

Decarbonisation strategy of the Port Authority of Valencia

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Policies

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MEDports
ASSOCIATION



The Algeciras Bay Port Authority
& the MEDports association
are pleased to invite you at a technical
seminar entitled:

**GREEN TRANSITION
FOR MARITIME TRANSPORT**

On April 28th, 2022, in Algeciras

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Decarbonisation strategy of the Port Authority of Valencia

- 1. Valenciaport in figures**
- 2. Need for extra power supply**
- 3. Pillars for the decarbonisation of the port**
 - 1. Renewable Energies**
 - 2. Use of alternative/clean fuels**
 - 3. Energy efficiency**
 - 4. Digitalisation**
- 4. Other projects**
- 5. Conclusions**

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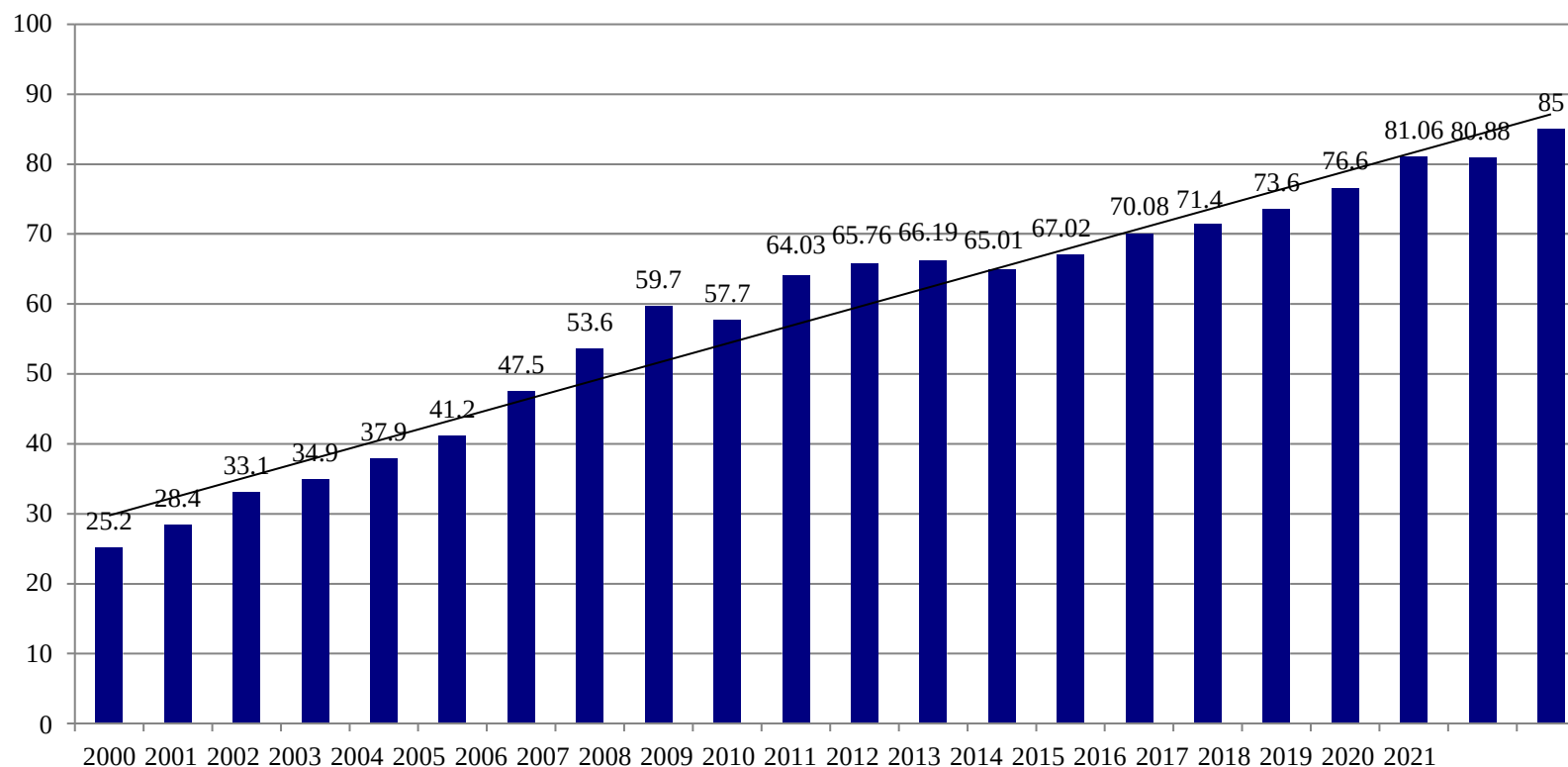
The PAV runs 3 commercial ports in the Valencian Region

The Port Authority of Valencia (PAV) is a State owned public entity in charge of the management of 3 ports located along 80 kilometres of the eastern border of the Spanish Mediterranean coastline in the Valencian Region: namely, the ports of Sagunto, Valencia and Gandia.



