

April 30 ,2024

Hutech Norin introduced new refrigerated heavy-duty truck to realize sustainability.

In April 26, Chilled & Frozen Logistics Group's Hutech Norin Co., Ltd. introduced two new refrigerated heavy-duty trucks to realize sustainability.



Chilled & Frozen Logistics Group aims to reduce CO2 emissions (Scope1 and 2) by 38% in fiscal 2030 (compared with fiscal 2021) and achieve carbon neutrality by fiscal 2050. At present, however, Electric vehicle and Fuel Cell Vehicle are not widely available for heavy-duty trucks due to problems in continuous range and fuel supply.

Moreover, due to the shortage of human resources and the regulation of working hours for truck drivers, the concern of insufficient transportation capacity has become a social issue. This is called the "2024 Year Logistics Problem." Chilled & Frozen Logistics Group believes that addressing this problem and maintaining safe and secure high logistics quality for low-temperature food products is the realization of sustainable logistics.

With the cooperation of three companies, Minami Kanto Hino Motor Ltd., Yano Special Purpose Vehicle Co., Ltd., and SYSTEC CO.,LTD., the new refrigerated heavy-duty truck introduced by Hutech Norin has been able to improve fuel efficiency, loading efficiency, and logistics quality by providing seven technical features.

Seven technical features are...

(i) Hybrid system

"HINO PROFIA COOL Hybrid" is used as the vehicle body. The hybrid system achieves high levels of quiet and environmental performance. Regenerative energy power drives the compressor of the refrigerator and also helps in running. It meets the target value of the 2025 Diesel Heavy Vehicle Fuel Economy Standard (JH25 mode).

(ii) Short cabin

Hino Motors' "Short Cabin" uses DENSO's electric freezer and Yano Special Purpose Vehicle's cargo bed to secure the inside length of the container 10m3cm (approximately 12,800 kg). Therefore, it is possible to load 18 pallets, which is 2 pallets more than usual. Since it is possible to carry 9 loads in 8 heavy-duty truck, it will reduce the number of trucks, reduce CO2 emissions, and promote the transportation of frozen food pallets.

(iii) Electric refrigeration

DENSO's electric refrigerator stabilizes refrigeration capacity, shortens pre-cooling time, and enables cooling even when the engine is stopped, such as when taking a break or waiting for luggage. Compared to conventional sub-engine refrigerators, approximately 16t-CO2/year can be reduced.

(iv) High performance insulation

The panels of the container were made from thin and high performance insulation made by Yano Special Purpose Vehicle. The front and back walls of this container is half the thickness of normal, but they have the same thermal insulation effect as before, and the capacity of the container can be secured. For the front wall panels, which are particularly susceptible to the heat of the engine, we used panels with vacuum insulation.

(v) Air circulation System

We have introduced an air circulation system manufactured by Yano Special Purpose Vehicle in order to prevent uneven cooling caused by the long container and the "Short circuit phenomenon" in which cold air is sucked into the refrigerator. This system optimizes circulation of cold air, improves logistics quality, and optimizes operation of the refrigerator.

(vi) Modal shift support

Equipped with a device (Hook, external thermometer) for boarding a cargo ship (RORO ship) where a car drives itself. Modal shift reduces the working hours of drivers and reduces CO2 emissions, an environmental issue.

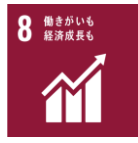
(vii) Logi-Solar System

Logi-Solar System, a mobile Photovoltaic power generation system by SYSTECH, was installed on the rooftop of the container. The power generated by photovoltaic cells is charged to the vehicle battery to reduce the voltage drop of the battery and reduce the fuel consumption of the alternator. This solar panel, called the CIGS Type, is scratch resistant, can generate electricity in the shade, and is lightweight and thin.

In the future, we will measure and verify the effectiveness of each function of the new vehicle, and then consider the deployment of the new vehicles. As a member of the Chilled & Frozen Logistics Group, Hutech Norin will work on environmental issues based on what is feasible and contribute to achieving the CO2 emission reduction target. In addition, Hutech Norin will reduce the burden on drivers and other employees, enhance productivity, and create a work environment in which employees can have hope for the future and engage in their work with vigor.

The Chilled & Frozen Logistics Group will continue to work toward the "Achieving sustainable low temperature zone logistics, meeting the needs of new cold-chains".

For SDGs



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