

IMO HISTORIALLISEN PÄÄSTÖSOPIMUKSEN MERKITYS

Bioenergia ry:n jäsenwebinaari

10.06.2025

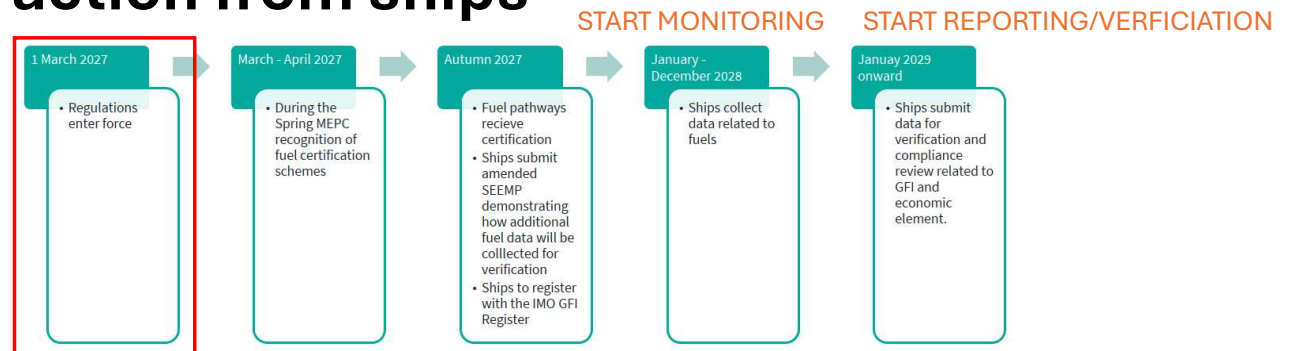
Esittelijä: Mats Björkendahl, Suomen Varustamot ry

IMO NET-ZERO FRAMEWORK



MEPC.83 approved the Mid-term GHG reduction measures as **amendments to MARPOL Annex VI, expected to be adopted at the Extraordinary Session of MEPC in October 2025** for entry into force 1 March 2027. Whilst, entering into force on **1 March 2027 do not require immediate action from ships**

*IMO has established **global carbon price** for international shipping – **first ever agreed for entire sector***