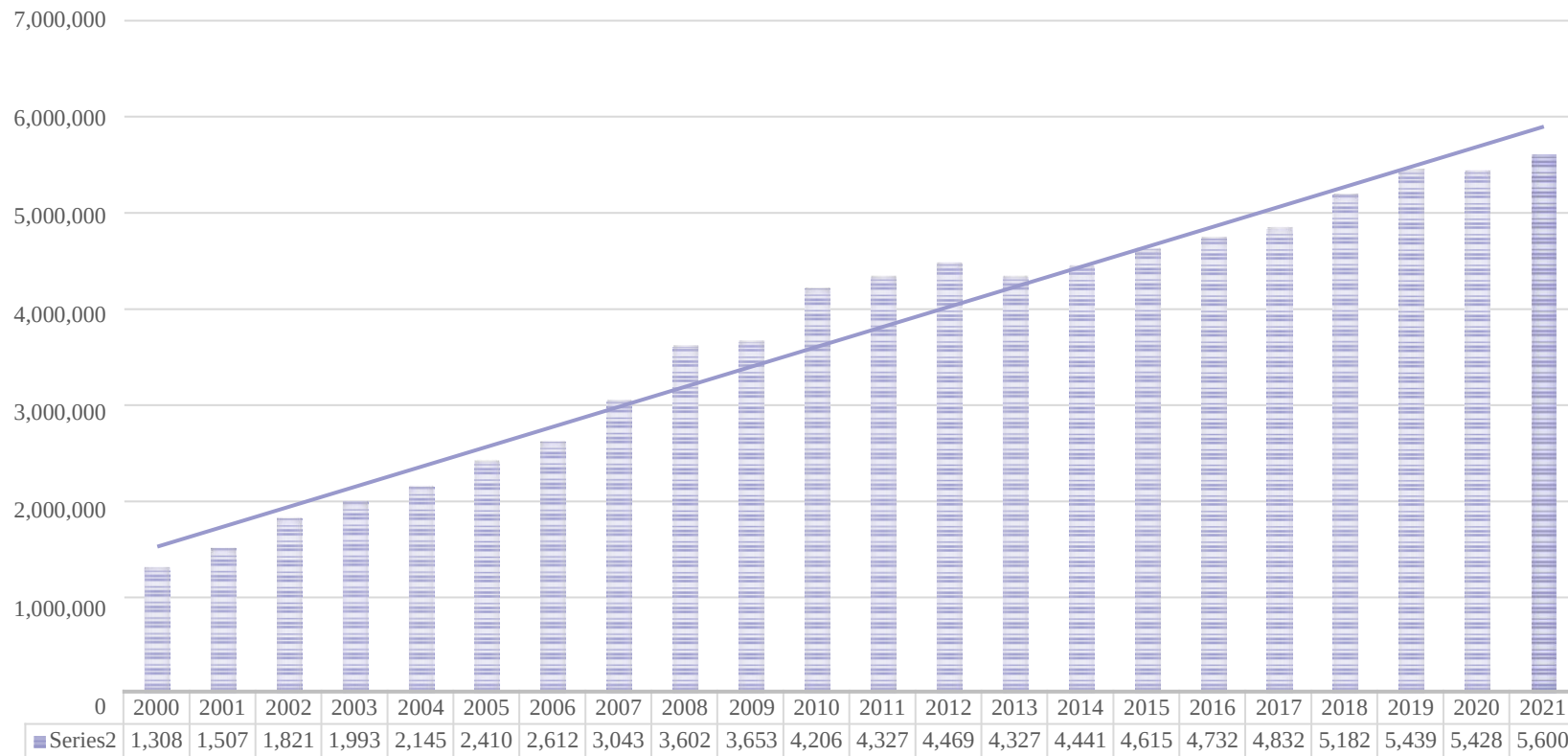
Over 85 million MT handled in 2021...despite Covid 19

