



Onshore Power Supply in European ports

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The European Green Deal and Fit for 55 has accelerated the greening of shipping



Fit for 55:

- A comprehensive package of policy proposals (new legislation and revisions of existing rules)
- Intended to deliver 55% GHG reductions by 2030 -> making the EU “Fit for 55”

All sectors of the EU to contribute to emission reductions, including shipping

-> This is crucial to making the Green Deal ambitions a reality



Overview of the key maritime proposals in the Fit for 55-package



Key proposals	Purpose
Alternative Fuels Infrastructure Regulation (AFIR)	Sets mandatory targets for the deployment of OPS by 2030 and LNG by 2025 in ports (supply)
FuelEU Maritime	Introduces requirements for ships to reduce emissions and to use OPS when at berth (demand)
EU Emission Trading System (ETS)	Expands cap and trade of CO ₂ , methane and NO _x allowances in the EU to shipping
Energy Taxation Directive (ETD)	Sets rules for how and when Member States can tax energy. Introduces possibility of tax exemption for electricity provided to ships at berth.

Fit for 55 – Most maritime elements of the Fit for 55- package are in the final stages of negotiation



	COM proposal	EP report	Council general approach	Trilogues	Preliminary agreement	Adoption by (co-) legislators
AFIR						July 2023
FuelEU Maritime						July 2023
EU ETS						
ETD		ECON draft opinion under negotiation - paused	Compromises being developed – trilogue 28 March	N/A		

OPS requirements in AFIR (Article 9)



Type of vessels above 5000 gross tonnes	average annual number of port calls of ships that are moored at the quayside (>2h), averaged over the last 3 years	
seagoing container ships	above 100 (50 in COM proposal)	Article 9(1)a
seagoing ro-ro passenger ships	above 40	Article 9(1)b
seagoing high-speed passenger crafts	above 40	Article 9(1)b
seagoing passenger ships (other than seagoing ro-ro passenger ships and seagoing high-speed passenger crafts) <i>=cruise ships</i>	above 25	Article 9(1)c

are equipped to provide each year shore-side electricity supply for **at least 90% of the total number of port calls** [from ships] that are moored at the quayside at the maritime port concerned.

OPS requirements in FuelEU Maritime (Article 5)



- FuelEU Maritime requires ships (same as in AFIR) to reduce emissions both during navigation and at berth starting in 2025, and requires ships to connect to **OPS** or use an alternative zero-emission technology solution for all its electrical power demand at berth (set out in Annex III) **by 2030**.

Exceptions:

- Ships at berth for less than two hours (actual time of arrival/departure)
 - Ships using zero-emission technologies (Annex III)
 - Force majeure or grid instability
 - Unavailable OPS in port or incompatibilities (10% of annual calls or 10x/year after 2035)
-
- EU ETS: price on GHG emissions from shipping calling on ports in the EU starting in 2024

Success will depend on implementation and enforcement

-> Significant effort needed to be compliant by 2030

Priorities for ports in Europe as part of Fit for 55



An ambitious greenhouse gas emission reduction path is needed for shipping

- ✓ Introduce requirements to reduce greenhouse gas content in fuels and to improve energy efficiency
- × Combine with binding requirements for ships to use shore side electricity (SSE/OPS) when made available at berth

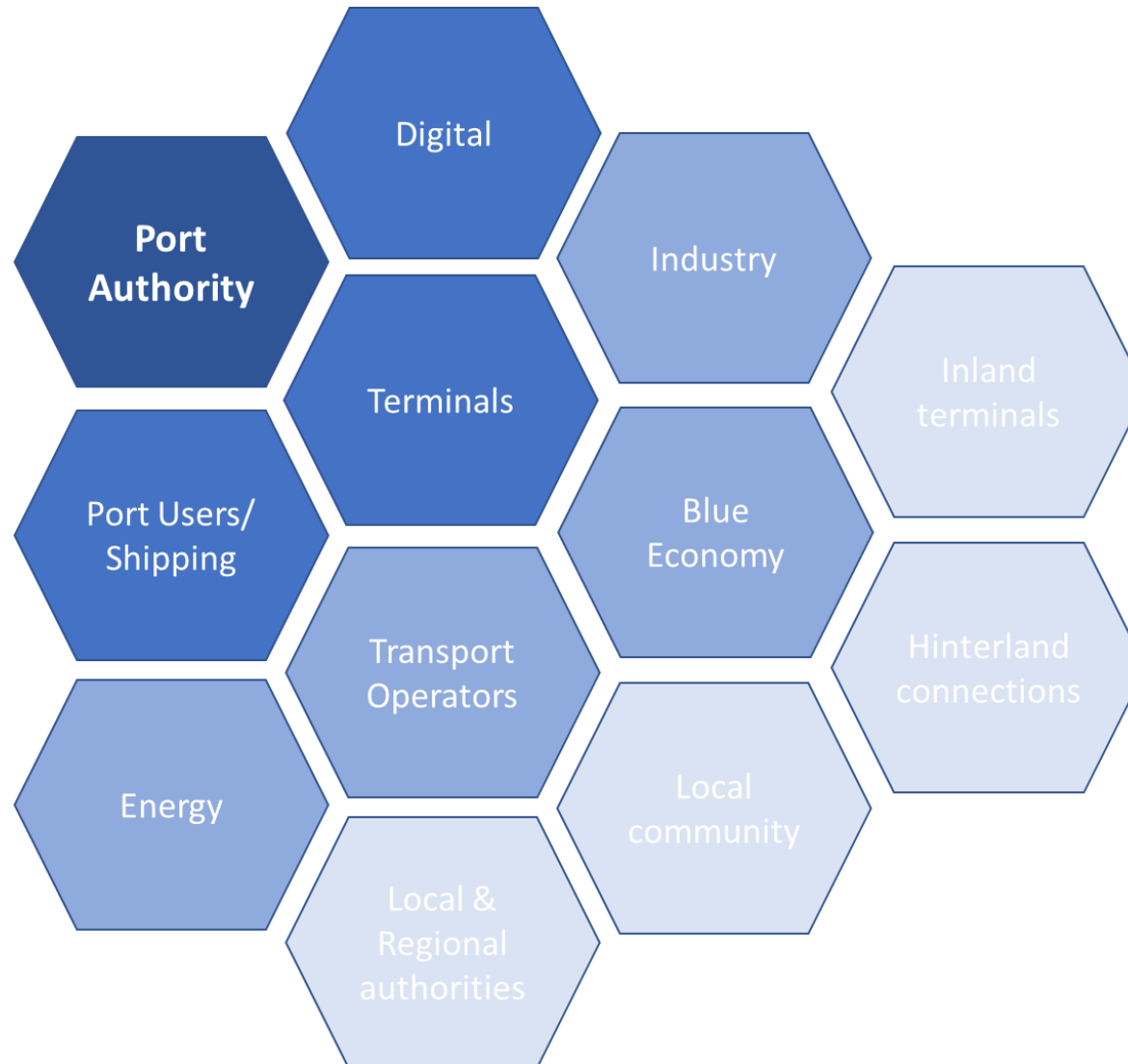
Ensure sufficient funding for the green transition in the maritime sector, including ports

