

Technology and policy pathways to decarbonize shipping and aviation

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...has a key role to play in driving the decarbonization of international shipping



setting the appropriate **enabling regulatory framework** ensuring a global level playing field



supporting a **consistent implementation** of the regulatory framework through technical cooperation and capacity building in developing countries



United Nations specialized agency mandated ensure safe, secure and efficient shipping on cleaner oceans



175 Member States, 3 associated members, 143 observer organizations (IGOs and NGOs)

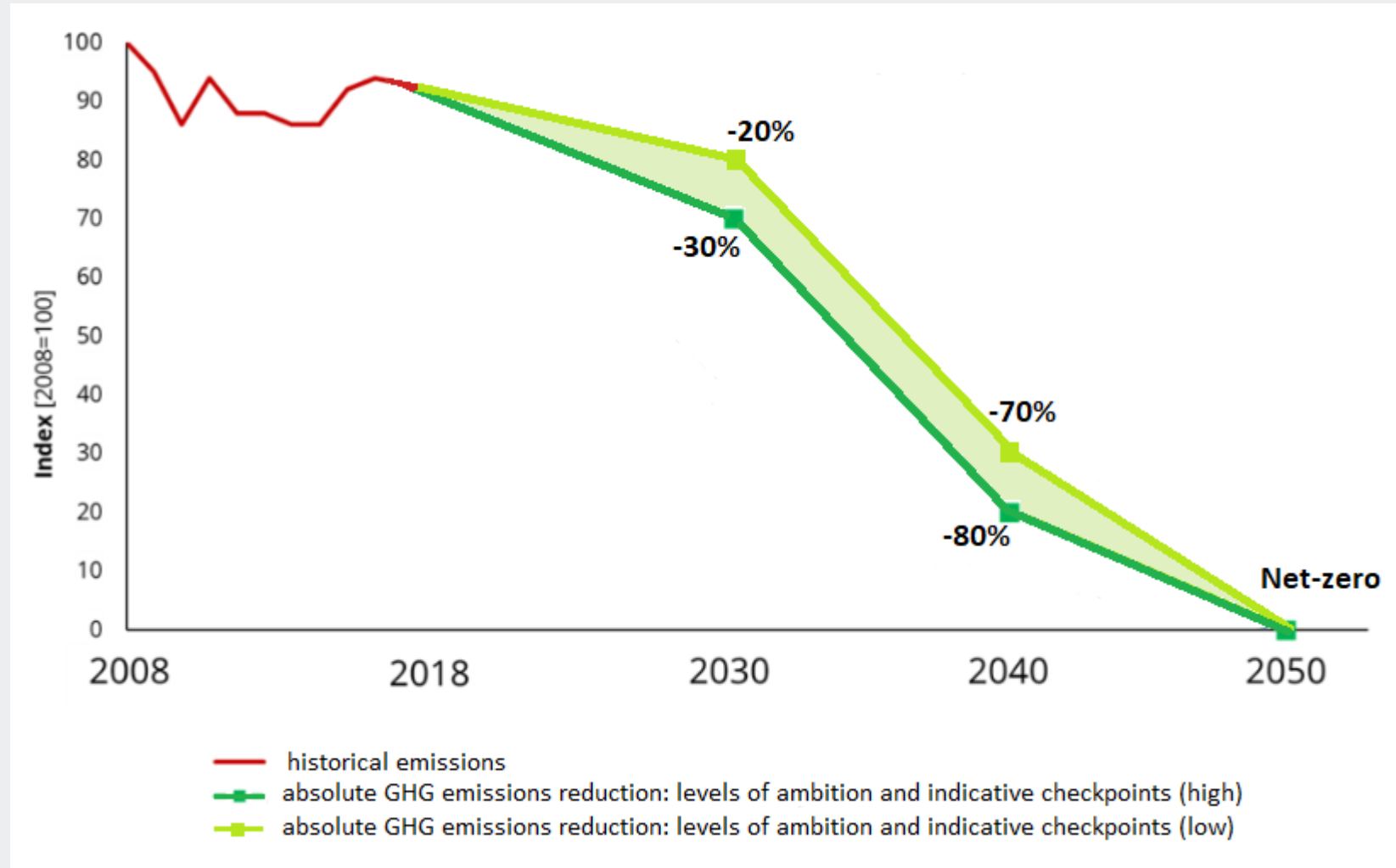


IMO regulates > **50,000 ships** trading worldwide