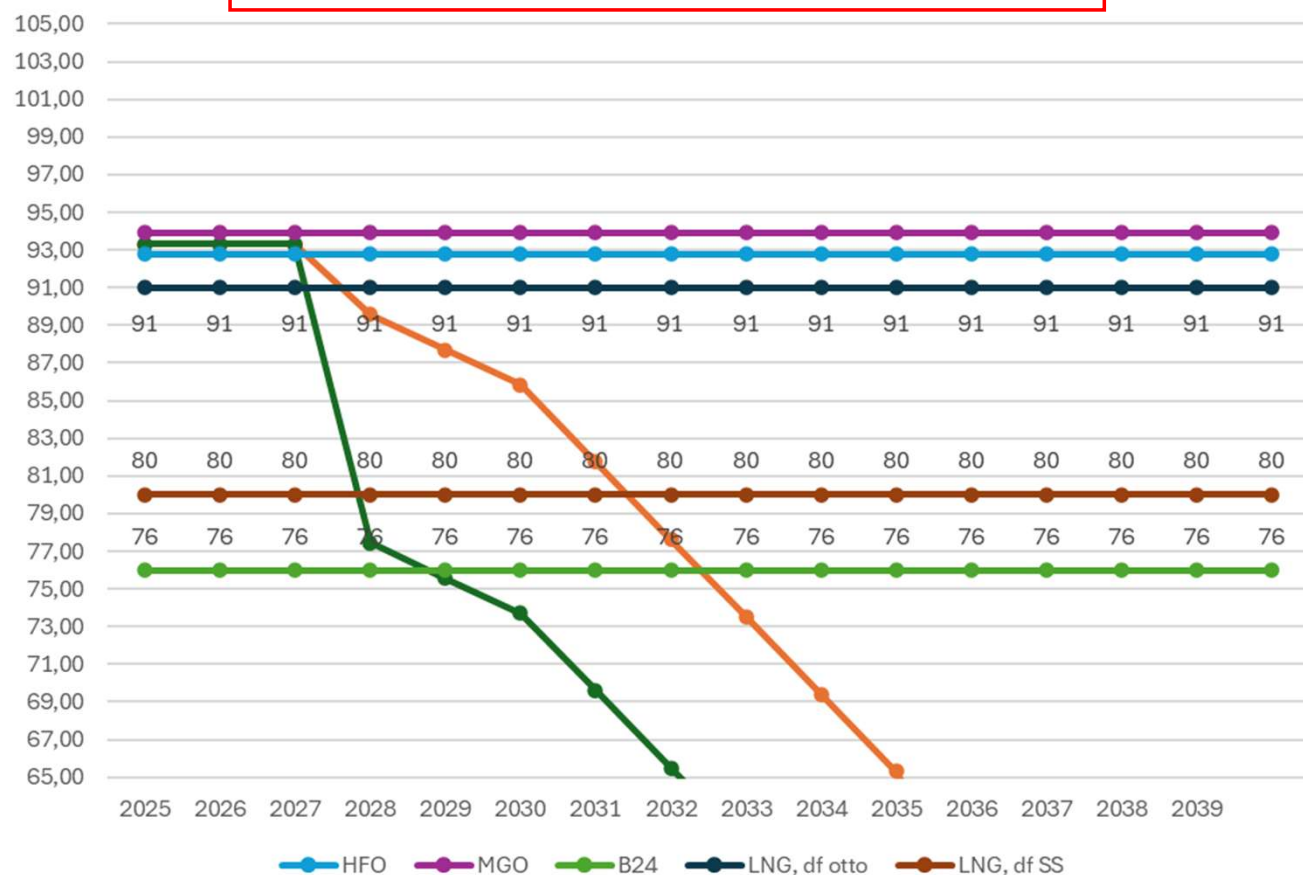
IMO NET ZERO FRAMEWORK					FuelEU Maritime Regulation	
Reference GFI	93,3				91,16	
Notes	gCO ₂ e/MJ(WtW) (CO ₂ , CH ₄ , N ₂ O) : reference year 2008				gCO ₂ e/MJ(WtW) (CO ₂ , CH ₄ , N ₂ O) : reference year 2020	
Target	Base Compliance		Direct Compliance		Compliance	
Year	Reduction %	IMO, base	Reduction %	IMO, direct	Reduction %	FEUM, GFI
2025	0,0 %	93,30	0,0 %	93,30	2,0 %	89,34
2026	0,0 %	93,30	0,0 %	93,30	2,0 %	89,34
2027	0,0 %	93,30	0,0 %	93,30	2,0 %	89,34
2028	4,0 %	89,57	17,0 %	77,44	2,0 %	89,34
2029	6,0 %	87,70	19,0 %	75,57	2,0 %	89,34
2030	8,0 %	85,84	21,0 %	73,71	6,0 %	85,69
2031	12,4 %	81,73	25,4 %	69,60	6,0 %	85,69
2032	16,8 %	77,63	29,8 %	65,50	6,0 %	85,69
2033	21,2 %	73,52	34,2 %	61,39	6,0 %	85,69
2034	25,6 %	69,42	38,6 %	57,29	6,0 %	85,69
2035	30,0 %	65,31	43,0 %	53,18	14,5 %	77,94
2036	37,0 %	58,78				77,94
2037	44,0 %	52,25				77,94
2038	51,0 %	45,72				77,94
2039	58,0 %	39,19				77,94
2040	65 %	32,66			31,0 %	62,90
2041						62,90
2042						62,90
2043						62,90
2044						62,90
2045					62,0 %	34,64
2046						34,64
2047						34,64
2048						34,64
2049						34,64
2050					80,0 %	18,23

