Sustainability e-News Q2 2018 Edition

Sustainability e-News Q2 2018 Edition

We are pleased to share the new edition of our GoGreen Brief – DHL Global Forwarding's Sustainability Newsletter. With this quarterly newsletter we are aiming to share our insights and knowledge on carbon reporting, reduction approaches and climate change abatement trends as well as other related sustainability topics. We hope you find it of value and we welcome your comments and suggestions.

Maritime Industry Commits to Decarbonizing Ocean Freight Shipping



The world's maritime shipping industry has now, for the first time, defined its commitment to helping with climate change! The agreement will require a complete revolution for today's ships, which are overwhelmingly fueled by heavy oils. Carbon emissions from the global shipping industry will be cut by at least half by 2050 under this major international agreement. The goal is for shipping's greenhouse gas emissions to reach zero by the middle

of the century, with newly built ships running without fossil fuels by the 2030s.

April 13, the International Maritime Organization (IMO), a specialized agency of the United Nations, agreed on a highlevel strategy to decarbonize international shipping and reduce emissions from ships. The IMO climate agreement called for controlling greenhouse gas emissions from the global shipping industry, with a target of 50 percent emission reductions by 2050 compared to 2008, as well as further efforts to achieve complete sector decarbonization. This is an important step toward achieving the goals set out in the Paris Agreement, and it comes from the perspective of maritime shipping—which did not have any targets, as it has not been accounted for in the Paris Agreement until now.

By 2023, the UN agency is due to develop a final strategy and related measures—a goal environmental agencies and climate officials have welcomed as an opportunity to increase ambitions for curbing sector-wide emissions. The target of a 50 percent reduction was a compromise between requests for a longer phaseout period and for lower emission cuts by 2050 and requests from others such as the EU for cutting emissions by 70-100 percent. Additionally, keeping in mind most global trade is transported by ship, having strong short- and long-term plans is of the utmost importance to decarbonize this sector. Developing CO_2 -free fuels will be key.

Such a level of ambition will require a sector-wide shift to new fuels and technologies. It implies most new ships built in the 2030s will have to be emission free, meaning higher energy efficiency will no longer be enough. Clean energy, such as batteries, solar, wind or even nuclear power, will have to be used instead. The International Chamber of Shipping (ICS) argues a 50 percent total cut by 2050 can only be achieved through the development and widespread use of zero carbon fuels, and complete decarbonization can only be achieved in a second step.

Until new technologies are available market-wide, it is crucial to know what happens in the short-term to use time wisely. Shippers can already start to play their part, leading the way and supporting decarbonization by accelerating changes in maritime fuel mixes. Though battery and hydrogen cell technology does exist, their current capabilities are not sufficient to make them the industry's dominant fuels.But shippers can choose to ship their cargo with biofuels instead of the usual heavy fuel oil used by most of the marine industry. Based on a like-to-like approach, substituting fossil fuels with sustainable biofuels is possible without any technical adaptions. Using biofuels reduces carbon emissions by up to 80 percent, eliminates sulphur emissions, significantly reduces particulate matter and improves performance regarding nitrogen oxides. But its biggest advantage among decarbonization strategies? It is available today.

Are Biofuels the Future for Air and Ocean Freight?



With the International Maritime Organization's new, highlevel strategy to decarbonize international shipping and reduce emissions in ships, presented April 2018, the prospect of cleaner oceans and air is just around the corner. To achieve the goals set, however, new technologies and a transition to zero-carbon fuels are crucial. As an immediate first step toward

decarbonization, shippers can already begin to use biofuels as an alternative.

Though many may not realize it, biofuels have been in use for centuries, with vegetable oils and animal fats traditionally used as lamp and cooking fuels. Now, biofuels are coming to air and ocean freight, where they can help decarbonize the logistics industry.

What is a biofuel? Simply put, biofuels are hydrocarbons used to power something made by or from a living organism. Biofuels refer to energy produced from biomass products, which can be transformed into gas or liquid fuels to use in engines, either in their pure forms or as admixtures. It is important to note the prefix 'bio' in biofuels does not have the same meaning as 'bio' in the food industry, where it indicates a biologically and environmentally friendly product. In biofuels, 'bio' instead indicates it was derived from renewable biomass resources, in contrast to fossil fuels, which are nonrenewable.

As biofuels are produced from biological sources, such as trees, plants or micro-organisms, all carbon contained in a biofuel was absorbed from the atmosphere months or years earlier via photosynthesis. This means when you burn a biofuel, you are simply releasing this captured carbon back into the atmosphere, causing no overall impact on atmospheric CO₂. In contrast, fossil fuels contain carbon that has been locked underground for millions of years—which is not balanced by photosynthesis—so burning it increases the overall level of CO₂ in the atmosphere.

In ocean freight, the advantage of biofuels lies in engines. Marine engines have much higher operational flexibility, so shipping fuels do not have to undergo as extensive a refining process as aviation fuels. Therefore, biofuels have a

higher economical potential in the shipping sector. Global demand for marine biofuels is projected to reach more than 83 million tons annually, or 20 percent of current total fossil fuel used in shipping, by 2050.

Despite its numerous benefits, biofuels have undergone scrutiny for energy consumed in the process of growing crops, including use of fertilizers and pesticides and the process to turn plants into biofuel. First-generation biofuels especially, such as ethanol and methanol, are criticized for competing with food production, as they are made from sugar, wheat or corn in a process similar to brewing. To identify "good biofuels," meaning those that are truly sustainable, it is important to consider certifications from credible, independent third parties, such as the International Sustainability and Carbon Certification (ISCC) and Roundtable on Sustainable

Biomaterials (RSB), an existing program with the strictest criteria.

Though many critical points are being raised about biofuel, it will play an important role going forward. Long-term hopes lie in electricity and power-to-liquid solutions, which would help the air and ocean freight industries support decarbonization in the logistics industry. This is especially true of power-to-liquid solutions, as using sustainable green electricity to produce synthetic fuels is a key solution for the future of environmentally friendly shipping. But the industry cannot wait for electric container ships or for power-to-liquid solutions to become the new norm. Steps toward less carbon-intense transport have to be taken now.

Modern fleets and equipment, larger and more efficient airplanes and ships and electric port infrastructure all require high financial investments from the air and ocean freight industries. This is where biofuels—which are significantly less expensive than new infrastructure—can play their part, if the right regulations, standards and incentives are in place. Without any further technical or financial investments from shippers, <u>biofuels could be used in container</u> ships starting today.