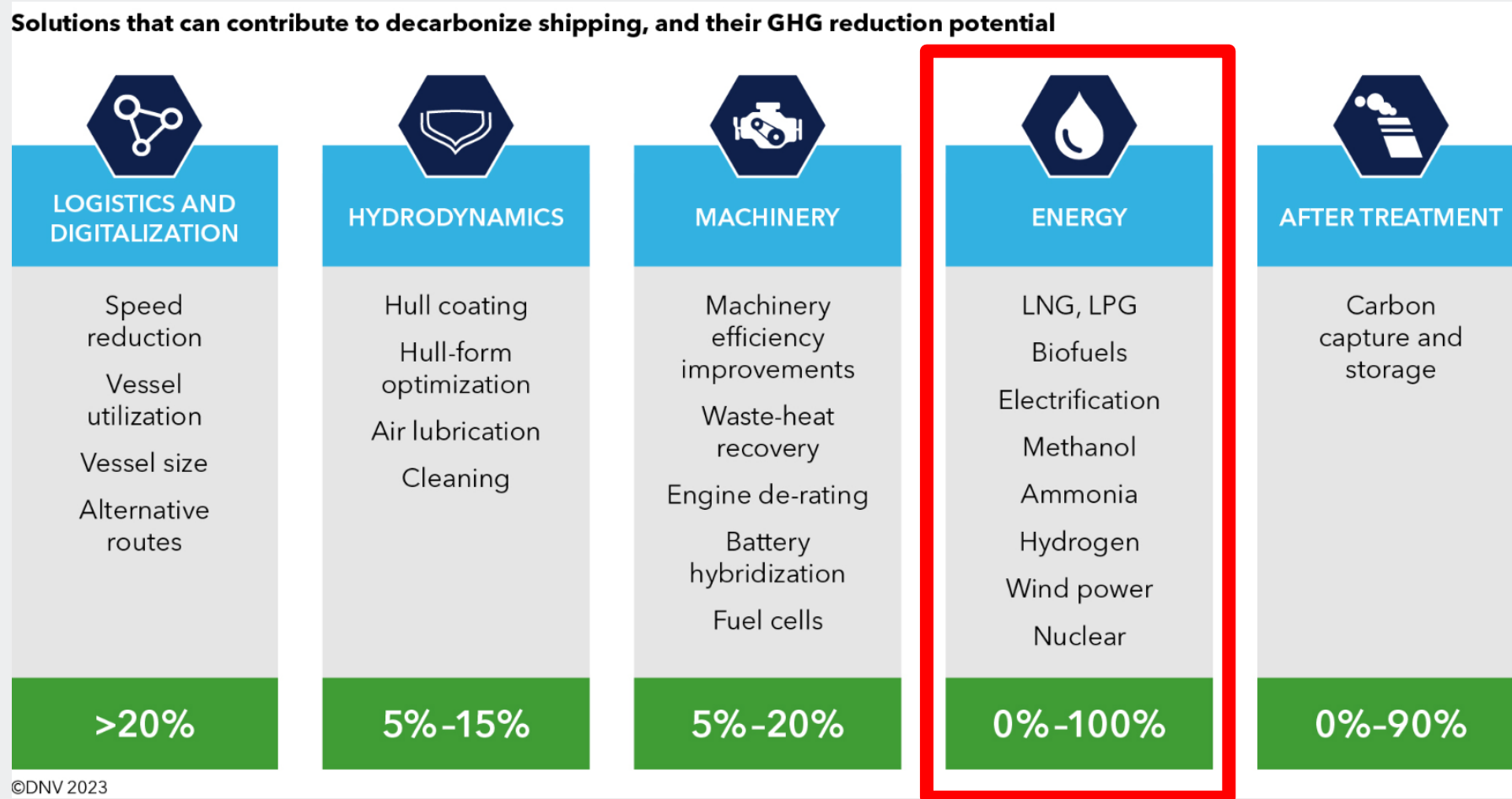


IMO's instruments contain **binding obligations**, which are **enforced globally** by flag States and port States (incl. MARPOL)

2023 IMO GHG Strategy: outlining the pathway to net-zero emissions



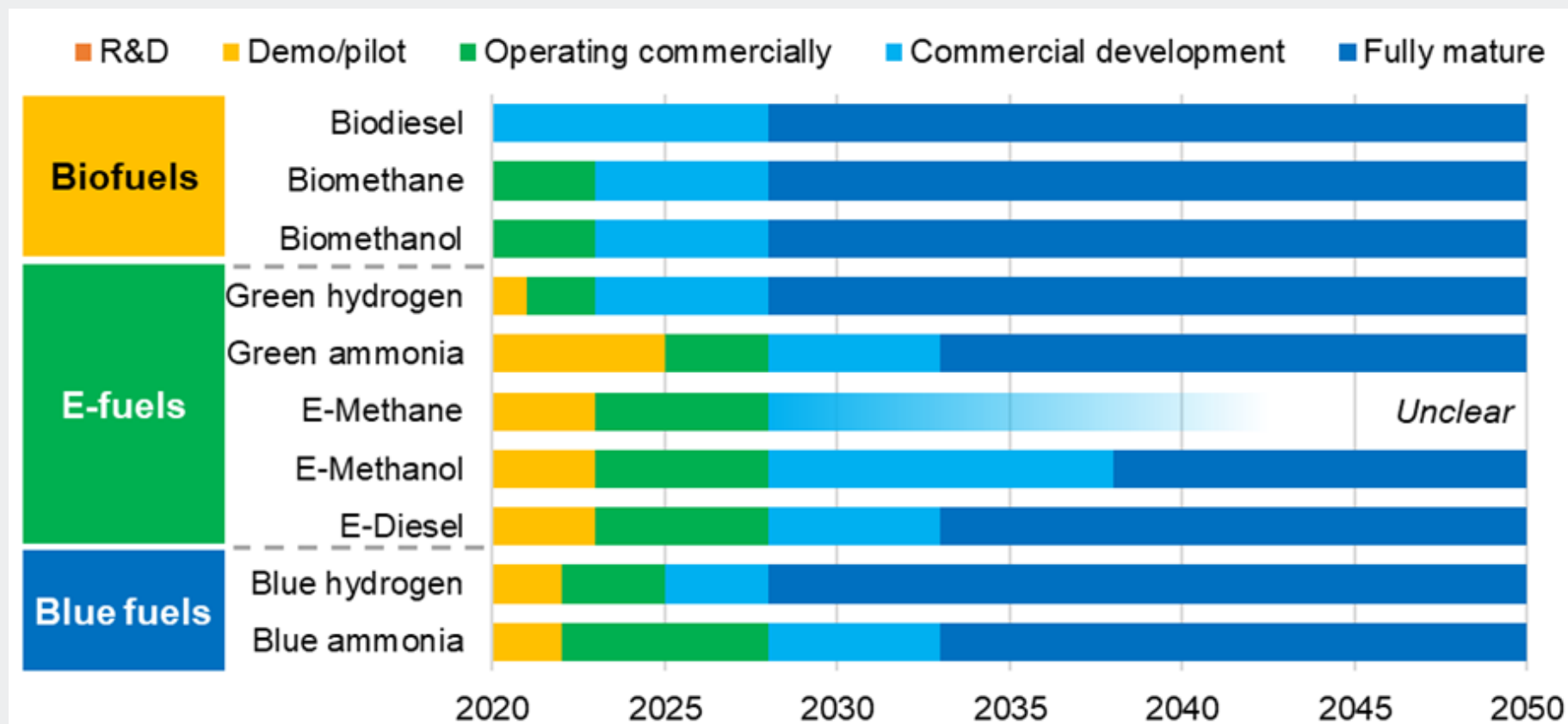
To achieve IMO's ambitions, most of the GHG reduction effort will come from a change in the energy system of shipping