PAV CARGO THROUGHPUT - MILLION MT

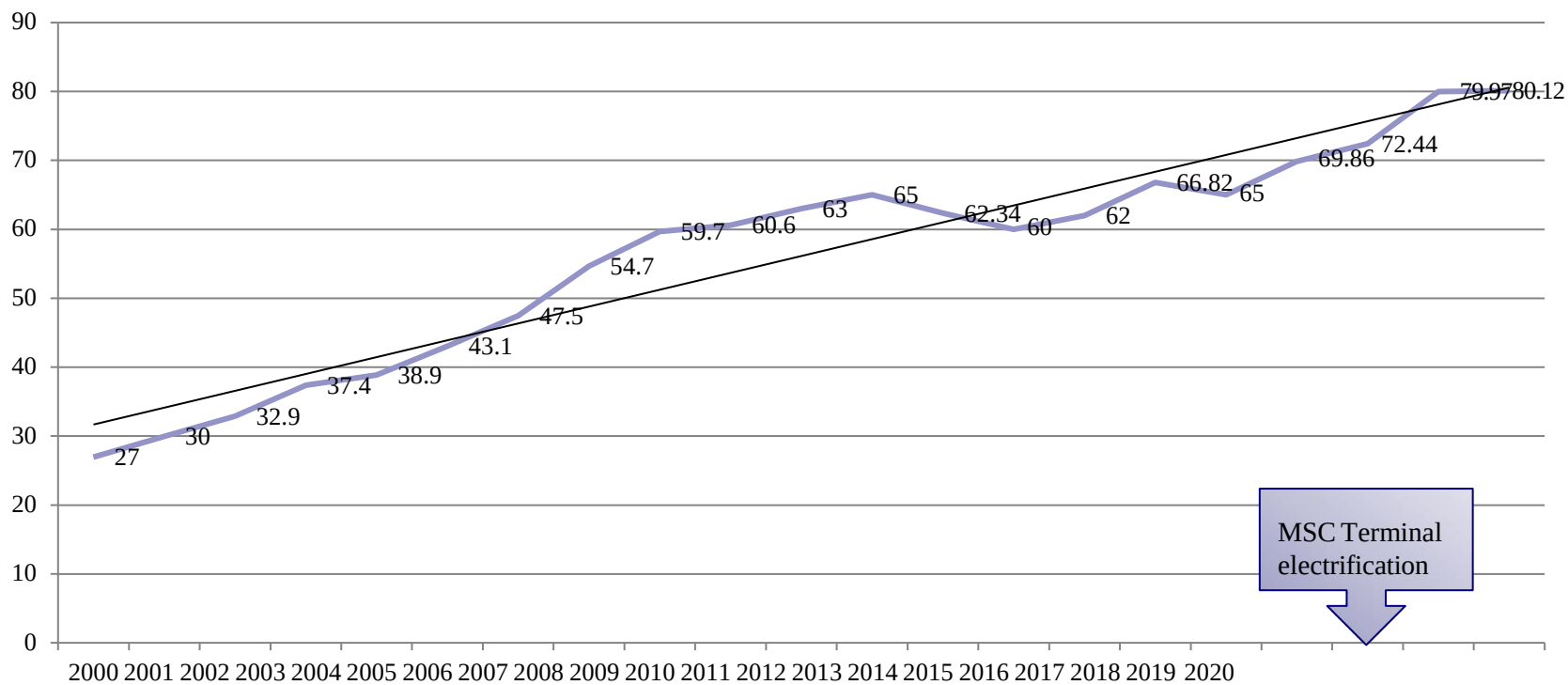


Over 5.6 MTEU in 2021...despite Covid19

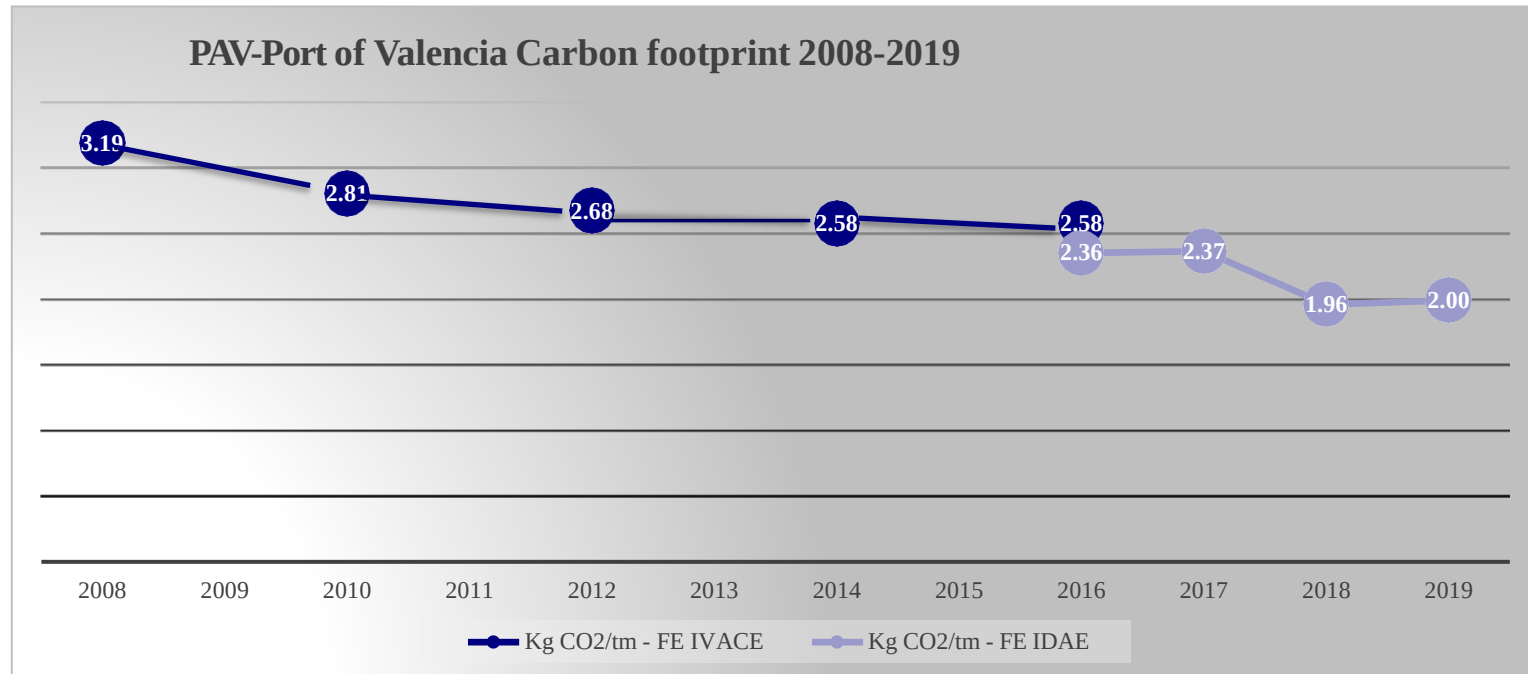
PAV CARGO THROUGHPUT - TEU



PAV electricity consumption - GWh



Carbon footprint calculation and monitoring



Verified by Lloyds under ISO 14064 scheme

Cargo increase 2008-2016	36 %
CF indicator decrease 2008-2016	30 %

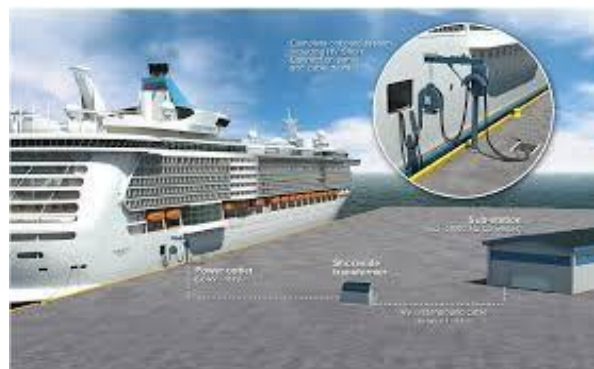
Cargo increase 2016-2019	15 %
CF indicator decrease 2008-2018	37 %