- ✓ Dedicated funding for innovation in maritime sector and ports under the EU ETS Innovation Fund
- ✓ Additional funding for alternative fuels infrastructure, including SSE (AFIF, CEF)
- ✓ Use of monies from revenues to decarbonise the sector (FuelEU Maritime)
- × Dedicated funding to help deploy existing technologies, especially SSE

Individual proposals must work together as part of a cohesive legislative framework

- × Avoid carbon and business leakage as part of possible evasive practices by shipping companies
- ✓ Preventive and dissuasive measures must be foreseen if evasion does take place
- ✓ Promote ambitious IMO policies to reduce negative impact on EU competitiveness

Port Governance – the different actors operating in the port area



HIGH VOLTAGE*

49%

IN 2022

46% **46%** **49%**
2020 2021 2022

* The percentages of these indicators are calculated on the basis of the 51 ports offering OPS, not out of the total of participating ports.



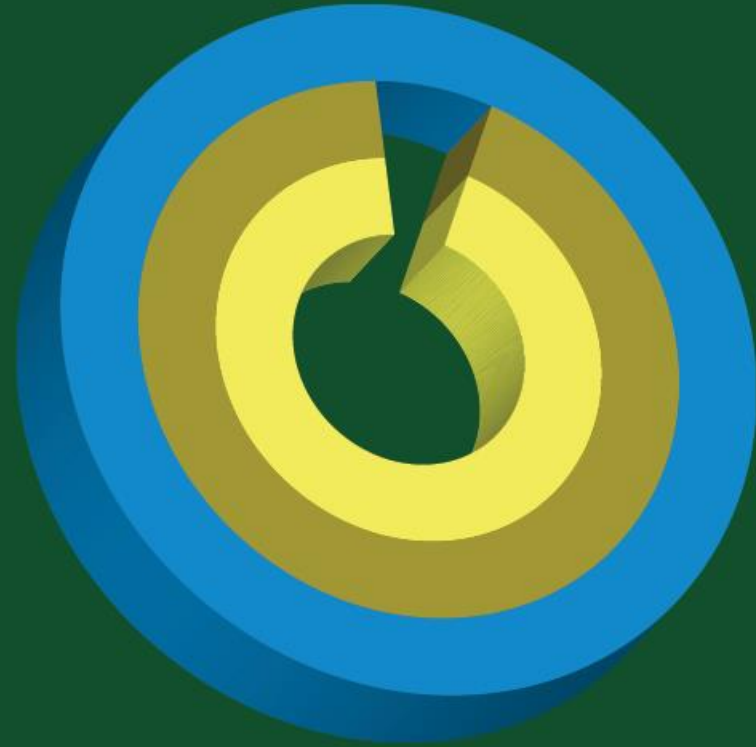
BY FIXED INSTALLATION*

100%

IN 2022

93% 93% 100%

2020 2021 2022



* The percentages of these indicators are calculated based on the 51 ports offering OPS, not out of the total number of participating ports.

DOES THE PORT PLAN TO OFFER OPS DURING THE NEXT 2 YEARS?

48%

IN 2022

40% 46% 48%
2020 2021 2022



SSE where it makes sense to maximise emission reductions per invested Euro



Requirements to use and provide onshore power supply (OPS) in ports has been the main focus for European ports

Covered by the proposals for AFIR and FuelEU Maritime

- **SSE is an important technology to reduce emissions at berth**
- **BUT: Installing SSE is complex and costly**
 - ⇒ OPS should only be installed if it is **effectively** used
 - ⇒ **Focus** on places/berths/terminals in the port where it makes sense in terms of emissions reduction

“Where it makes sense”-criteria:

OPS must be fully used, segment, size of ship, time at berth



Challenges



Costs and funding

- 1 OPS installation: CAPEX €1-30 million
- Total OPS infrastructure costs: €1.2-6.5 billion
- Electricity prices: €500 MW/h Aug 2022 - €60 MW/h Aug 2021
- Lack of a viable business case -> additional EU and national funding
- Business models, with terminal operators

Grid capacity

- Strengthen/upgrade grid
- Difficult to serve several ships at once
- Frequency conversion
- Incompatibilities
- Peaks demands

Coordination and dialogue between all stakeholders



Thank you!

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