IMO net-zero framework
presented in Table format
and compared to FEUM

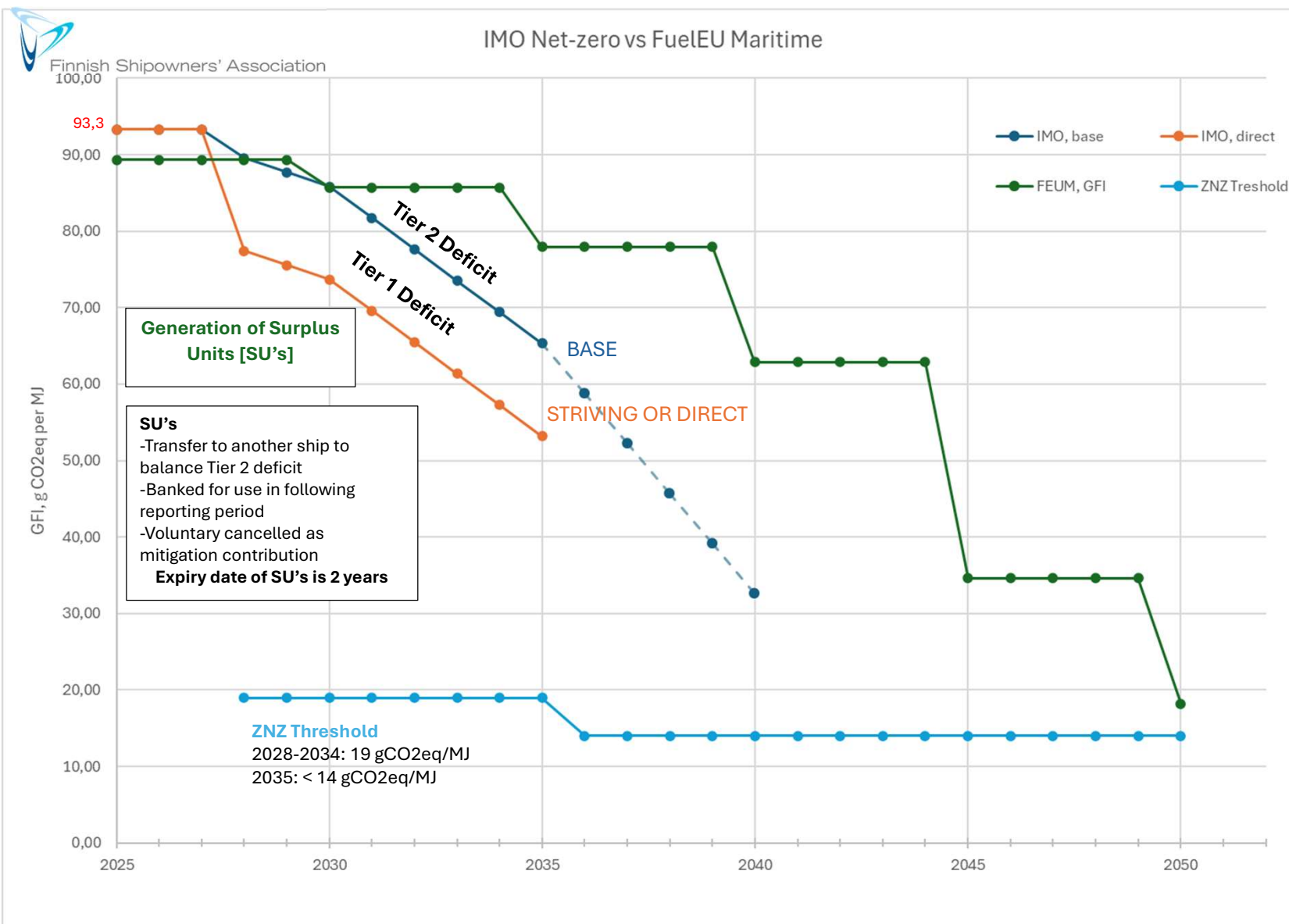
WHAT IS IT?

- **Complex** two tiered Global Fuel Standard, with integrated GHG pricing mechanism
- GFS Z- (reduction) factors agreed 2028-2035 and **agreed 65% base target for 2040**
- **IMO GFS more ambitious than FEUM**

IMPLICATIONS OF IMO GFI on STD MARINE FUEL'S



- HFO, MGO S0.1% **non-compliant** from 1 Jan 2028, must get SU's and/or buy RU's at lower Tier 1 level + higher Tier 2 level
- B24 **direct compliant** in 2028 and **base compliant** until end of 2032
- Fossil LNG in df SS engine **only base compliant** until 2032, must buy RU's at lower Tier 1 level (US\$100 per ton CO₂eq)



