



FUNDACIÓN
VALENCIAPORT

Víctor Collazos

ROADMAP TO THE ZERO EMISSION PORT

Valenciaport Use Case



Marlog, Alexandria, Egypt, March 2024

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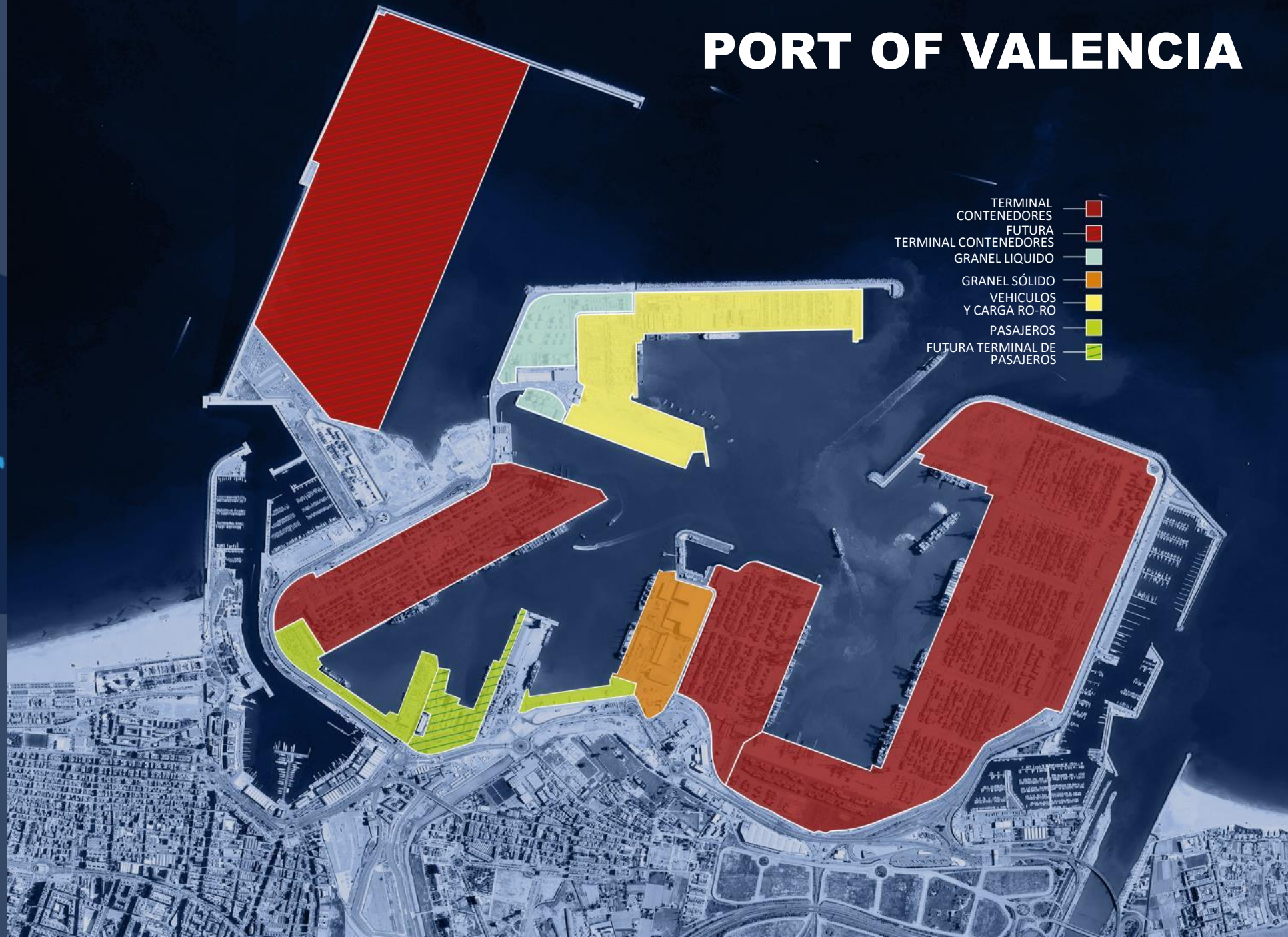
- 01** The Port of Valencia
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 - New fuels
 - Port electrification
- 03** The Foundation Valenciaport