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**Around 80 GWh consumed in 2020, (74 GWh Valencia only
... and growing)**

- Electrification
- Port enlargement
- New bunkering services (OPS)



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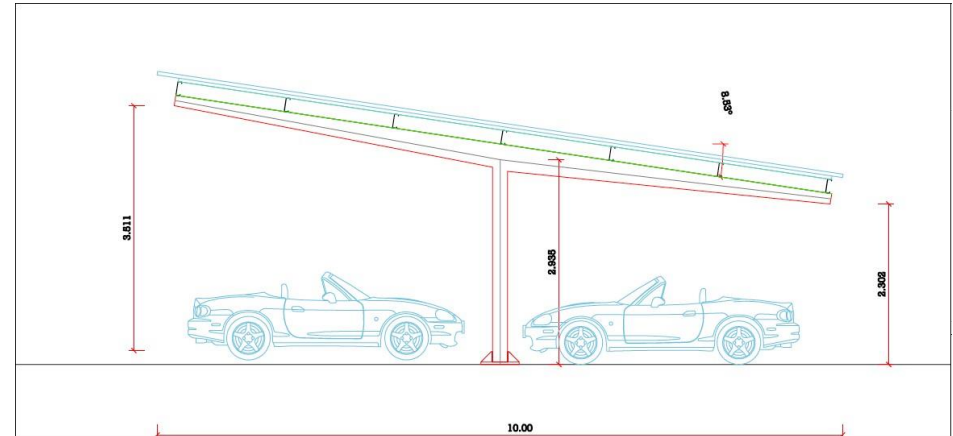
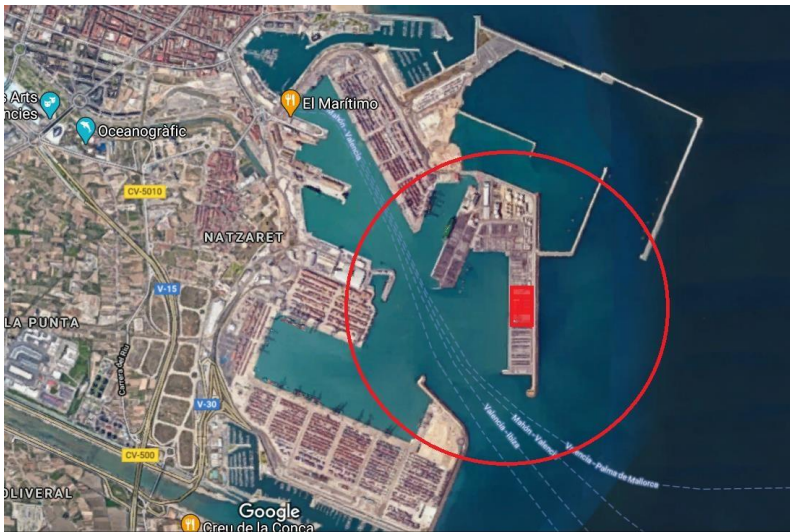
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PV facilities Port of Valencia

Data:

5,500 kWp rated power

AEP: ≈ 10 GWh/year

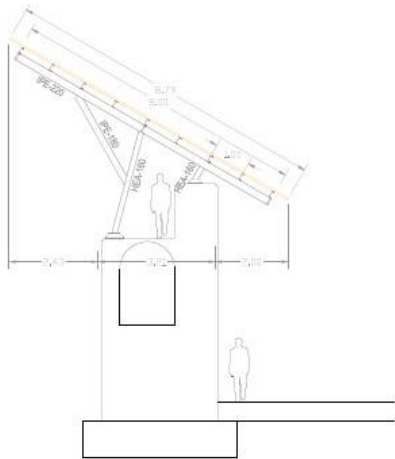
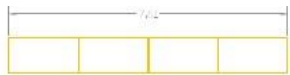


