



What's in AFIR for ports?

T&E explainer of Alternative Fuels Infrastructure Regulation

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1. What is the Alternative Fuels Infrastructure Regulation (AFIR) and why is it relevant for shipping?

This Regulation is a revision of the 2014 Alternative Fuels Infrastructure Directive and is part of the Fit for 55 package. The change from a Directive to a Regulation means that the legislation is now directly applicable to all EU member states as it is without the need for transposition into national law

For shipping, this Regulation sets binding targets for TEN-T core and comprehensive maritime ports to install shore-side electricity and liquefied natural gas bunkering stations and to TEN-T core and comprehensive inland waterway ports to install shore-side electricity.¹

This Regulation is complementary to the FuelEU Maritime's mandate requiring ships to use shore side electricity in core and comprehensive maritime ports. AFIR also requires states to develop an overview of the state of play and planned initiatives for the deployment of alternative refuelling infrastructure such as hydrogen.

¹ The names of these ports are listed in Annex II of Regulation (EU) No 1315/2013

2. What are the key articles that affect the maritime sector?

AFIR also includes refuelling and recharging infrastructure regulations for road vehicles and airports. The relevant articles for shipping are the following:

- **Article 9** on targets for shore-side electricity supply in maritime ports.
- **Article 10** on targets for shore-side electricity supply in inland waterway ports.
- **Article 11** on targets for the supply of liquefied methane in maritime ports.
- **Article 14** on the need for member states to submit an overview of the state of play and planned initiatives for the deployment of infrastructure for alternative fuels in maritime ports, such as hydrogen by 2025.
- **ANNEX I** on a progress report that member states will need to submit by 31 December 2027 indicating the capacity and location of shore side electricity and liquified methane refuelling infrastructure.

3. What does AFIR mean for shore-side electricity in maritime ports?

AFIR requires member states to ensure that core and comprehensive TEN-T² maritime ports in their territories are equipped with enough capacity to provide shore-side electricity for at least 90% of the port calls by seagoing passenger and container ships above 5000 gross tonnage (GT) every year.

However, this requirement will be applicable only for the TEN-T core and comprehensive ports that receive more than 100 port calls per year by containerships, more than 40 port calls per year by ro-ro passenger ships (ferries and high speed passenger craft) and more than 25 port calls per year by cruise ships. Only the port calls by ships of more than 5000 GT over the last 3 years will be taken into account in determining which ports meet the above-mentioned thresholds.

To address the concerns of the ports, AFIR also requires member states to ensure that sufficient grid infrastructure and capacity, power reserve and frequency conversion is made available to meet the above-mentioned requirements.

Future reviews of the Regulation will give the Commission the chance to consider including other ship types in the mandate. The next review will happen by 31 December 2026 and every five years after then.

² TEN-T core and comprehensive ports are European ports whose strategic location ensures effective multimodal transport networks across the EU. Core maritime ports are required to be connected with rail and road infrastructure by 2030 and, where possible, inland waterways. On the comprehensive network those requirements must be met by 2050. For more information see:

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013R1315-20190306>

Timeline for the introduction of zero-emission berth mandate in EU ports (FuelEU Maritime and AFIR)

