European Commission

SUSTAINABLE & SMART
MOBILITY STRATEGY

FuelEU Maritime

Powerfuels in Maritime Transport

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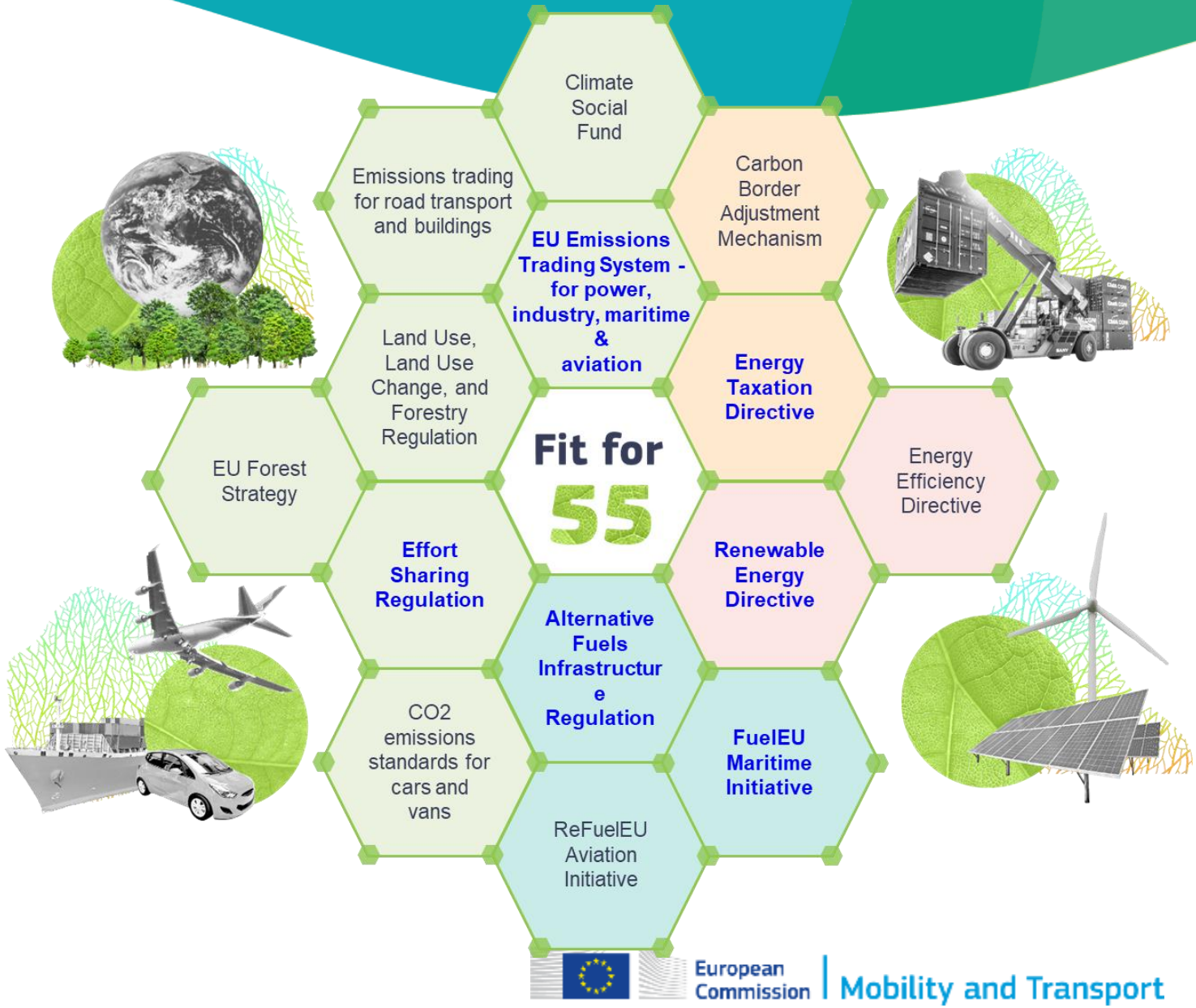
Mobility and Transport

