Attachment

### Overview

- One electric propulsion ship will be introduced to transport biomass fuel from the Port of Kobe to the Aioi Biomass Power Plant.
- This is the world's first electrification of a cargo ship used to transport biomass fuel.
- The use of electricity stored in batteries reduces emissions to zero during port entry, departure, and when being docked at a pier.
  The ship will also be equipped with various advanced technologies, including a docking and undocking support system.

# Specifications of electric propulsion ship

#### <Exterior view (illustration)>



## <Shipping route (illustration)>



<specs ev="" hybrid="" next-generation="" of="" ship=""></specs>	
Ship type	General cargo ship (499 gross tons <sup>*1</sup> )
Planner	e5 Lab
Designer	Mitsubishi Shipbuilding
Building dockyard	Honda Heavy Industries
Owner	Asahi Tanker
Operator	Kamigumi Marine Transport
Length overall	71.89 m
Width	12 m
Sea speed	Maximum service speed 11 knots <sup>*2</sup> Normal service speed 10 knots
Generator capacity	500 kW × 2 units
Battery capacity	440 kWh
Deadweight	1,600 t
Planned completion date	April 2023

\*1 Gross ton: Unit indicating the size (capacity) of a ship
 \*2 Knot: Unit of speed. One knot equals one nautical mile (1,852 m) per hour.



<Hybrid EV system\*>

#### <Performance comparison with diesel ship>

(For same gross tonnage)

Fuel costs	Reduced by up to 50%
CO <sub>2</sub> emissions	Reduced by up to 50% (Reductions: 400 t-CO <sub>2</sub> /year)
Exhaust, black smoke, odor, noise, vibration	Significantly reduced