



Clean

An update on the

The effort to “go green” in the freight transportation sector has become a mix of industry-led initiatives and regulatory mandates

A plethora of green transport case studies have materialized, from Maersk Line’s announcement that its next generation “Triple E” fleet of 18,000-TEU containership will emit 50 percent less emissions compared to the industry average in the Asia-Europe trade, to agriculture giant Cargill’s announced deployment of sky sail technology on at least one of its chartered vessels in 2012 (see Green Movement sidebar)

On the flip side are growing environmental regulations, especially with regard to curbing shipping industry emissions worldwide.

Emissions are the thing

The most recent such regulation was upheld by a U.S. District Court in California, where ships calling ports there will need to burn cleaner within 24 miles of the coast.

Since July 2009, cargo ships have been required by the California Air Resources Board to use fuel with a sulfur limit of 0.5 percent. That limit is set to be lowered to 0.1

Green

Shipping Environment

percent by January 2012.

The Pacific Maritime Shipping Association filed with the 9th U.S. Circuit Court of Appeals on the grounds that CARB's 2009 mandate is not constitutional and should be pre-empted by federal statutes.

Constitutional issues were at the heart of a lawsuit filed by the American Trucking Associations against the Port of Los Angeles and its groundbreaking Clean Trucks program, with that case going before the 9th Circuit Court of Appeals in June over whether the port can legally force trucking companies to replace independent drivers with company employees.

The thrust of Southern California's clean truck programs (that has spurred permutations at other U.S. ports) is banning older trucks that spew too much pollution and phasing in newer trucks with lower-emission technologies.

The trucks program came out of the Clean Air Action Plan adopted by the L.A.-Long Beach ports in 2006, and has set goals for 2014 that include cutting port-related diesel particulate matter (DPM) emissions by 72 percent (85 percent by 2023), NOx emissions by 22 percent, and SOx emissions by 93 percent below 2005 levels.

The CAAP goals are tied into the South Coast Air Quality Management District's plan to meet federal air

quality standards.

Meanwhile, on the global stage, the International Maritime Organization reported "steady progress" at its recent meeting in London of its working group on greenhouse gas emissions from ships.

The IMO said at the center of the emission talks was development of market-based measures that focused on "emission reductions or carbon price; revenues for mitigation, adaptation and capacity-building activities in developing countries; incentives for technological and operational improvements in shipping; and offsetting opportunities."

The IMO said market-based proposals that were reviewed included contributions or levies, "on all CO2 emissions from international shipping, or only from those ships not meeting the requirements of the Energy Efficiency Design Index (EEDI), via emission trading systems, to schemes based on a ship's actual efficiency, both by design (EEDI) and operation, based on the Ship Energy Efficiency Management Plan (SEEMP)."

The working group will report its conclusions to IMO's marine environment protection committee when it convenes for its 62nd session in July.

Growing impatient on the sidelines is the European

Union, which is reportedly preparing to step into the International Maritime Organization's waters and impose the aforementioned emissions trading system if global talks don't produce some results on shipping pollution.

The ETS was launched in 2005 as a major cap and trade program enforcing pollution limits to thousands of utilities and manufacturing facilities, where those emitting fewer emissions sell surplus permits. One permit allows for one metric ton of CO₂ to be discharged. Aluminum, aviation and chemical companies are up next for the program.

“Whereas a global agreement in the context of IMO is still the preferable option, and we continue working for that, we have started really seriously preparing for tackling the sector.” *Yvon Slingenberg, director of the European Union's emissions trading program on potential cap and trade enforcement on ship emissions in European waters*

The head of the EU's ETS program, Yvon Slingenberg, was quoted in a Bloomberg report, saying: “Whereas a global agreement in the context of IMO is still the preferable option, and we continue working for that, we have started really seriously preparing for tackling the sector.”

Slingenberg also said an alternative to the ETS could be “charges or levies.”

“It could be for bringing them into the emissions trading system; it could be also other options, such as charges or levies.”

Slower ships face scrutiny

The global shipping industry has also been slowing its ships down the past two years, with the motivation having as much or more to do with saving on fuel costs as with lowering greenhouse gas emissions.

The U.S. Federal Maritime Commission launched an inquiry earlier this year into the impact of slower containership speeds on freight rates and shippers' supply chains.

A United Nations conference on trade and development report said that a 10 percent reduction

in speed will reduce emissions by 19 percent per ton-mile.

Denmark's Maersk has also said that reducing a ship's average operating speed by 20 percent could lower its daily fuel consumption by as much as 40 percent.