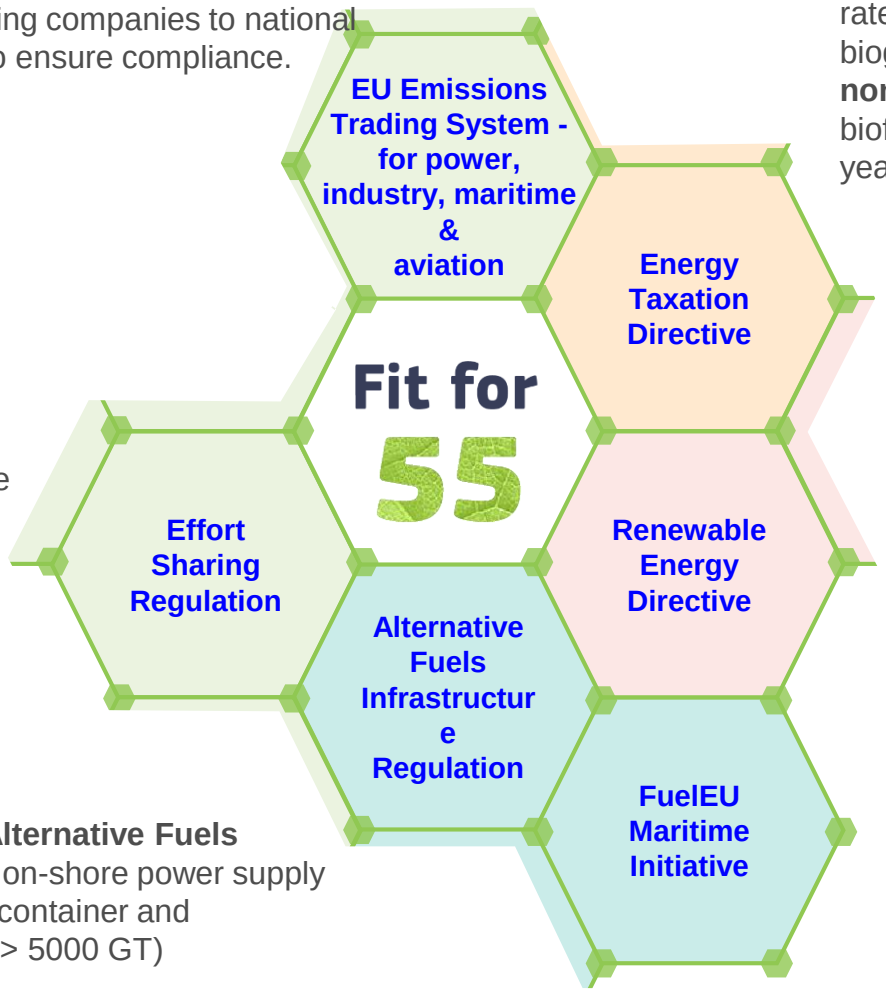
Context

- March 2020, first **EU Climate law**. Aimed to write into law the goals set out in the European Green Deal.
- **2030 Climate Target Plan**, the Commission proposed to **cut EU GHG emissions by at least 55 % in 2030 and to become climate neutral in 2050**.
- The targets were endorsed by the European Council in December 2020.
- Parliament and Council provisionally agreed on these targets in April 2021.
- On **14 July, the Commission proposed the Fit 55 package** implement the targets.



Emission Trading System – gradual extension to maritime from 2023 with 3-year phase-in period, same CO_2 price across sectors, **yearly 'cap' on the total emissions covered by the system and gradual reduction of cap over time**, attribution of shipping companies to national administering authority to ensure compliance.

Energy Taxation Directive zero minimum rates for sustainable fuels (biofuels and biogas, low-carbon-fuels, **renewable fuels of non-biological origin**, advanced sustainable biofuels and biogas, and electricity) for 10-year transitional period.



Effort Sharing Regulation – national targets continue to include domestic maritime.

Renewable Energy Directive – counts energy used in international shipping towards the target, multiplier for **renewable fuels of non-biological origin** and advanced biofuels and biogas supplied to maritime.

