!



**ENGIE - The hydrogen
economy enabler**