The Port of Valencia



PORT OF VALENCIA

SAGUNTO
VALENCIA
GANDIA

valenciaport

20 | Net Zero

30 | Emissions



76.7 M tonnes

Valencia City +800,000 inhab

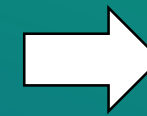


5.2 M TEU

Metropolitan area: +1,5 million inhab



5.000 Trucks / day



> 160,000 t



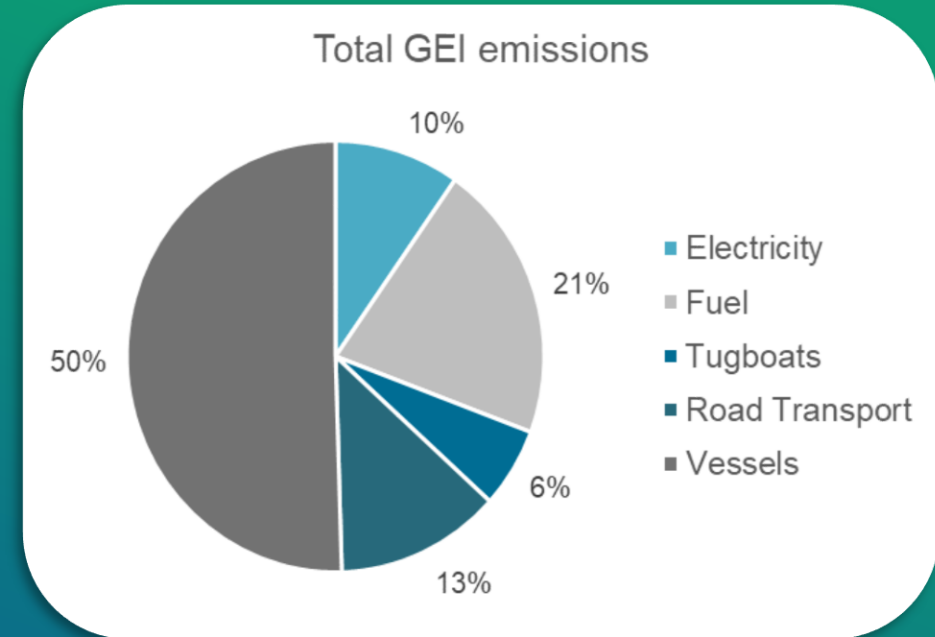
49.280 work force



3.216 million € economic impact

THE EMISSIONS TODAY

Electricity	15881
Fuel	34331
Tugboats	9846
Road Transport	20876
Vessels	82502
TOTAL	163436



OBJECTIVE 2030: ZERO EMISSION PORT



- Wind power
- Electricity supply to ships and machinery
- Photovoltaic energy
- Hydrogen
- Supply of LNG to ships and machinery

