

Kaneko LAB.

[Energy Conversion of Marine Engine from Fossil Fuels to Natural Energy]

Collaborative Research Center for Energy Engineering

<http://www.kaneko-lab.iis.u-tokyo.ac.jp>

Advanced Energy Conversion Engineering

Mechanical
Engineering

ECOMARINE PROJECT

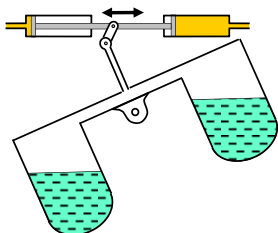
Energy Conversion of Marine Engine from Fossil Fuels to Natural Energy

Small ships such as fishing boats are driven by diesel or gasoline engines. If these engines are replaced by electric motors with batteries, and the batteries are charged by renewable energy such as wave energy, it not only decreases the generation of CO₂ and contribute the prevention of global warming, but also it promotes the energy security and more economical and stable fishing industry, independent of hikes of oil prices or shortage of oil supply.

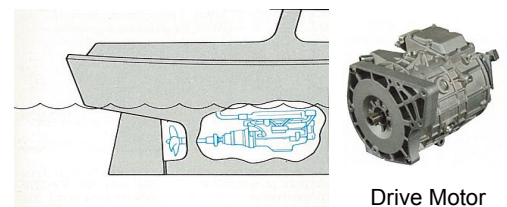
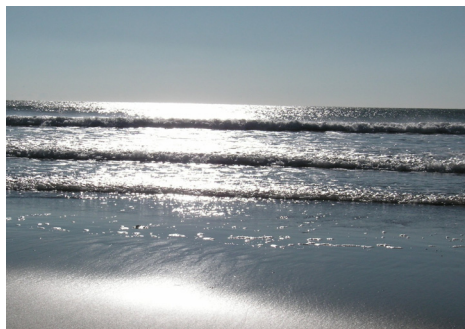
To change driving system of small ships from diesel/gasoline engines to electric motor-battery system.

The battery is charged by renewable energy such as wave energy.

An innovative wave energy conversion system is under development. This new system aims at minimizing generating cost by maximizing the annual average utilization factor. A new conversion system to synchronize the wave characteristics with variable natural frequency control system.



Wave Energy Recovery System



Drive Motor