Tier 2 COMPLIANCE OPTIONS (BASE)

- SU's transfer from other ship
- SU's banked on ship account in GFI registry
- Purchase of Remedial Units [RU's] at **HIGHER Tier 2 [2028-2030] rate of US\$380 per ton of CO₂eq**

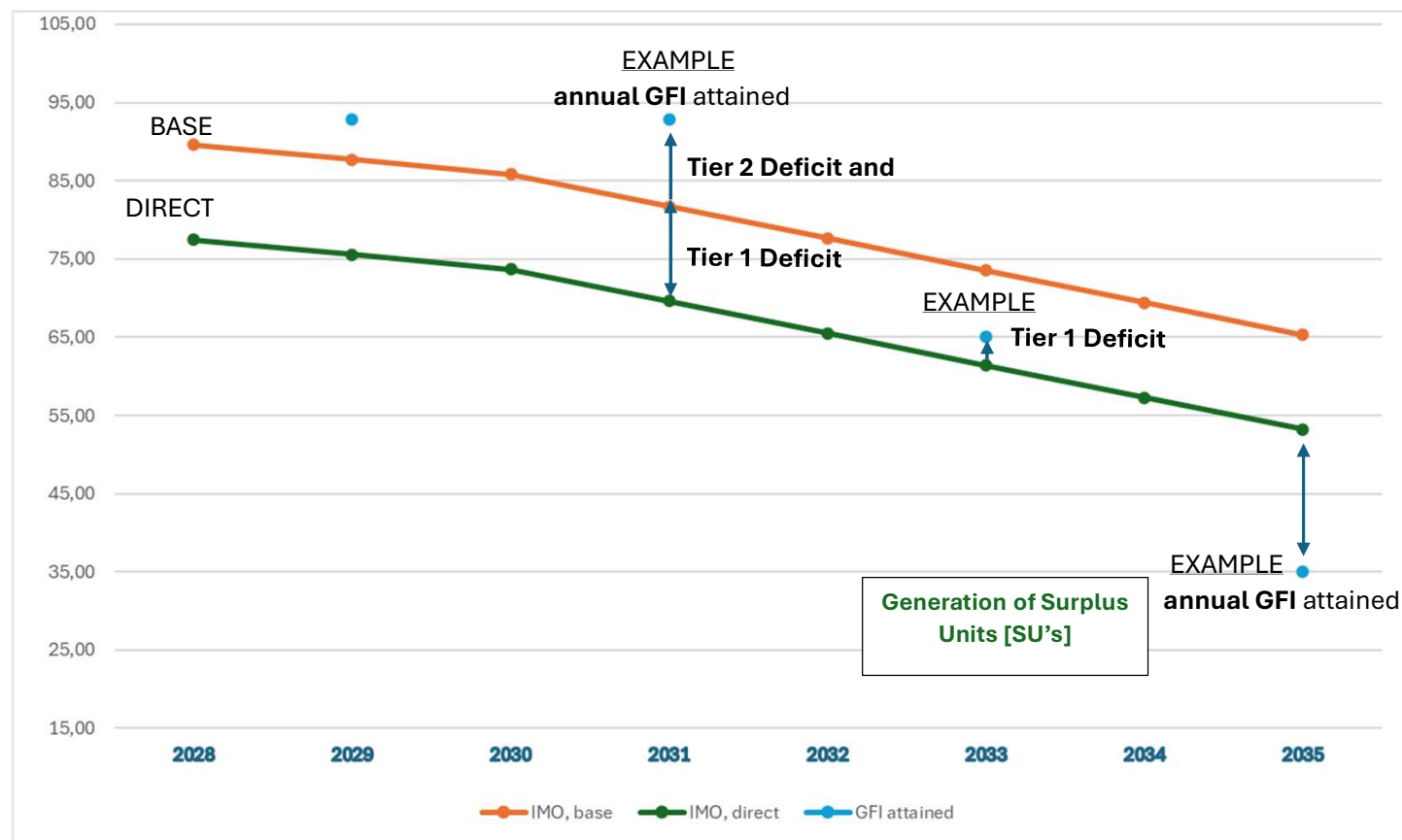
Tier 1 COMPLIANCE OPTIONS (DIRECT)