- Air quality control
- Water quality control
- Mussel platform
- Tram line 10

Port innovation hub

Water quality control

Sailor reception centre

Royal staircase

Aportem - Solidarity port

Hidrogen

Air quality control

Specialised training center

Electrical substation

Complementarity Valencia-Sagunto

Energy self-sufficiency

01010110
Smart port

Intermodal ports/Transport centres

EXTENDED PORTS

Fuente de San Luis intermodal station



The Port Decarbonization

THE GREEN CORRIDORS: THE MEDITERRANEAN



NEW FUELS



ELECTRIFICATION

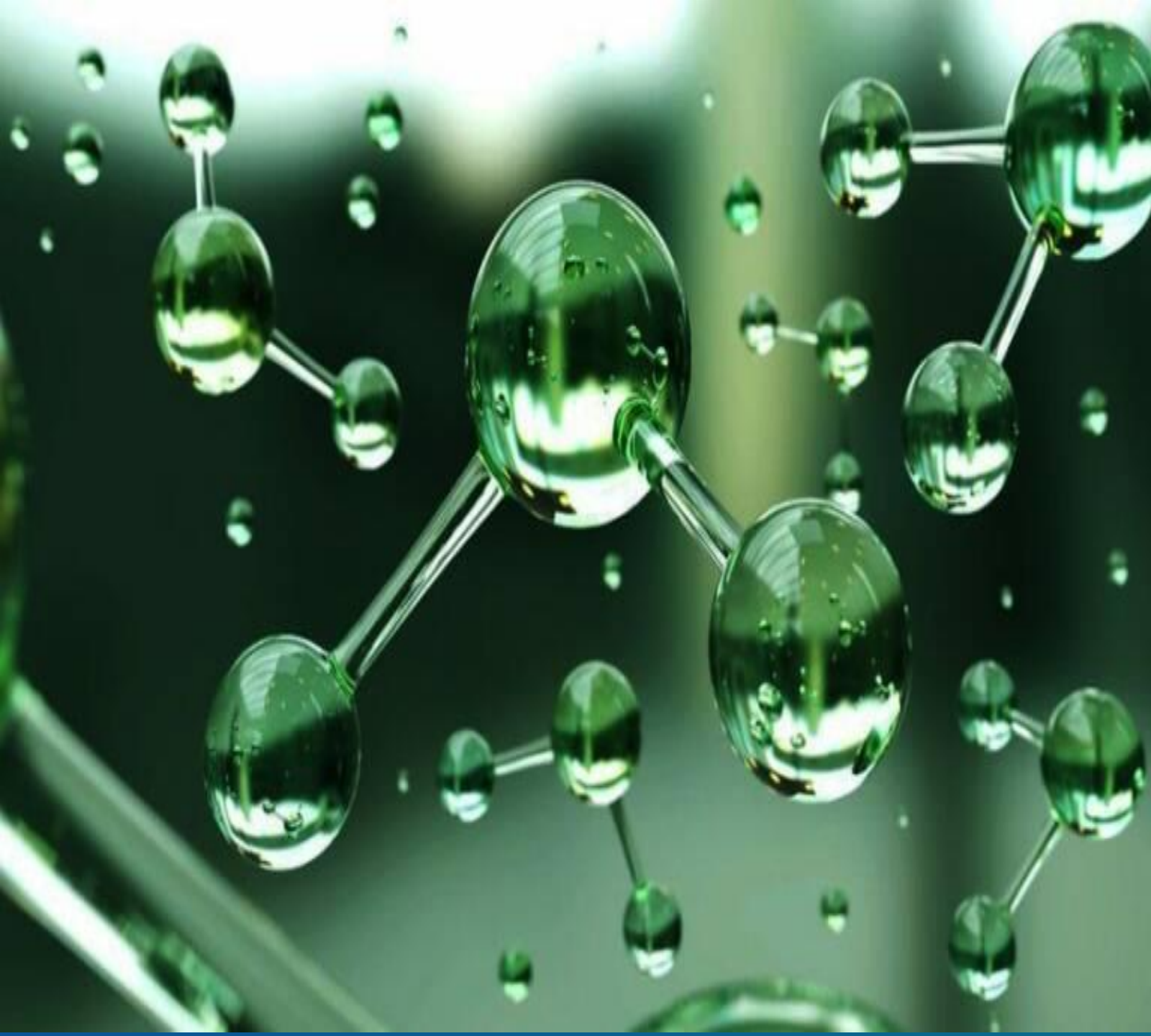


EMMISIONS
MONITORING



CLIMATE CHANGE
ADAPTATION





GREEN FUELS



General features

- Total Budget: 4,117,197.5 EUR
- Duration: 2019-2024

Mobile HRS

- Hydrogen supply logistics at ports
- Port regulatory framework
- Safety procedures