PV facilities Port of Valencia

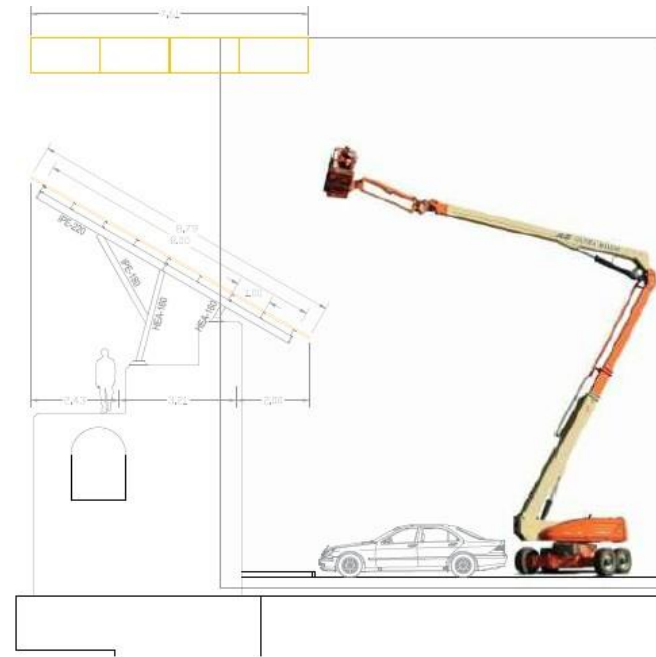
Data:

1,400 kWp of rated power

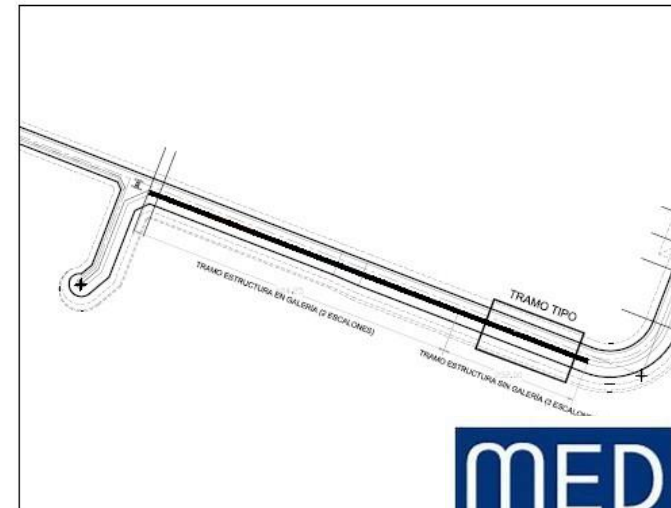
AEP: ≈ 2.5 GWh/year



SECCIÓN ESTRUCTURA EN GALERÍA
(2 ESCALONES) SOBRE DIQUE
ESCALA: 1/75



SECCIÓN ESTRUCTURA SIN GALERÍA
(3 ESCALONES) SOBRE DIQUE
ESCALA: 1/75



UBICACIÓN ESTRUCTURA SOBRE DIQUE
ESCALA: 1/5000

Puerto de Valencia wind farm

Minimum installed capacity of 15 MW

Number of wind turbines: min 3

AEP: 50 GWh/year



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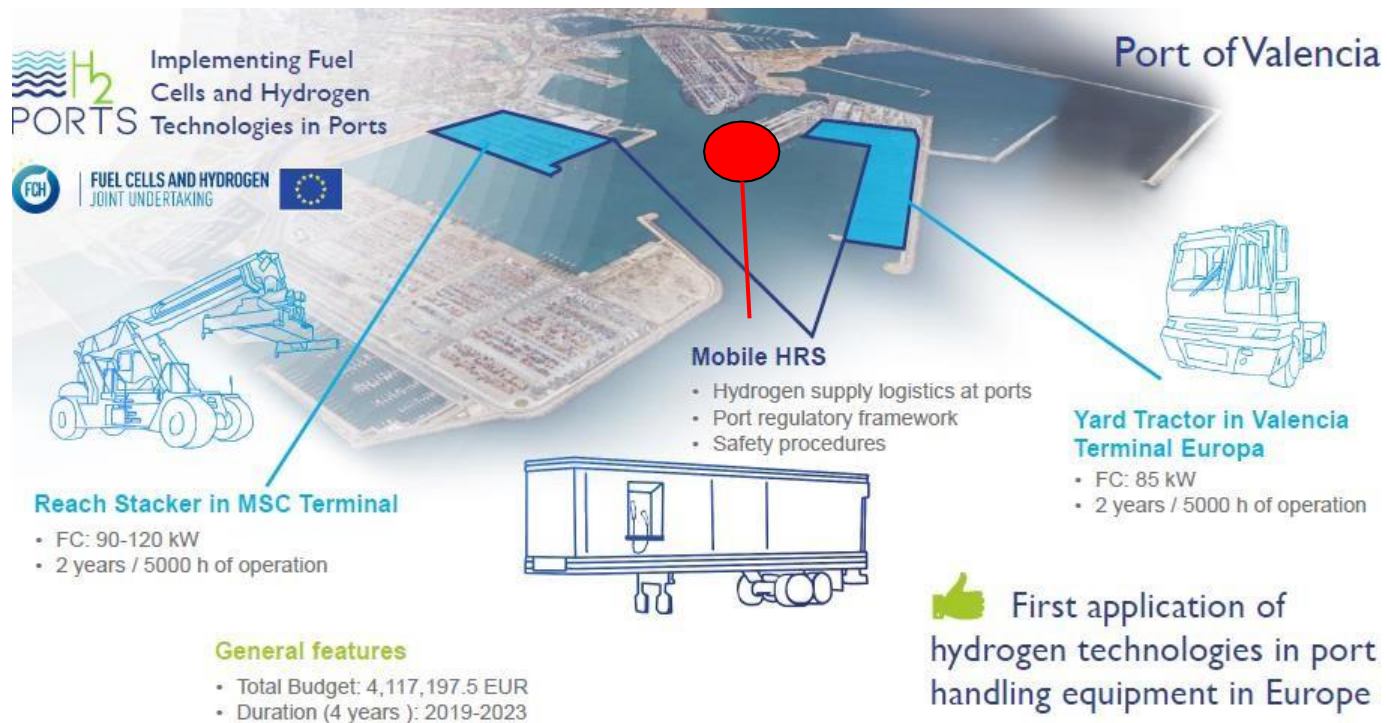
Use of alternative fuels

