



CHENNAI

WEBINAR ON GLOBAL WARMING AT IME(I) CHENNAI BRANCH

The Institute of Marine Engineers (India), Chennai Branch conducted an online Technical Meet on 30th December 2022 at 1730 hours.

The meeting was well attended by more the 100 members including Students of MTIs on Zoom platform and several members including seniors from other branches and chapters.

Mr. S. Kannan, Hon. Secretary, IME(I), Chennai welcomed the guests and introduced the speaker Mr. Raggu Ivaturi, Marine Technical Consultant.

Mr. Sanjeev S Vakil, Chairman, IME(I), Chennai welcomed and thanked the physical and online audiences respectively.

Mr. Ivaturi, gave a presentation on the topic "Global Warming - Impact on Shipping, and Dual Fuel Engines - The Way Forward."

Some Extracts of the presentation:-

Global Warming : Combustion in ship engines produces a range of primary and secondary pollutants that have important environmental, health, economic, and climatic impacts. The greenhouse gas (GHG) emissions and other pollutants by ships contain carbon dioxide (CO₂), methane (CH₄), sulphur oxide (SO_x), Particulate matter or Black

The greenhouse gas (GHG) emissions and other pollutants by ships contain carbon dioxide (CO₂), methane (CH₄), sulphur oxide (SO_x), Particulate matter or Black carbon and nitrous oxide (NO_x). Ozone layer depletion by CFC refrigerants like Freon R 11, R 12 and Halon used earlier in firefighting have been banned, and similar action needs to be taken to address the other polluting gases.

Carbon dioxide in the atmosphere tends to prevent the escape of outgoing long-wave radiation from the earth to outer space; as more heat is produced and less escapes, the temperature of the earth increases. The most devastating effects like for examples:-

Wildfires, Allergies, Asthma and Infectious Diseases Outbreaks, Floods, Tropical storms, Cyclones, Hurricanes and Typhoons, Acid Rain, Glacier Melts, Rising Sea Levels, Extreme droughts, Agriculture - Decreased Production etc.

Curbing dangerous climate change requires very deep cuts in emissions, as well as the use of alternatives to fossil fuels worldwide. To avoid the worst impacts of climate change, International Organisations & Climate scientists tell us that we need to reduce global carbon emissions by as much as 40 percent by 2030 in order to limit global warming to 1.5 degrees Celsius by 2040. IMO 2020 - low Sulphur regulation and ECA zone fuel compliance are to a certain extent addressing the reduction of polluting gases.

Impact on various stake holders in the entire Logistics chain of Shipping - will be the initial increase of Capex and Opex costs in order to comply with the new changing regulations or face severe fines and penalties. It will however be a small cost to pay (steps taken today will

determine tomorrows future) to curb Global warming and save our Planet.

Fuels of the Future:

VLSFO - While SO_x is taken care of, the aromatic compounds present cause an increase of soot or Black Carbon and Particulate Matter. Hydrogen - Production remains a challenge and storage is another factor.

Ammonia - Highly toxic

Methanol - Corrosive and toxic, production of green methanol to have a net carbon footprint is a challenge.

LNG - Only strong solution at the moment and immediate future. Methane slip challenge has been overcome by Engine manufacturers to a large extent.

Biofuel - Uses vast land resources and huge amounts of water, competing with food requirements of Mankind.

Synthetic Fuels - Suitable production using renewable sources of input energy is a challenge.

Batteries - Only good for small coastal vessels and ferries.

Dual Fuel Engines having operational flexibility will be the way forward and can also cater to IMO Tier 3 by fitment of EGR and SCR.

Mr. Suresh Shenoi, Vice Chairman, IME(I), Chennai moderated the Q & A Session.

The vote of thanks was given by Mr. S. Kannan.