Reach Stacker in MSCTV

2 years / 5000 h de operation



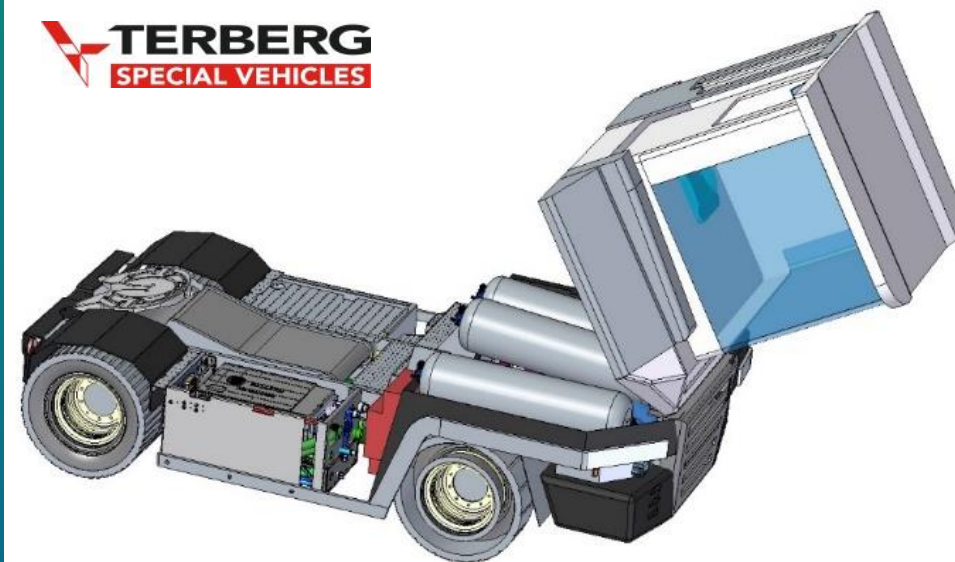
Yard Tractor in Valencia Terminal Europa

2 years / 5000 h of operation



First application in Europe of hydrogen technologies for port handling equipment in real operative conditions

