Making waste work harder

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Ecoslops' Vincent Favier explains what ports can do to facilitate slops disposal

Waste not: Ecoslops' refined product can help ports boost their environmental profile

Tonnes of maritime hydrocarbon residues are created every year from the fuel oil burned by the engines of the global commercial fleet. All of this waste needs to be disposed of in line with IMO and EU regulations.

Although many ship owners dispose of their slops in accordance with MARPOL Convention 73/78 and European Directive 59/2000 regulations, the United Nations Environment Programme estimates that in European waters alone, at least 3,000 incidents occur each year in which oily waters are deliberately dumped, causing significant ecological and social harm. A proportion of this illegal activity might be caused by the difficulties ship owners and operators face when it comes to the legal disposal of slops.

Where previously, sectors such as the construction and cement industries used to provide a reliable market for purchasing slops from slops collectors, the recent low cost of crude oil has encouraged these markets to invest in purer, virgin fuels.

Legally, vessels are required to dispose of their slops before they disembark, however they often lack the tank capacity to keep the waste products on board. If the reception facilities at the port of berth are not adequate, or simply full, then there can be significant issues with the discharge of the waste, potentially damaging the reputation of the port, and also creating environmental and sustainability issues within local port areas and communities.

Regenerating slops

Against this backdrop, Ecoslops has developed its micro-refining technology. It is the first company to develop a technology capable of sustainably regenerating slops into valuable new fuels and light bitumen, which can then be sold back into the market to create a sustainable slops disposal cycle.

To optimise distillation, the slops are pre-treated. They are heated, decanted and using high-speed vertical centrifugation, the water, hydrocarbons and the sediments are separated before the refining and distillation process. As the reprocessing of the water from the slops is fully integrated within the treatment process, the water is then depolluted using the latest techniques.

After the water and sediment is removed, the slops are sent to the distillation column and heated to 400°C. Under vacuum conditions, as well as the 'overflash' process implemented by Ecoslops, the hydrocarbons and heavy molecules are vaporised, and at the end of the distillation process several fuels are produced, including light fuel, fuel (distillates and IFO) and light bitumen. The slops are therefore disposed of sustainably, and regenerated into useful commercial products, delivering benefits at all levels of the slops supply and disposal chain.

A process such as this removes the hassle of disposal for ports, with all slops going directly to the micro-refinery plant for regeneration. This minimises port pollution, with the slops being sustainable treated as opposed to burned, and therefore helps the port boost its environmental profile.

At a time when sustainability is seen as an enormous added value by a growing proportion of ship owners, operators and charterers, this can make a tangible difference to a port's competitiveness.

The development and implementation of new, clean technology and innovation is transforming all areas of the environmental impact of the shipping industry, including slops disposal. As the global shipping industry's tonnage increases in volume, and the difficulties facing slops disposal continues, the need for a sustainable solution in each port will become ever more pressing.

Port authorities can see sustainable slops disposal as a genuine solution to their infrastructure challenges and a point of competitive differentiation.

Vincent Favier is chief executive of Ecoslops, developer of technology that transforms slops and sludges into usable fuels and bitumen.