



RED III : game changer for the shipping industry

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Une société de  **ENGIE**

IMO, FuelEU Maritime... but 1st RED III

- RED III : -14,5% GHG intensity in 2030 (with ~-5% max of conventional biofuels)
- FuelEU : -6% GHG intensity in 2030 (without feed or food biofuels)
- IMO : we'll see...
- REDIII needs transposition in national law, but that are in place or advancing, currently for road transport
 - THG Quote in Germany
 - HBE / SDE++ in the Netherlands
 - TIRUERT in France
- Extension to the maritime sector required before 2030 (2026 in France)

RED III transpositions will set the scene
for alternative maritime fuels uptake well before 2030

FuelEU and REDIII : close but completely different


	Obligated party	Obligation base	Mutualisation	Unit	Eligible fuels
RED III	fuel supplier	All fuel supplied in EU	Country	GHG intensity of the fuel	All RED fuels
FuelEU maritime	maritime company	Fuels consumed by > 5000 t ships 50% extra EU routes	Fleet		Non food non feed RED fuels + future low carbon certified fuels
IMO	ship operator	Fuel consumed by a ship	?	GHG emitted / dwt / km	?

- RED III : national transposition will change national harbours competitiveness vs other EU harbours
- Who will invest ? driven by energy companies, but backed by shipping companies ?
- Different eligible fuels, different GHG computation : huge impact on the optimal fuel mix
- In common : efficiency will not avoid mandatory fuel substitution

RED III will result in a very different market design than FuelEU

How to fill the -14,5% 2030 objective ?

- Competition between fuels underlying principle of RED III
- Highly differentiated merit order



● Conventional liquid fuels (from dedicated crops)	}	capped @ 7% vol. i.e. less than 5% GHG reduction
● Used cooking oil, HVO...		capped @ 1,7% vol., i.e. a bit more than 1% GHG reduction
● BioLNG : competitive, large fleet, available in France → could be a French competitive advantage		
● e-LNG : simplest e-fuel to produce	}	Competitiveness depends on green H ₂ and CO ₂ prices Imports vs national depends also on certification...
● e-methanol : more complex to produce than e-methane		
● Bio-methanol : significantly more complex to produce than biomethane		
● Advanced bio-/e-diesel : much more complex to produce (Fischer Tropsch process required), in competition with aviation		
● <i>Low carbon fuels : could be included, but beyond the -14,5% objective</i>		

Most competitive fuels will emerge first

Few figures for the expected French system (TIRUERT)

- Essentially based on GHG penalty around 500 €/t_{CO2 avoided}
Competition with Germany may push the penalty towards 600 €/t_{CO2 avoided}
- The distributor sells
 - + bioLNG at the pump (priced against VLSFO ?)
 - + GHG certificates at a price *hopefully slightly* below the penalty
 - For “average” biomethane (16 gCO₂eq/MJ) : < 126 €/MWh
 - For “manure based” biomethane (-100 gCO₂eq/MJ) : < 315 €/MWh
- Top-up : additional sales of a volume certificate *well below* 40 €/GJ
- To comply with obligations, distributors can shift massively its LNG bunker sales to bioLNG, e.g. to avoid incorporating expensive advanced biodiesel

All figures excluding a potential
1,2 multiplier for shipping

TIRUERT mechanism shall allow bioLNG to be competitive
irrespective of gas indexes

and bioLNG available in EU terminals

- ISCC just implemented regulation 2022/996 :
 - Injected biomethane generates Guarantees of Origin
These Guarantees of Origin can be cancelled (“used”) in LNG terminals to provide bioLNG to shipping
!! Only non subsidized biomethane eligible for TIRUERT, new biomethane plants to be built !!
 - Especially competitive in France with low carbon electricity (advantage ~8 €/MWh)
- Complementary to bioLNG “liquefied at the farm” that
 - gives access to sites complex to connect to the gas grid
 - structurally competitive when far from LNG terminals
 - easily competitive if access to good intrants

bioLNG “liquefied at the farm” more dedicated to road transport or to truck to ship
- Expected biomethane volumes in France by 2030 : 50 TWh (PPE),
several times more than most ambitious scenarios for LNG bunkered in French ports

BioLNG is a competitive, widely available, technically proven solution :
preferred solution for bunkerers to comply with RED III ?