HIDRO REACH STAKER MSCTV



4X4 HIDRO TERMINAL TRACTOR GRIMALDI

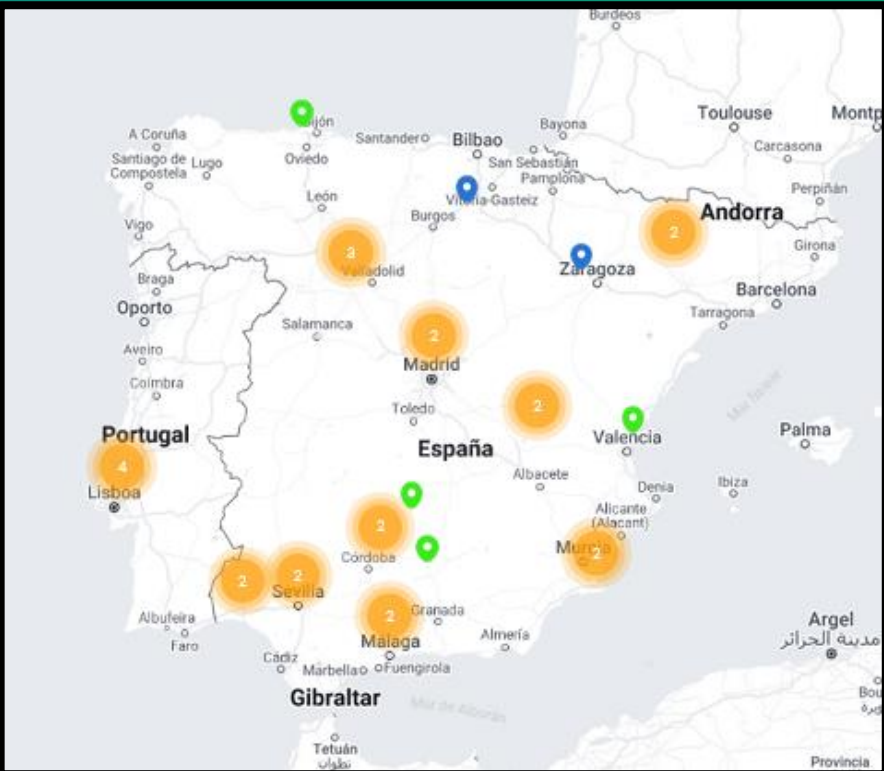
AMMONIA SAFETY STUDY



LNG to AMMONIA A perspective to learn Safety of Ammonia as Fuel in Shipping

LNG capacity 3.3 million m³

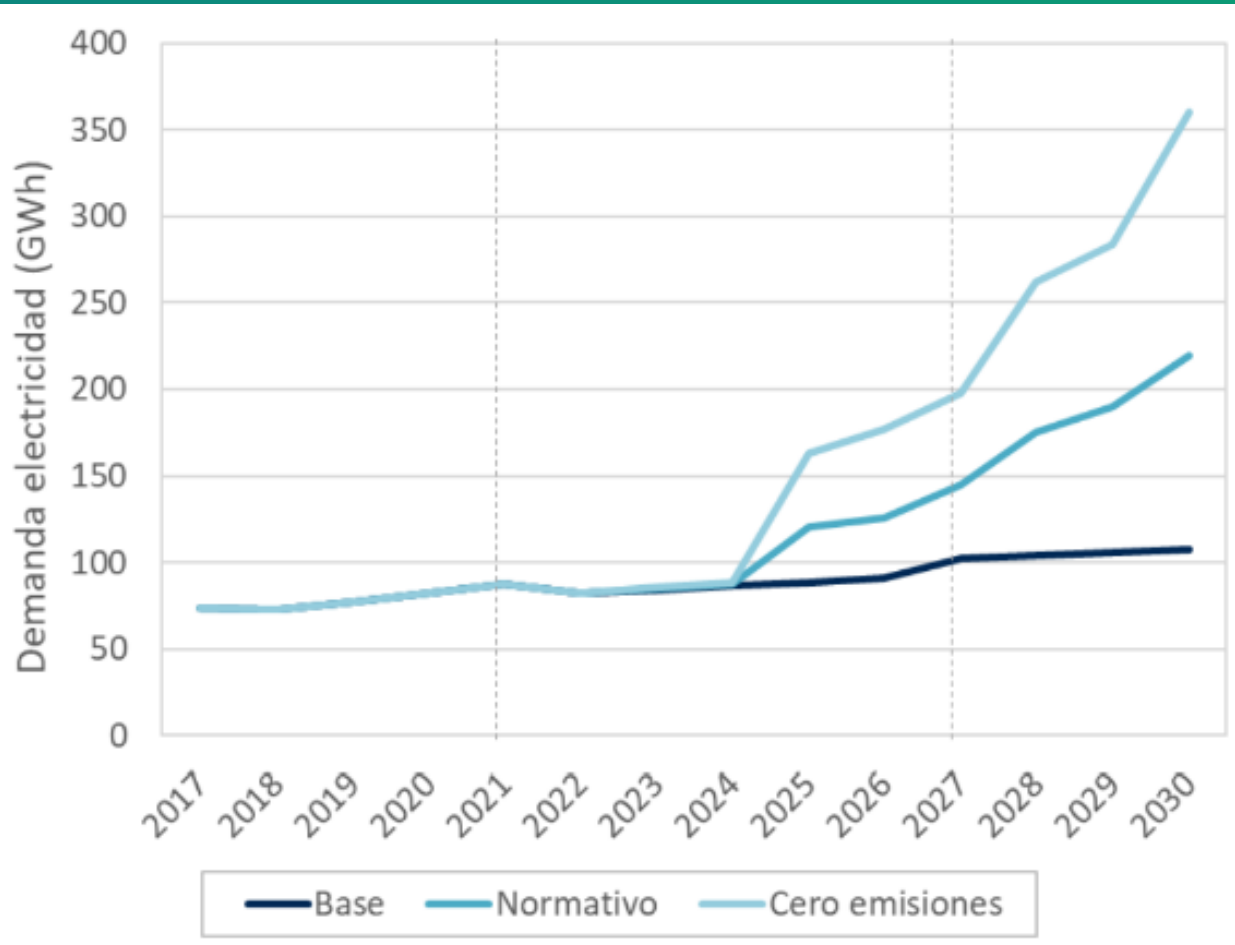
Global: 150 million MT
Fertiberia: 2.5 million NH₃ / year
Capacity: 60,000 MT
Palos de la Frontera 400,00 MT / year



ELECTRIFICATION



ELECTRICITY CONSUMPTION



Zero emissions by
2030?