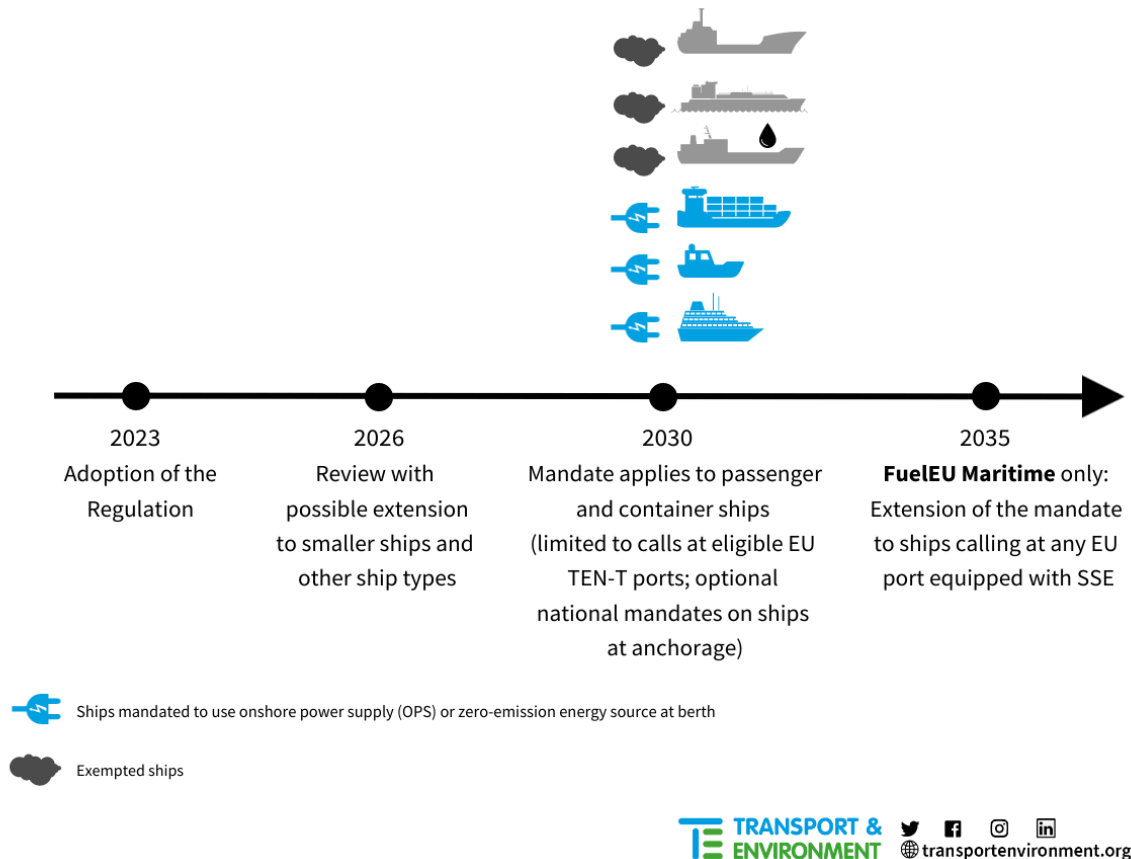


Figure 1: Timeline for the introduction of zero-emission berth mandate in EU ports

4. Are there any exemptions?

TEN-T maritime ports located on an island, in an outermost region or in Ceuta and Melilla that are not connected directly to the electricity grid of the mainland or are connected to the electricity grid of a neighbouring country do not have to comply with the Regulation until such connection has been completed or until there is sufficient locally generated electricity from non-fossil energy sources to cover the needs of these territories.

5. What does AFIR the Regulation mean for shore-side electricity in inland waterway ports?

TEN-T core inland waterway ports need to install at least one shore-side electricity infrastructure by 1 January 2025. For TEN-T comprehensive inland waterway ports the deadline is 1 January 2030.

6. Are Member States still required to install Liquefied Natural Gas (LNG) refuelling infrastructure in ports?

AFIR still requires ports to install liquefied methane refuelling stations by 2025, but it only applies to TEN-T core ports and the requirement is conditional upon there being short and long-term demand for this fuel. This means that if LNG falls 'out of fashion', either because of higher prices, ETS and/or FuelEU Maritime requirements or general loss of confidence of the shipping industry in this fuel, member states and ports can ignore this requirement.

7. Will Member States be required to deploy green fuel bunkering stations for ships?

There is no hard mandate requiring member states to deploy green fuel bunkering stations such as hydrogen. However, member states are required to develop and submit to the EU Commission national policy frameworks by 1 January 2025, where they will include an overview of the state of play, perspectives, and planned initiatives for the deployment of infrastructure for other alternative fuels/energy, such as hydrogen, ammonia, methanol and electricity. This in itself does not amount to a mandate to put in place e.g. hydrogen bunkering infrastructure, but acts as a first step for a possible mandate during the future revision(s) of AFIR.

8. Who is responsible for complying with AFIR? Are there any penalties?

Member States are responsible for ensuring the deployment and report of the requirements contained in AFIR. This also means they will be responsible for setting and imposing the penalties. However, the Commission can open an infringement procedure if member states do not comply with the Regulation.

9. What are the funding sources for port infrastructure in European ports?

There are several funding tools that member states can use to finance the deployment of shore side electricity or other alternative fuels infrastructure in ports:

- [The Connecting Europe Facility for Transport Alternative Fuels Infrastructure Facility Fund](#) has a total budget of €1.5 billion and is open for application on a rolling basis.
- EU Horizon 2020, an EU research and innovation program that funds preliminary studies and the deployment of new technologies including onshore power supply.
- National schemes

10. Will AFIR drive the decarbonisation of port infrastructure?

While AFIR is a good start to ensure the deployment of shore side electricity, there are two main shortcomings that are worth addressing.

Firstly, the shore side electricity (SSE) mandate only covers ships at berth (containerships and passenger ships) leaving over half of at berth emissions from other ships and emissions at anchorages unregulated. T&E analysis shows that AFIR leaves 57% of shipping CO₂ emissions at berth unregulated which is equal to 5 Mt of CO₂ and 3 kt of sulphur oxide (SO_x) per year. This figure is comparable to the SO_x emissions of the entire EU passenger car fleet (263 million cars).³

Moreover, there is still no mandate for green fuel bunkering, while the liquified methane, another name for fossil LNG, bunkering requirement means that public funding will go towards fossil fuels.

Further information

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³ See [T&E 2022 Port carbon emissions ranking](#), and [T&E 2022 FuelEU Maritime report](#)