Regulation on Alternative Fuels Infrastructure – on-shore power supply (90% of calls for container and passenger ships > 5000 GT)

Initiatives that concern waterborne transport ("*basket of measures*")

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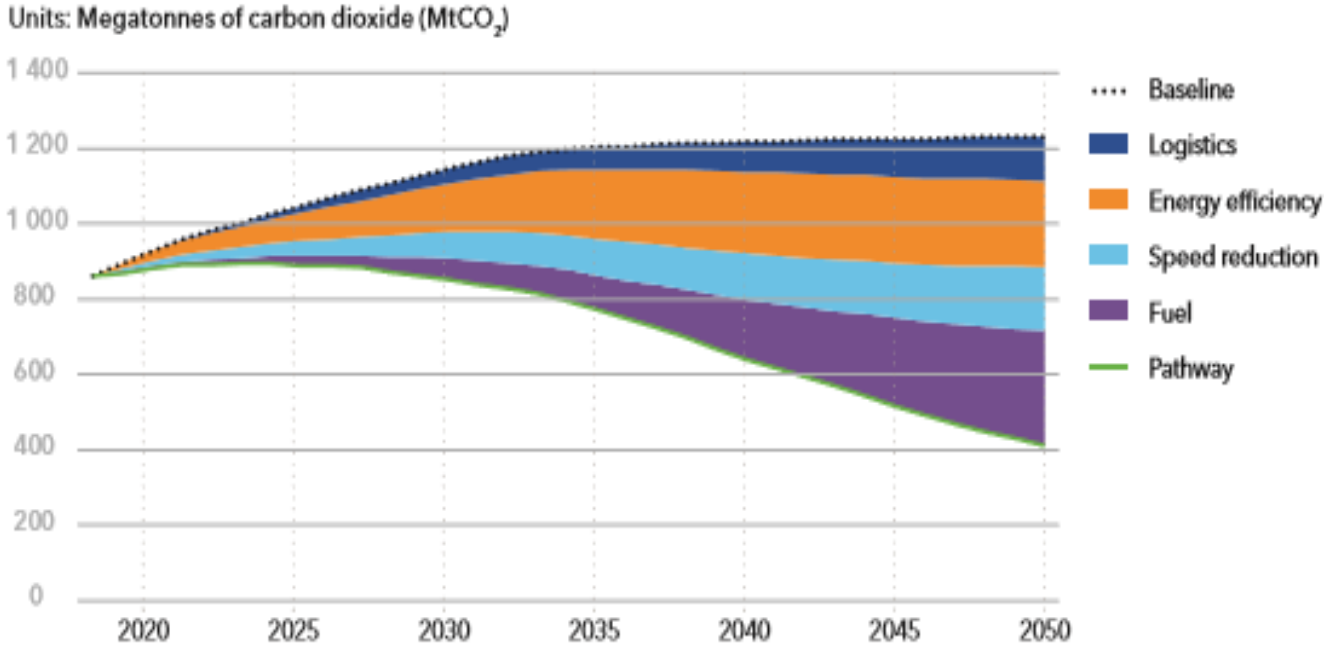
Ways to reduce maritime emissions

Meeting the climate targets would require significant progress on two aspects:

- Improvement of energy efficiency (covering logistics, design, technical improvements and operations) – ***i.e. using less fuel***
- Greater use of renewable and low carbon fuels – *i.e.* ***using cleaner fuels***



DNV-GL (2019) | Maritime Forecast to 2050

Proposal for a Regulation

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Challenges

- To reach the climate targets in 2050, maritime sector should use close to 90% of renewable and low-carbon fuels. **Today: fossil fuels over 99% of the fuel mix**
- Not a single technological option for the large variety of ship types and trades. Operators are trapped in a **"wait-and-see attitude"**
- **Coordination failure between supply, distribution and demand**. Need to address all relevant aspects – fuel production (Renewable Energy Directive); fuel distribution (Alternative Fuel Infrastructure Regulation) and fuel demand – to break the chicken-and-egg issue
- **Obligations must be imposed on demand** not only to promote investments in supply and distribution, but also to avoid carbon leakage
- **Long lead times** for fuel supply chains and fleet renewal: need for immediate, yet gradual action