The FMC's notice of inquiry into slow steaming referenced trade data that shows more than half of the 45 weekly container-shipping services operating between the U.S. West Coast and Asia are currently engaged in slow steaming. More than three-fourths of Asia-U.S. East Coast shipping services are slow steaming, the FMC's notice said.

“Slow steaming is a complex issue with advantages and disadvantages for both carriers and shippers, depending on trade conditions and commodity transported,” the notice said.

The FMC said shippers of lower-value commodities might find longer transit time with lower freight rates to work in their favor.

However, “shippers of high-value commodities may not find slow steaming advantageous because a potentially lower freight rate may not outweigh the added delay in accessing payments for goods rendered,” the FMC said.

The FMC said slow steaming's environmental benefits should measure both carrier and shipper metrics and benefits.

“Better information and more transparency on emissions savings from slow steaming would allow carriers and their customers to make shipping choices that reduce their carbon emissions — and receive full credit for those measures.”

Shipping Industry's Green Movement

What follows is just a sampling of various transportation and logistics industry green initiatives that are either in play or in the works.

This is not meant to be a comprehensive list, as there are more than enough to fill up this entire magazine, but to offer a snapshot of the many different types of industry efforts being put forth.

This publication's regular Shipping Environment column and the weekly Cargo Techwire will endeavor to keep readers up to date with these types of initiatives on an ongoing basis.

Clean Truck programs: Launched with much fanfare, controversy, and resulting legal challenges, the vanguard ports of Los Angeles and Long Beach have influenced likeminded, (though not yet as stringent) programs at other U.S. ports. The idea behind clean truck programs is phasing out older, "dirtier" port trucks and phasing in rigs that run on cleaner-burning technology through various incentives and enforcement.

Maersk: The world's biggest shipping line has one of the world's biggest targets on its back when it comes to ship emissions and related environmental issues, and it isn't sitting still, building pricey 18,000-TEU ships that will cut emissions by a reported 50 percent. Maersk led the way with the slow-steaming movement, and is touring an interactive "Climate Box" container exhibit around the world to promote its environmental initiatives.

APL: Claims it was the first ocean carrier to use low-sulfur fuel in auxiliary engines while at the berth of several ports around the world. The Singapore-based shipping line also uses a mix of low-sulfur fuel and biodiesel in its terminal equipment at the Port of Seattle, saying that it reduces particulate matter emissions by approximately 80 percent.

NYK: Japan's largest shipping group outlined its plan to sport a zero-emission fleet by 2050 and is developing its Super Eco Ship 2030

Green Gateway: The Puget Sound ports of Seattle and Tacoma's ambitious blueprint for using their shipping gateway as a "greener" alternative to others. The concept of a smaller carbon footprint is coming into play as a best business practice.

Port of Baltimore: The port authority has installed screens in storm drains and leveraged federal grant funds to install clean diesel technologies on 142 pieces of equipment. Ports America Chesapeake, the operator of the Seagirt Marine Terminal, is recycling its used oil, batteries and scrap metal, in addition to utilizing greener diesel technology on more than half of its 122 yard trucks.

Wallenius Wilmenson: Scandinavia's major ro-ro shipping line is working towards zero-emissions at several terminals worldwide in a major initiative it terms the "Castor Green Terminal," named after an endangered species of beaver.

United Parcel Service: The Atlanta-based package-shipping giant offers carbon neutral shipping available to customers in Europe, Asia and the Americas. Customers pay a fee to calculate and offset the carbon emissions associated with their shipments. The calculation to measure the carbon dioxide impact of the customers' shipments is based on current and historical operational data, including distance and transport mode and a comprehensive carbon inventory. UPS said it collects the fees and uses the funds for environmentally responsible projects around the world. UPS also matches the offset purchases up to \$1 million

Port of Gothenberg: Sweden's biggest container port says it is going to reimburse shipping lines that enter its waters burning cleaner fuel to help them offset those higher costs. The Port of Gothenburg already offers rail shuttles and an onshore power supply for vessels, and it has plans to supply them with liquefied natural gas, too. The port's latest initiative is aimed at shipping lines that choose a fuel containing a maximum of 0.1 percent sulfur, which can receive up to \$40,000 in compensation for increased fuel costs.

Cargill: The food and agricultural giant announced earlier this year it had signed an agreement with SkySails GmbH & Co. KG to use wind power technology to reduce greenhouse gas emissions in the shipping industry. By the first quarter of 2012 December, Cargill said a handysize vessel that the company has on long-term charter, fitted with a 320m² kite, will be operational for a shipowner that has expressed interest in deploying the green technology.