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European Ports: The need to avoid the great divide

European ports have recently been at the centre of attention. Serving 3.4 billion tonnes of goods and 395 million passengers per year, they handle around 74% of Europe's external trade via three million port calls. Their strategic importance as essential interfaces between the European economy and international markets, and as lifelines for islands, coastal, and outermost regions, is undeniable.

Recognising this importance, the European Commission published a document in March 2026 aimed at developing a European Port Strategy. Yet, with European ports in transition, it seems that more than just detailing good, and perhaps right, intentions is needed.

The reason is the need to apply a broader range of adjustments than ev-

er before that affect their operations, growth trajectories, and long-term sustainability. The needs that arise from environmental pressures, technological change, economic volatility, operational disruptions, and geopolitical tensions make these changes imminent.

They are essential for building resilience, protecting investments, and ensuring that ports function as critical nodes in the local economy and the broader maritime supply chains. Hosting new industry practices, securing the energy transition, and transforming ports through technological adoption into innovation clusters are essential changes for Europe's security and strategic autonomy.

Yet the stage of implementation varies across Europe. A percentage ranging from 30% to 50% of all cases have seen these adjustments as essential. In

the rest, inertia has prevailed. The potential of a 'great divide' between the doers and the laggards looks probable.

The Port Energy transition

The energy transition is the most profound example of the different trajectories currently observed across European ports. As the shipping industry moves toward decarbonization, ports play a crucial role in reducing greenhouse gas emissions. The pace of adoption of low- and zero-carbon fuels (LNG, methanol, biofuels, ammonia, and hydrogen), which is key to achieving net-zero emissions by 2050, strongly depends on the availability of port infrastructure. Yet such rules and procedures are not widely implemented. LNG, operational in 33% of ports, and biofuels, in 24%, are making the most progress. Hydrogen and other alternatives have an even more significant ground to cover.

Around 25% of ports are already participating in an active green corridor initiative or are in the process of implementing one. These are designated shipping routes that rely on coordinated international action among ports, shipping companies, and governments to accelerate the decarbonization of maritime transport. Ports along such routes typically commit to providing capital-intensive Onshore Power Supply (OPS) and bunkering options for sustainable fuels.

The pace of OPS adoption is uneven. About 30% of ports have already deployed such systems, most of them for container vessels, followed by cruise ships and ferries. Uptake remains limited for bulk carriers and tankers. Although international standards provide a framework for compatibility, not all ports are equipped to meet these specifications, leading to interoperability gaps. Successful OPS implementation depends on coordinated planning and investment among port authorities, terminal operators, utility providers, and shipowners. This collaboration remains

essential for aligning timelines, financing models, and operational practices across the maritime value chain.

Carbon Capture and Storage (CCS), another strategic tool for decarbonising, creating economies of scale, and positioning ports as central nodes in emerging carbon management value chains, has not yet seen widespread adoption. Implementing CCS infrastructure requires substantial investments, regulatory clarity, and close coordination among industrial emitters, port authorities, technology providers, and governments.

For CO₂ measurement and reporting, many ports rely on the Greenhouse Gas Protocol, an international standard that provides a framework for quantifying, managing, and reducing their carbon footprints. Yet approximately 25% of ports do not regularly measure their carbon footprint. Encouragingly, half of the ports appear to be taking proactive steps in this direction, having publicly announced commitments to reach carbon neutrality ahead of the 2050 deadline, while 53% extend their carbon accounting to encompass all other indirect emissions arising across the value chain, and an equal share is 'going the extra mile' by publicly declaring targets to achieve carbon neutrality before 2050.

The share of zero-carbon fuels in the total fuel mix for port-area operations also remains modest and imbalanced. A handful of ports report a share of renewable energy in total electricity consumption within the port area above 75%. Nearly half of the industry stands in the 0-25% range. Renewable electricity produced onsite in port areas relies heavily on solar power. In addition to traditional photovoltaic installations, ports are gradually beginning to adopt alternative solar technologies. Wind energy is present in 16% of the ports and Hydropower and wave-energy solutions appear only sporadically across the port landscape.

By embedding circularity principles, ports can enhance sustainability, reduce operational costs, and strengthen resilience against resource scarcity and regulatory pressures. Yet progress remains slow, with the most significant advances achieved in the reuse of dredged materials at 40%, followed by water reuse and the beneficial use of waste streams. By contrast, industrial symbiosis initiatives remain less common. Their success depends heavily on the presence of a suitable local ecosystem, where multiple companies can exchange resources in mutually beneficial ways. Industrial symbiosis involves creating networks in which different businesses within or around the port share materials, energy, water, and by-products, transforming what would otherwise be waste into valuable inputs for other processes. Rather than of functioning as isolated entities, these companies form an inter-



Europe needs to secure the scrutiny of foreign direct investments, and the prevention of control of European ports by third countries