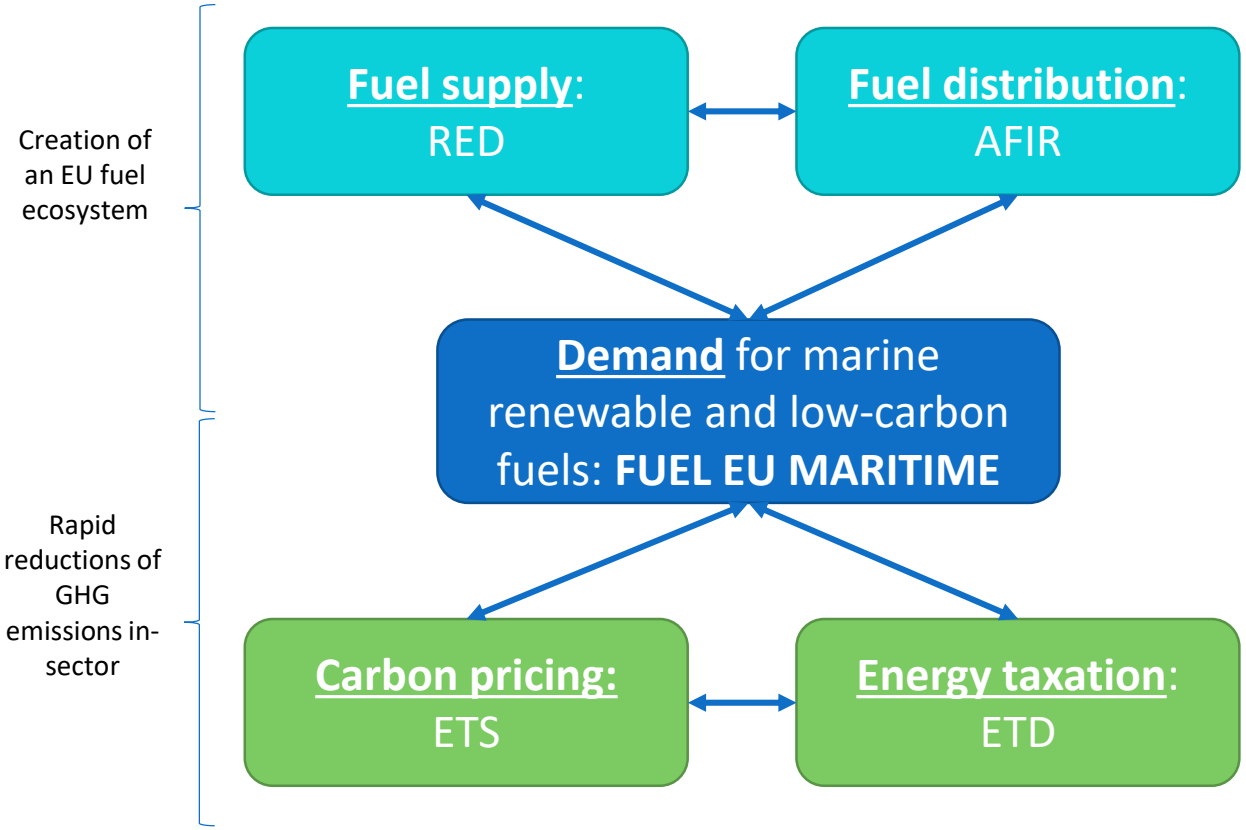
Goals

- **Complement ETS** by specifically addressing the technology issue related to fuels, which may not be sufficiently incentivized by the ETS price signals in the short-medium term

- Provide r**egulatory predictability**

- EU supports **global measures** at IMO, where discussions are ongoing. The **EU submission to IMO on a low GHG fuel standard** reflects the proposal. Proposal on guidelines on well-to-wake GHG emission is also coherent with the **FuelEU Maritime** approach

FuelEU Maritime as part of Fit for 55



- **Complementary with ETS**: ETS promotes energy savings while FuelEU addresses **fuel technology**.
- **Complementary with RED and AFIR**: FuelEU addresses fuel demand, RED fuel supply and AFIR fuel distribution
- **Complementarity with ETD**: taxation levels for renewable and low-carbon fuels and for electricity at berth are consistent with FuelEU goals.