- Purchase of Remedial Units [RU's] at LOWER Tier 1 [2028-2030] rate of US\$100 per ton of CO₂eq

IMO 2023 GHG Strategy

- 2030 target/indicative checkpoint: -20% (**base**), **striving** to -30% (**direct**)
- 2040 target/indicative checkpoint: -70% (**base**), **striving** to -80% (**direct**)
- by 2050 or around: net-zero emission ~ 100%
- Reference year 2008, GFI ref.(2008) = 93,3 gCO₂eq/MJ
- By 1 Jan 2032 IMO to determine Z factors for base target and direct compliance in 2036-2040. **Agreed** the Z factor for base target in 2040 shall be 65%

TARGET ANNUAL GFI



$$\text{GFI}_{\text{attained}} = \frac{\sum_{j=1}^J \text{EI}_j \times \text{Energy}_j}{\text{Energy total}}$$

The **target annual GFI** (GFIT) of a ship consist of the following **two tiers**:

a **Base target** annual GFI (base target); and

a **Direct compliance target** annual GFI (direct compliance target)

Annual GFI compliance approaches

end of each reporting period **each ship shall determine its GFI compliance balance**, as follows:

GFI compliance balance (expressed in tonne of CO₂eq) = (Direct compliance target annual GFI – Attained annual GFI) × Energy total

If the GFI compliance balance is equal to or greater than zero, the ship shall be considered in direct compliance and be eligible to receive surplus units for its positive compliance balance

GFI attained is the attained annual GFI of a ship in a given year

j is the fuel type

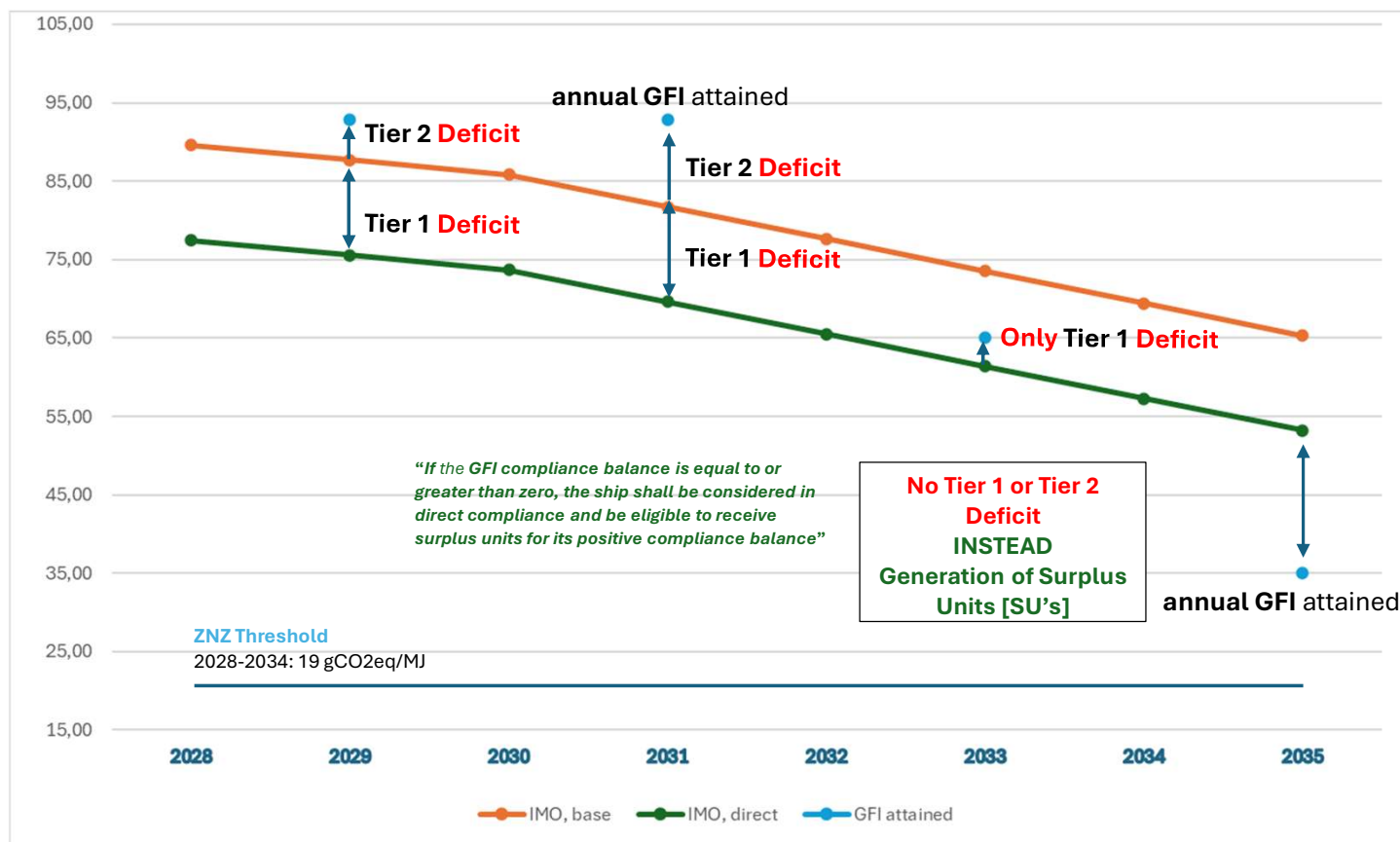
J is the total number of fuels used during the reporting period