- LNG for Ro-Pax vessels

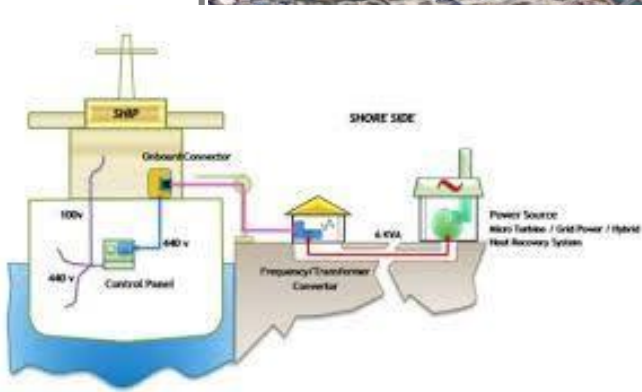


Use of alternative fuels

- H2 for port machinery (H2PORTS Project)



OPS facilities



Coverage of 50% of ship calls in the Port of Valencia: In 2030, forecast: 14.5 MW - 23 MW

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Energy efficiency

- Substitution of port machinery and car fleets by hybrid and electric
- Enhancing the use of railway
- Electrification of port terminals
- Energy efficiency measures implementation
- Smart grids tools implementation

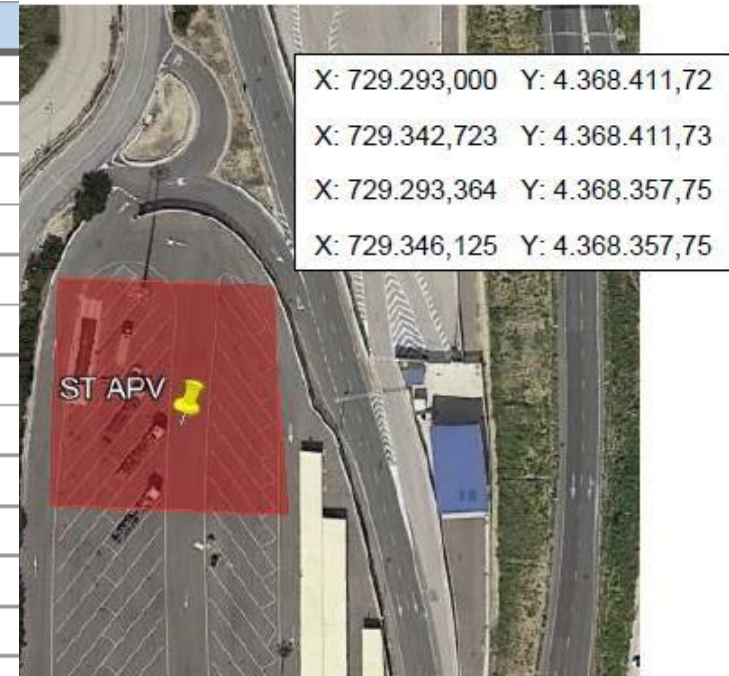


New Electrical Substation

- Electrical substation in the Port of Valencia for the future OPS

CARACTERÍSTICAS GENERALES

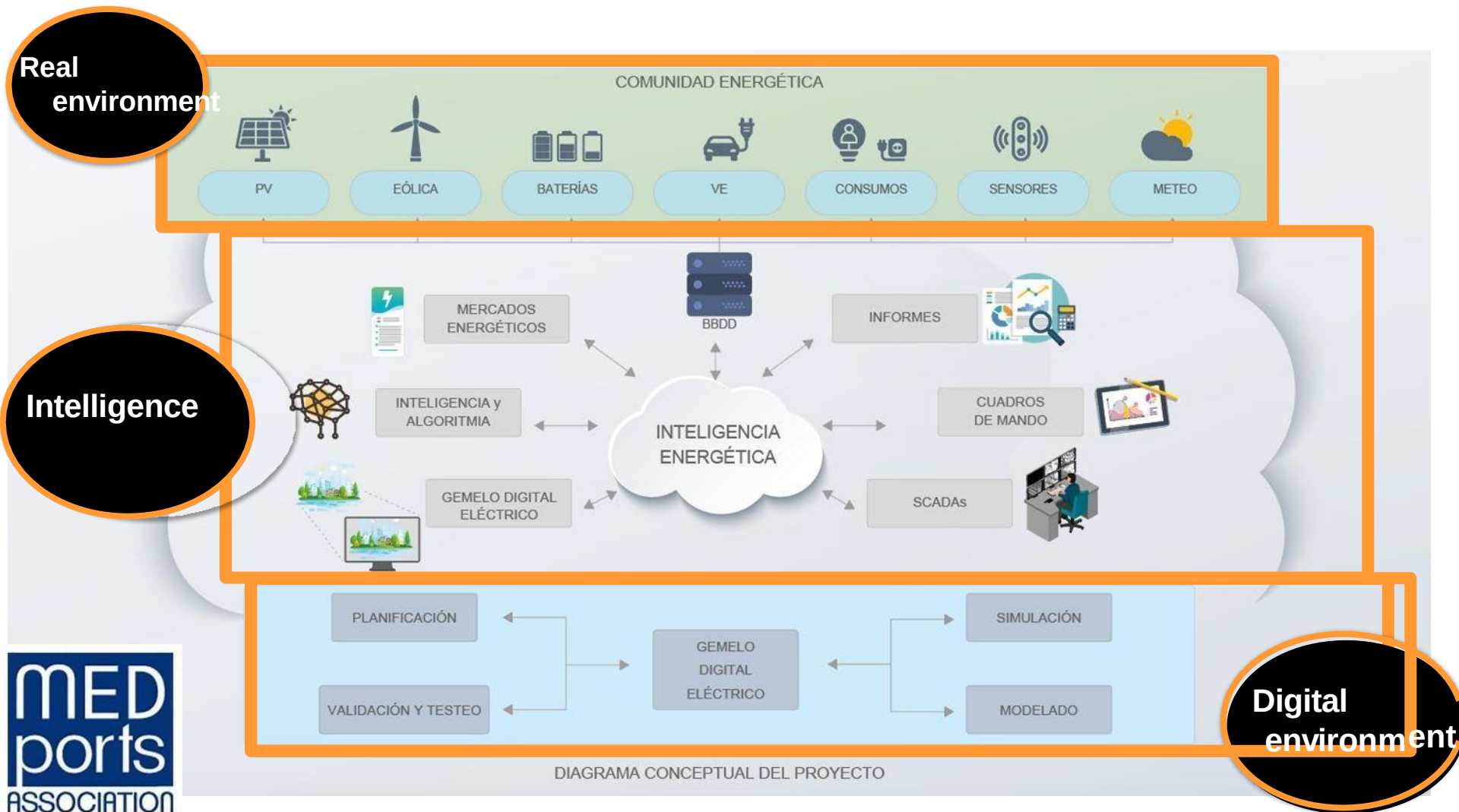
Sistema	Corriente Alterna Trifásica a 50 Hz
Tensión nominal (kV)	132
Categoría de la línea	Primera
Longitud total (m)	964
Nº de circuitos	2 (Doble circuito enterrado)
Origen	ST La Punta
Final	ST APV
Tipología de la línea	Subterránea
Potencia máxima admisibles (MVA x circuito)	755 A en 132 kV (171.41 MVA)
Potencia requerida (MVA x circuito)	30
Tipo de cable	HEPRZ-AI-1200 mm ² H172 132 kV
Tipo de canalización	Zanja entubada hormigonada
Categoría de la red	A



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Digitised energy management, self-consumption, electric mobility and storage



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About 500 m length of breakwater for wave energy converters