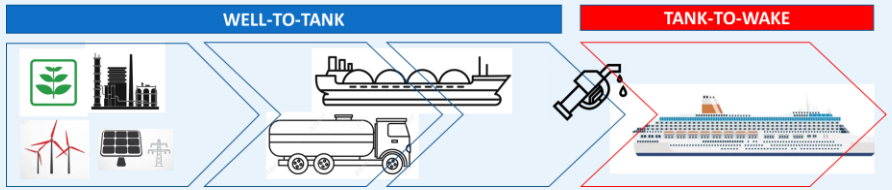
FuelEU Maritime – Proposed Approach

- Focus on **fuel** and on **demand – promotion of uptake of renewable and low-carbon fuels** for maritime transport – complement to Energy Efficiency
- **Technology-neutral approach:** maritime operators will need to use an increasing proportion of zero and low carbon sustainable fuels, without obligation to use a specific technology
- **Establishes** limits on the yearly average GHG intensity of the energy used on-board **(CO2eq/MJ)**

2025	2030	2035	2040	2045	2050
-2%	-6%	-13%	-26%	-59%	-75%

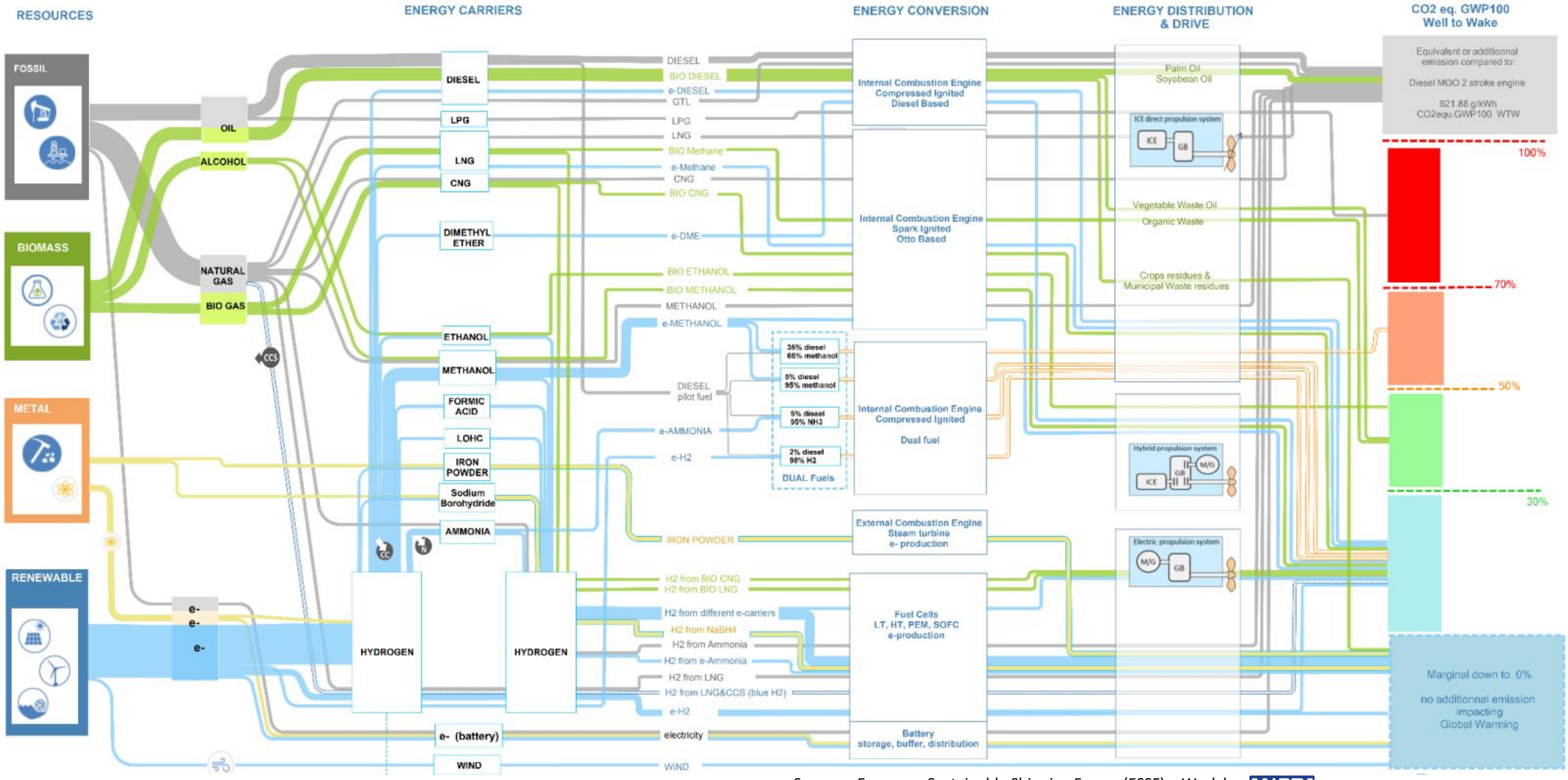
- **Scope:** ships above 5000 GT, intra-EU traffic + 50% international, EU ports (same as for ETS)
- **Additional requirement for Zero-Emission at berth** (OPS and alternative zero-emission technologies) - compulsory as of 2030 for container and passenger vessels (some exemptions up to 2035)

