

ABSTRACT

ENVIRONMENT-FRIENDLY MARINE FUEL

For the shipping industry, these fuels provide solutions to long outstanding technical problems that heretofore hindered supply of low sulfur marine fuels in quantities needed to meet worldwide sulfur reduction goals. Marine shipping use of high sulfur bunker oils is reported as largest source of world-wide transportation SO_x emissions. When ships on the open seas burn cheap low grade heavy bunker oils high in sulfur, nitrogen and metals, the SO_x, NO_x, and metal oxides go to the environment. This invention converts essentially all of each barrel of crude feed to a single ultraclean fuel versus conventional refining where crude feed is cut into many pieces, and each piece is sent down a separate market path meeting various different product specifications. When in port, ships can use these fuels to generate and sell electricity to land based electrical grids to offset fuel cost in an environment-friendly manner.

FIG. 1