EI_j, expressed in gCO₂eq/MJ, is the GHG intensity, expressed on a well-to-wake basis of a fuel type *j*, calculated as per IMO LCA Guidelines

Energy_j, expressed in MJ, refers to the energy consumption of fuel type *j* by the ship in the reporting period

Energy total expressed in MJ, refers to the total amount of energy used by the ship in the reporting period, including but not limited to fuel oil, electricity delivered from the shore power, and zero-emission energy sources, such as wind propulsion and solar power

GFI COMPLIANCE BALANCE



Assessment of the compliance deficit

A ship's compliance deficit comprises the quantification of emissions in excess of the tier(s) of the target annual GFI and shall be determined as follows :

Ships whose attained annual GFI is equal or lesser than the base target but greater than the direct compliance target:

Tier 1 compliance deficit = (Direct compliance target annual GFI – Attained annual GFI) × Energy total

Ships whose attained annual GFI is greater than the base target:

Tier 1 compliance deficit = (Direct compliance target annual GFI – Base target annual GFI) × Energy total

AND

Tier 2 compliance deficit = (Base target annual GFI – Attained annual GFI) × Energy total

“regulations are designed in this manner so that **most ships** will use sufficient low-GHG emission fuels to reach the Base target and then buy Tier 1 RUs. Alternatively, they can buy SUs to cover the Tier 2 compliance deficit and then acquire Tier 1 RUs”



Balance of the compliance deficit

- 
- Ship shall balance its Tier 1 compliance deficit through remedial units acquired by means of GHG emissions pricing **contributions to the IMO Net-Zero Fund**, priced at Tier 1 benchmark rates (**2028-2030: US\$ 100 per ton CO₂eq**)
 - Ship shall balance its Tier 2 compliance deficit through one or more of the following GFI compliance approaches:
 1. surplus units transferred from other ships
 2. surplus units banked from previous reporting periods; and/or
 3. remedial units acquired by GHG emissions pricing contributions to the IMO Net-Zero Fund priced at Tier 2 benchmark rates (**2028-2030: US\$ 380 per ton CO₂eq**)

By 1 January 2028, IMO shall define the price of a Tier 1 and Tier 2 remedial unit for the reporting periods starting 2031 and onwards

IMO GFI Registry

- Secretary-General of the Organization shall **establish** and administer the **IMO GFI Registry**
- By 1 October 2027 each **ship shall have an account** with IMO GFI Registry and **pay annual administration fee** by 30 June 2028 and by 30 June each year thereafter
- annual administration **fee is determined by IMO Secretary-General**

Functionality of IMO GFI Registry and each account

- **credit** the amount of surplus units a ship in direct compliance is eligible to receive
- **record** banked surplus units between reporting periods
- **record** all transferred surplus units from one ship account to another ship account
- **cancel** surplus units **when:** used by ship to balance Tier 2 compliance deficit period and expired or voluntarily cancelled at the request of the ship
- **credit** remedial units to ship account, equal to the amount and the tier type of remedial units acquired by means of GHG emissions pricing contributions to the IMO Net-Zero Fund, and cancel the remedial unit following proof of payment