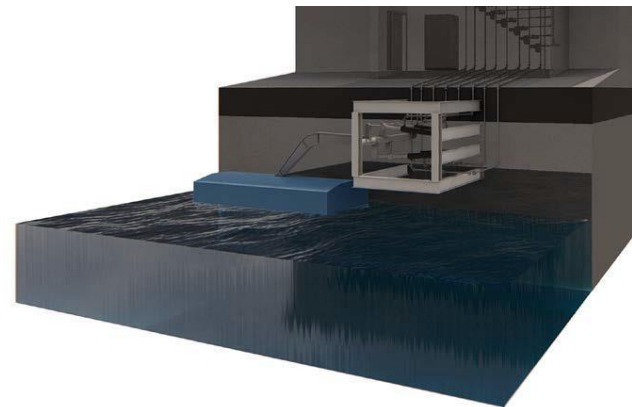
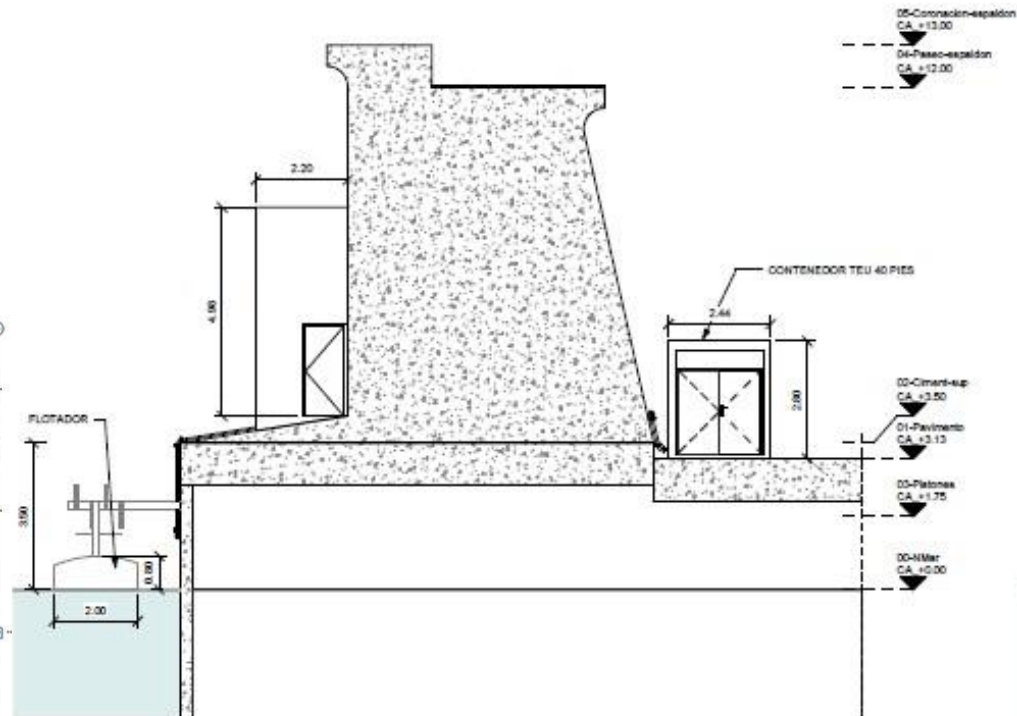
Wave energy:

Requirements for port deployment:

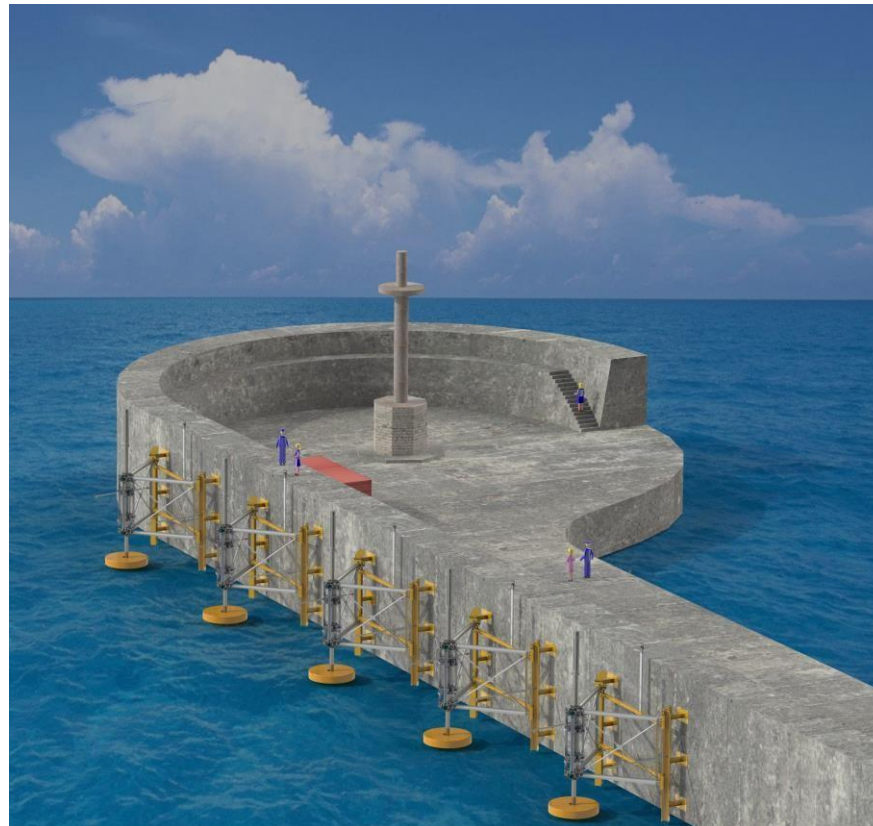
- ✓ Harmless to infrastructure
- ✓ Easy to fold in case of extreme weather events
- ✓ Fully accessible
- ✓ Low O+M costs
- ✓ Scalable

We have identified so far, at least three options for further research (all based on WAB technology)

Option 1



Option 2



Option 3



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Summary of projects to decarbonise the port of Valencia



Wind Power Plant
- 2024

New Container
Terminal ∞ 2027

PV Plant 6 MWp -
2022

New Passenger
Terminal - 2023

PV Plant 1.5 MWp
- 2021

New Electric Sub-
station - 2024



Thank you very much for your attention!!!!

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