- Inclusion of **CO_2, methane and nitrous oxide** on a full Well-to-Wake calculation: allows fair comparison of fuels



$$\boldsymbol{GHGe}\left[gCO_{2eq}\right] = (\boldsymbol{WtT}\ (fuel, electricity) + \boldsymbol{TtW}(\text{combustion, slip}))$$

- **Flexibility mechanism** via banking and borrowing: surpluses and (small) deficits can be carried over to the next year
- Voluntary and open **pooling mechanism** to reward/ incentivise overachievers and encourage the rapid deployment of the most advanced options
- **Non-compliance** – deterrent financial penalty
- Monitoring and Reporting is based on **MRV approach,** with some additional data (e.g. calculation of Compliance Balance)



Source – European Sustainable Shipping Forum (ESSF) – Work by MARIN

Why is it so important to be “Technology Neutral” and compare energy options on a Well-to-Wake basis – challenge for fuel certification.

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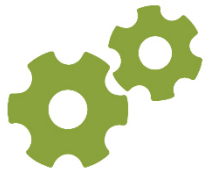
How would FuelEU work?

OBLIGATIONS:

- Maximum limits on the GHG intensity of the energy used on board (yearly average) – **Article 4**
- For containers, ro-pax and passenger ships obligation to connect to OPS in ports or be zero-emissions at berth – **Article 5**



Companies monitor during the year the amount and type of energy in regulated journeys / port calls (using bunker delivery notes and OPS bills) – **Articles 6, 7, 8**
Data is scrutinised by verifiers (**Articles 10, 11, 12, 13)** and reported to COM through IT tool (**Articles 14, 15, 16**)

Lower GHG intensity using liquid biofuels, e-liquids, decarbonised gas (including biogas and e-gas), decarbonised hydrogen and decarbonised hydrogen-derived fuels (including methanol, and ammonia), electricity and wind. Certification relying as much as possible on existing schemes, like REDII – **Article 9 + Annexes**

In case of compliance, companies are issued a valid certificate of compliance – **Article 19**

To provide flexibility and address issues of fuel availability the same ship can bank/borrow compliance surplus – **Article 17**

To reward early adopters and zero-emission ships, pooling of over-compliance is allowed among ships (private law agreements); no transfer of borrowed surplus – **Article 18**

Enforcement is done by checking for the certificate of compliance (**Articles 22, 23**); for non-compliance the company is subject to dissuasive proportionate penalties (**Articles 20, 21**)

In case of disagreement with the work of the verifiers, the companies may request a review (**Articles 24, 25**).

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Ongoing

- Discussion/ Negotiation of the FuelEU Proposal undergoing in Council.

- Link to proposal and accompanying documents: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12312-CO2-emissions-from-shipping-encouraging-the-use-of-low-carbon-fuels_en