

December 5, 2023

Hanwa Co., Ltd.

**Announcement regarding the completion of domestic sea trials using “SVO”  
blended biofuels**

As part of the Ministry of Land, Infrastructure, Transport and Tourism’s research regarding the application of biofuels in shipping, Hanwa Co., Ltd (hereafter Hanwa) supplied SVO (Straight Vegetable Oil) blended biofuels to 3 domestic vessels in 4 sea trials. SVO is crude biofuel which is made from Used Cooking Oil and has not undergone processing such as transesterification (for FAME) or hydrogenation. Since the quality of Used Cooking Oil in Japan is high, Hanwa attempted to use it as marine fuel with as little modification as possible. Hanwa is pleased to announce that all the trials were completed successfully.

Biofuels blended with normal bunker fuel oil and SVO were supplied to several domestic vessels in the sea trials in order to examine the effectiveness of the biofuels. These are the first sea trials using SVO blended biofuels in the Japanese shipping industry.

[Delivery Details]

Supply Area	SVO supplier	Supplied Vessel	Fuel Oil Type	Blend ratio
Hanshin	Hamada Kagaku Co., Ltd	SHOUKIMARU	LSC Marine Fuel Oil (RMG Grade)	10%
			LSC Marine Fuel Oil (RMG Grade)	24%
		KAISEIMARU	LSC Marine Fuel Oil (RMG Grade)	24%
Chukyo	Chubu Eco Bio Union Company	DAIICHI TETSUUNMARU	Marine Diesel Oil (DMB Grade)	24%

The SVO used in these sea trials was procured from Hamada Kagaku Co., Ltd (headquartered in Amagasaki City, Hyogo Prefecture) and Chubu Eco Bio Union Company (headquartered in Komaki City, Aichi Prefecture) which both have meticulous quality control systems, to ensure that the product is of this highest quality and can be used as bunker fuel. As SVO does not require large scale processing systems in comparison to other biofuels, it makes it possible to further reduce costs and facilitate procurement. Furthermore, since SVO is unprocessed, it is expected that the carbon dioxide emissions will be greatly reduced.

Hanwa aims to offer high quality SVO blended biofuels as ready to use drop in fuels in Japan, in order to help shipping companies reduce their Scope 1 emissions & shippers to reduce their Scope 3 emissions.

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