IMO GFI Registry shall record for each ship account for each reporting period

- the ship account statement
- the verified attained annual GFI
- the total energy consumption
- the total energy consumption of each ZNZs
- the GHG emissions avoided by the uptake of ZNZs
- Statement of Compliance related to the annual GHG fuel intensity
- any other information



IMO Net-Zero Fund and ZNZs

GHG emissions pricing contributions to the IMO Net-Zero Fund

- No revenues from purchase of RU's at Tier 1 or Tier 2 level will be paid to IMO member states; they will all go directly from the shipping company into the Fund
- Part of the revenues are intended to be circulated directly back to the industry as a reward for using zero and near-zero, fuels and/or energy sources.
- ZNZ' shall include technologies, fuels and energy sources and be evaluated on a well-to-wake basis, taking into account guidelines to be developed by IMO
- GFI threshold for ZNZs [1 Jan 2028 – 31 Dec 2034] : 19.0 gCO₂eq/MJ
- GFI threshold for ZNZs [1 Jan 2035] : 14.0 gCO₂eq/MJ
- **Ships may receive rewards from the IMO Net-Zero Fund for the ZNZs used**, taking into account guidelines developed by IMO
- **No later than 1 March 2027** and every 5 years thereafter **IMO shall define the reward**, and the methodology to determine such reward, taking into account IMO guidelines
- IMO shall monitor and publish the share of ZNZ's in the total energy used onboard ships falling under Net-zero Framework



Suomen Varustamoiden näkemykset 1/2

- Merenkulku on kansainvälinen toimiala, joka kuljettaa lähes 90 prosenttia globaalista ulkomaankaupasta. Suomen ulkomaankaupasta 96% kulkee meritse. Merenkulussa on tärkeää, että sääntely on maailmanlaajuista ja samat pelisäännöt koskevat kaikkia alalla toimivia. Kansainvälisen merenkulun alueellinen sääntely vaikeuttaa toimintaa ja vaikuttaa haitallisesti alan tasapuolisiin kilpailuedellytyksiin.
- EU:n on näytettävä esimerkkiä muulle maailmalle luopumalla alueellisesta sääntelystä, kun maailmanlaajuinen hinnoittelumekanismi tulee voimaan. EU:n päätettyä päästökaupasta, useat maat aloittivat valmistelut omien alueellisten päästökauppamekanismien laajentamiseen kansainväliseen merenkulkuun. Tämä korostaa, että on tärkeää pitää yllä vain yhtä maailmanlaajuista kasvihuonekaasujen hinnoittelumekanismia maailmankaupan helpottamiseksi ja päästöjen kaksinkertaisen veloittamisen mahdollisuuksien poistamiseksi.



Finnish Shipowners' Association



Finnish Shipowners' Association

Suomen Varustamoiden näkemykset 2/2

Mikäli alustavasti hyväksytty maailmanlaajuinen kasvihuonekaasujen hinnoittelumekanismi astuu voimaan, tulee:

- **luopua Fuel EU Maritimesta**
- **luopua merenkulun EU päästökaupasta tai vähintäänkin sopeuttaa sitä niin, että samoista päästöistä ei makseta kahteen kertaan**
- **vähentää hallinnollista taakkaa ja varmistaa, että alan toimijoilla ole päällekkäistä sääntelyä ja moninkertaista raportointia**
- **ottaa käyttöön kannusteita, joilla puhtaiden polttoaineiden tuotantoa saadaan lisättyä ja polttoaineiden hintaeroa tasoitettua**

SUOMEN VARUSTAMOT KIITTÄÄ

VIKING LINE



ESL Shipping

Godby Shipping Ab

Finnlines
a Grimaldi Group company



Langh Ship



MERIAURA

TALLINK | SILJA LINE



ARCTIA



Bore

ECKERÖ € LINE



wasaline



MeriTaito

HELMER LUNDSTRÖM AB OY



NAVIDOM



MARITIME

CATA



Suomen Varustamot
Rederierna i Finland
Finnish Shipowners' Association