OPS SHIP POWER SUPPLY

<https://www.emsa.europa.eu/electrification/sse.html>



SubStation 2

Punta Europa

OPS Stations

6 defined

- 2 tendered

- 4 projected

12 planned

TRASMED OPS North 1
TRASMED OPS 1

BALEARIA OPS 1

APM OPS 2

APM OPS 4

TRASMED OPS 2

BALEARIA OPS 2

APM OPS 3

CSPV OPS 1

MSCTV OPS 1.1

SubStation 1

CSPV OPS 2

MSCTV OPS 1.2

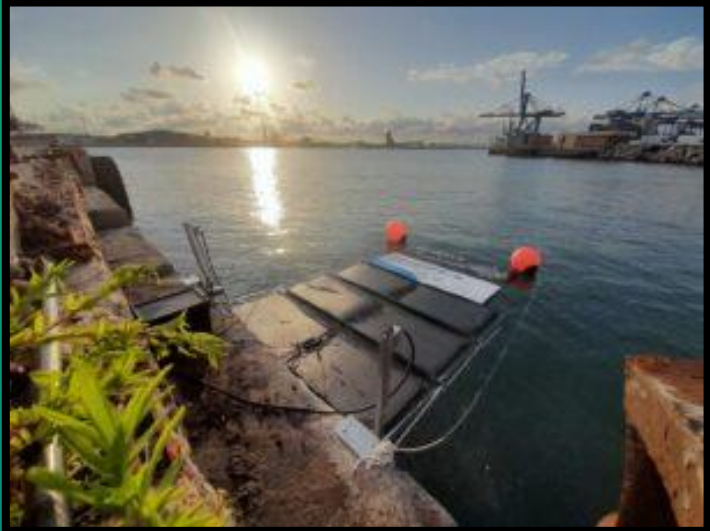
CSPV OPS 4

CSPV OPS 6

CSPV OPS 3

CSPV OPS 5

Principe Felipe



OPS DEMAND

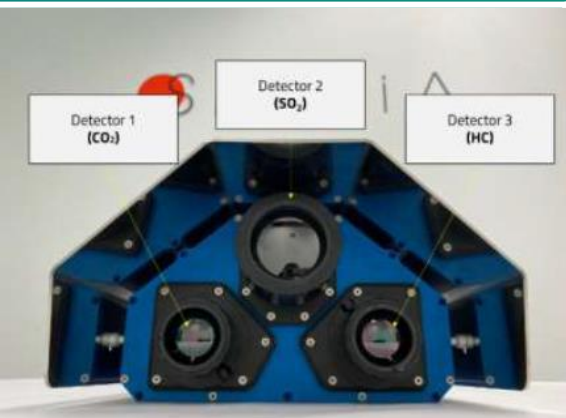
- IEC/IEEE 80005-1

Unit	Traffic	Max Power (MVA)	Voltage (kV)
1	Containership	7.5	6.6
2	Ro-Ro/Ferry	6.5	11 or low
2	Cruise	16 / 20	6.6 / 11
	LNG Tanker	10.7	6.6

56 MVA



EMISSION MEASURING



Optical imaging camera system



Meteorological Data



Air quality sensors



PCS, AIS, other



FO/DSL/
4G

PEP Platform



Predictions



Reports and
Suggestions
to User



Analytics



GENERATION

PV: 2 in Valencia and 1 in Gandia (21.0 M€)

Wind Energy project (18.2M€)

ELECTRIC GRID

2 substations (132 kV) (27 M€)

Electric grid's new layout (38.5M€)

Berths electrification for OPS (23.5M€)

Rail network electrification (5.1 M€)

+130 Million €

GREEN FUELS

Pilot use of H2 as alternative fuel: H2Ports project

Use of LNG as bunker fuel for vessels

Energy transition of the road transport sector

The Foundation of the Port of Valencia

THE FUNDACION VALENCIAPORT NUMBERS



TRAINING

909
COURSES



63,861
hours



346
teachers



24,897 students
12% foreign



98% employability

*2022 figures

With AASTMT
Since 2016
10+ courses

500 Partners



350
PROJECTS

65
COUNTRIES



THE INNOVATION: WORK IN PROGRESS

Currently 30+ projects in our portfolio



H2PORTS
LASTING
ARSINOE

WE TRANSFORM
ILIAD



DT4GS
HYPOBATT
FOR FREIGHT
SEAENERGY
DISCO
UNDERSEC
METEOR
FAITH
OVERHEAT
MISSION

AENEAS
SEAMLESS
IMAGINE 5G+
EU-CIP
POSEIDON
SMAUG
STBERNARD
THEMIS 5.0
BLUEBARGE



CONNECTING SAGUNTO
EALING WORKS



PERSEO
5G RADAR



RENEWPORT
TOURISMO
TREASURE



BLUE PORTS
POWER4MED
GREENMED



VET_LOGICC

THE COLLABORATION INTERNATIONAL PROJECTS

In the last three years...

Digitalization
decarbonization



...10 countries
outside EU
...20+ Projects

Sharing Knowledge

Net Zero Emissions in other Ports: Porto do Itaqui



Thank you 😊

Víctor Collazos

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