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A wide variety of alternative marine fuels expected to be mature by 2035

Technical and commercial readiness of alternative marine fuels



Source: IMO study on the readiness and availability of low- and zero-carbon marine fuels and technologies

Development of the “basket of measures”

MEPC 80 agreed to develop a basket of measure(s), delivering on the reduction targets, comprised of both:

- a **technical element**, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and
- an **economic element**, on the basis of a maritime GHG emissions pricing mechanism.

The mid-term GHG reduction measures should:

- effectively promote the energy transition of shipping
- provide the world fleet a needed incentive
- while contributing to a level playing field and a just and equitable transition

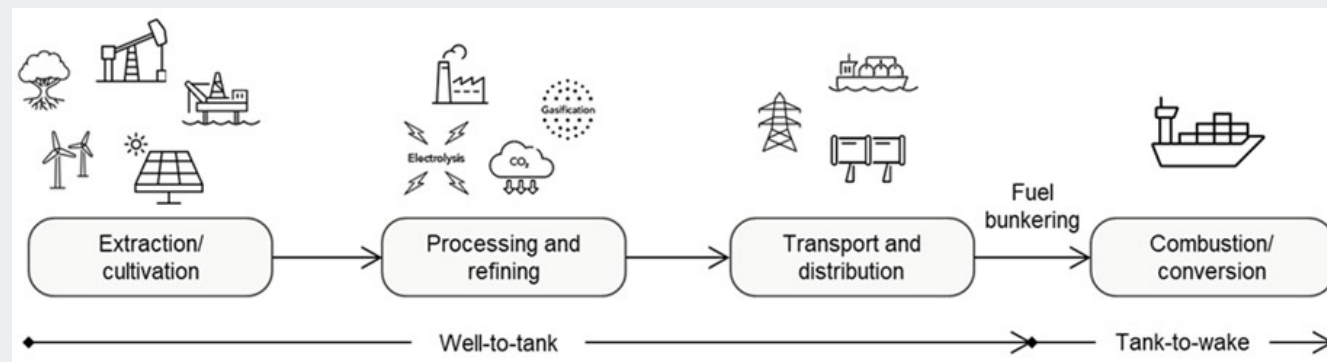
Comprehensive impact assessment and measure development timeline:



Towards a full life cycle assessment of the GHG intensity of marine fuels

- Today, IMO regulations only focus on downstream emissions (“Tank-to-Wake”)
- Low- and zero-carbon fuels have very different overall GHG intensities when looking only at the downstream emissions and when looking also at the upstream emissions (“Well-to-Tank”)
- MEPC 80 adopted the first [Guidelines on life cycle GHG intensity of marine fuels \(LCA Guidelines\)](#) providing the methodology and framework for the assessment of Well-to-Wake emissions
- IMO Expert Workshop on sustainability/certification and third-party verification issues in December

Sustainability themes/aspects In IMO LCA Guidelines
1. GHGs
2. Carbon source
3. Source of electricity/energy
4. Carbon stock – DLUC
5. Carbon stock – ILUC
6. Water
7. Air
8. Soil
.9 Waste and chemicals
.10 Conservation



Thank you for your attention

