

Marine Engine FUEL POLLUTION RULES in the making

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Shipping despite bringing the continents closer over half a millennium and serving globally to avoid starving and freezing, has been consistently branded the bad boy for all plausible reasons starting with communicable diseases, loss of religions, destabilizing governments and finally nailed as the chief culprit in environmental pollution of our biosphere. Sadly, in such accusations it is forgotten that serving derived demand of economics and trade fuelled by people and other sentient, it need not be named as an abettor, as environment solutions lay with lay of the land, and not sea, as full carbon sequestration is effectively done by nature itself through moisture-rain cycles more at sea.

Well the good news ramping up from bad worse worst news to comparative superlative better best is that shipping has chosen the goodest means in shortest times to shed itself of blackened images. There are hurdles to be crossed, monies to spent, deadlines to be met etc, but the pace at which it is adapting is astounding IMO, BIMCO and everyone else in the know and rule making too. True a whip and lash from IMO is what starts the process, but in all fairness, it is fair to say -at such juncture- that they know little how it all will pan out. Well, a kick in the butt does wonders, one must admit too. With various fuels and their combinations being scouted what will eventuate is anyone's guess!

Having switched from sails to coal/steam and fuel/diesel with panoply of `persistent' oils/chems, it is now switching back to gas both LPG & LNG, Ammonia, Biogases and combinations of all including sail and solar electrifying in the process, leaving sailors ashore as she heads for autonomous state. In the process some are worth revisits to check if the norms, guidelines, standards etc are fair, reasonable and workable! From bad to worse first! 'Grandfather' clause dragging feet too long till scrapping- now re-termed recycling, so technologies could be developed, was bad enough in public eyes! Recall Tonnage Convention, Marpol-TSPP, CBT/SBT PL, Double Hulls etc taking generations to bite?!

Now comes a `moon shot' of 5B\$ 10yr IMRF research development fund through MEPC75 to be managed by IMRD Board, to be collected @ 2\$ per metric of marine fuel consumed by every ship, a joint statement by BIMCO, CLIA, IMCA, Intercargo, Interferry, Intertanko, ICS, WSC etc stamping acceptance kowtowing -to stay on the right side of history- to UNSG 's call for urgency and ambition to attain zero carbon efficiency within a decade. While bowing to it, satirically it can't be avoided to add about loss of jobs: equipment, certifying, current compliance culture, surveys etc that will be accelerated, as one just about gets off scrubber retrofit dilemmata.

Doesn't Rightship's Maritime Emission Portal focused on ports target help expose emission ratings of ships in port? Anyways, the goalposts are being moved by: MEP based on EEDI without taking into account EEOI, EU's MRV, Sea Cargo Charter etc pulling owner/operator's pants down! Economists

are quoting 3.4T\$ for retro compliance over prolonged periods with technology/equipment, dock space availabilities etc.

Elsewhere, regulators in US, NZ, Britain, Switzerland are forcing stock listed firms to reveal how climate or efforts to fight it affect their biz. SEC creating task force to examine environmental, social and governance: ESG issues has appointed a climate TSAR to enhance focus on climate related disclosures. This raises the big question whether the applicable rules are unified across all boards? How about Carbon Trading practices and GHG impact thereof?! When will oil prices peak, how long will we humans continue with Crudes: sweet, sour or shale? Wouldn't it be like banning coal usage?! Worst case scenario next. Pacific island archipelagic countries Marshall and Solomon are calling for 100\$/T fuel levy to combat climate change and overcoming sinking-drowning risks! ICS-led proposal of \$2-per-tonne levy is cited as puny and it is suggested that it would take a levy of \$250 to \$300/t Co₂ to spur 'transformational change'. Apart from developing countries playing god to help little isles with funds and technology (paying back such funds) to support sustainable tourism etc, is global water level rise/flooding really controllable or stoppable? One view is that whatever we do, it will take time to show up as results; but it shouldn't make one do nothing or ignore, as the earth traverses at high speed rotating and revolving, none knowing where bound in galactic years!.

Bad to worse, worst and further next: BIMCO calls IMO's recently approved regulatory changes as to improve Co₂ emissions "impossible mission of improving operational efficiency year on year". Going back to fundamentals, CII: Carbon Intensity Indicators coming into force in '23 (if/when MarpolAnxVI okayed by MEPC76) creates Annual Efficiency Ratio (AER): gms of Co₂ emitted per deadweight per nautical mile. This has sent Naval archs scurrying for cover: put simply, cargo laden (submersion) Dwt and speed determine AER for a given ship hull form. Intelligence, wisdom and intellect of the god playing rule makers stand exposed, doubted and questioned! For variables versus variances aimed to be achieved are confusing indeed. Not to forget, bulbous bows been retrofitted/retro-removed too, trim down by head also opted by some rare ones (when all suction pipes are at aft end of tanks). Ship owners & operators have over decades -if not centuries- tried to operate as efficiently as possible, given dregs of the oil refining cat-cracked furnace fuels they are served with; blended too! Catalysts to clean exhausts, anyone?!

Timeous to note that BIMCO-RINA has proposed an alternative method to determine accurate reference speed (Vref) to meet IMO's GHG reduction goals of 40% by 2030, 70% by 2050 etc with 2008 as reference year, to be agreed by 2023, starting with general energy efficiency of operations under SEEMP extending to CII, EEXI/EEDI, amending EEXI with Vref to ensure trust and fairness.

To add to the mayhem, most ships run on 'charters' with options to adjust speed to save fuel and emissions. Further, slow steaming is a norm to save on fuel, waiting time in ports if cargo and laycan not ready etc with added bonus that slow steaming tends to decrease 'supply side' due to prolonged voyages, pushing up 'demand side' resulting in higher freights/net earnings etc etc.

Efforts have been on with BIMCO itself working on a 'slow steaming' saving sharing clause between owners and charterers to offsets their monetary gains/losses against emission related exposures and savings exposures. Has responsibility to perform with 'utmost despatch' been tested in courts?

European Commission is expected to publish final legislative proposals for EU Emissions Trading System (EU ETS) in June '21 with implementations set for 1 January '22. European Energy Exchange (EEX) views the introduction of carbon trading as opportunity for large numbers of shipping players to enter the derivatives market; sadly though it is not solving the problem but shifting it.

In closing reverting back to the strange 'goodest' word induced herein, SHELL is chartering in ten new VLCCs powered by LNG. Whilst Shell is pushing for LNG (to power Fuel Cells) the methane culprit, World Bank is urging pull back!! Sea-LNG and SGMF citing recent research affirms that much flogged 'methane slip' will disappear in new engines. The inert Nitrogen slated to propel electric cars is boarding ships too. Ammonia is grinning devilishly mocking as it joins the fray turning 'green' with LR and Maersk said to be painting it so!

It is imperative that Engine makers, Yards, Bankers (inserting 'green' conditionality), Class, Maritime Authorities/Coast Guards, Flag States including FOCs all come together like MTF -new elite Maritime Technologies Forum MTF to chalf out best strategy, timelines etc coordinating with MEPC of IMO.

Recalling shipping's own Methane Pioneer that was a game changer in 1958 -when IMO formation was born/formation ratified, what is left is only *gober* gas of methane flatulence fame of quadrupeds, not to forget us bipeds too. Hence the 'goodest' caption. Nothing goes waste. As in Karma cycle, everything is recycled ad infinitum.

N.B: ESG: Environment, Social & Governance are the next focus! Gender too!