

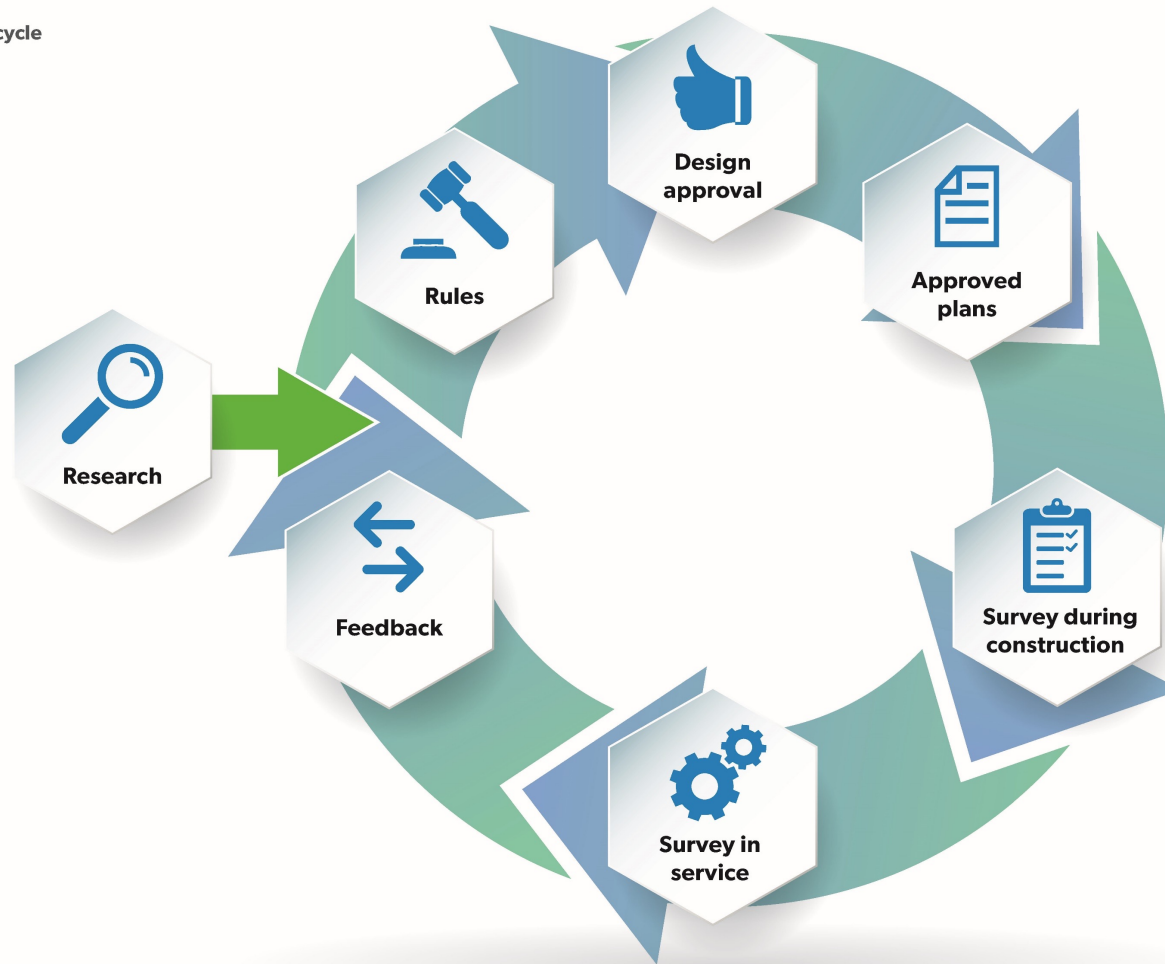
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IACS Chair Elect 2024-2025



Figure 1
The class cycle



The scope of IACS is to share best practices among its members and with interested parties for developing common rules, unified requirements, guidelines, procedures, recommendations, interpretations consistently applied worldwide according to verifiable quality assurance criteria.



IACS can provide an enhanced degree of certainty about the application of novel technologies

that may encourage the industry to make significant investments for meeting the ambitious targets established by the IMO on decarbonisation

Ships are the workhorse for more than 90% of international trades

They currently need about 250 million tons of heavy fuel per year

They contribute to less than 3% of carbon emissions in the atmosphere

Significant investments have been done by the shipping industry over the last 20 years building highly technological, safe and efficient ships



The IMO strategy, adopted by MEPC, to reduce GHG emissions from international shipping aims to

- reach carbon neutrality by 2050
 - indicative checkpoints
 - 20%- 30% by 2030
 - 70%-80% by 2040
- ensure a level playing field

- From 1 January 2023, ships are rated according to a carbon intensity index (CII) to be reduced year after year

$$CII = \frac{\text{Annual fuel consumption} \times \text{CO}_2 \text{ emission factor}}{\text{Annual distance sailed} \times \text{Deadweight or GT}}$$

- Ships are rated from A to E, being A the best rank. If a ship is rated D for three consecutive years or E just in one year, the shipowner will have to submit a corrective action plan to improve ship performance

- **The ETS Directive**, from 1 January 2024, will require a shipping company to monitor its fleet consumption and pay a penalty for each ton emitted and not surrendered, when it is not able to surrender allowances to verified aggregated emissions
- **The FuelEU Regulation**, from 1 January 2025, will require a GHG intensity index be significantly reduced over the years
 - **by 2% in 2025**
 - **as much as 80% by 2050**

IACS remains agnostic about any kind of alternative fuel

Fuel	Pros	Cons
Hydrogen	Zero-emissions	Challenges in availability and cost
Ammonia	Can be easily liquefied	Toxic in nature
Methanol	Easy to be used onboard	Lower density than diesel and double tank capacities
Biofuel	Can be easily carried and mixed with other fuels	Potential impact on the food chain
Synthetic fuels	High potential	Uncertain large-scale production

In its unique capacity to develop and enforce common technical standards, IACS is to make sure that such a deep transformation happens safely

- Contribution to the development of IMO guidelines on
 - methanol
 - hydrogen
 - ammonia
- IACS Unified Requirements on testing of materials; tanks, piping, valves and equipment; gas dispersion analysis; detection arrangements in hazardous areas.
- IACS Unified Criteria on electrical energy storage and carbon capture systems.

IACS would like to share information with industry on new designs and technologies capable to face decarbonization challenges



Sharing of information will be based on non-disclosure property right agreements

- Ships should be designed to minimize inherent risks
- Functions traditionally dealt by the crew may be embedded in ship automation
- Training and qualification of on board and ashore staff is crucial for proper application of new technologies
- Crews should be able to switch different types of fuel on dual fuel vessels
- The level of technology that the crew are expected to handle in normal and reasonably foreseeable abnormal conditions should be defined

From life-cycle assessment point of view, in the next few years:

- ✓ How many ships will be retrofitted with novel technologies?
- ✓ How many new ships will be built with innovative propulsion systems?
- ✓ What will be their carbon footprint?
- ✓ What are the potential inherent risks?

IACS is looking at these developments to make sure that they happen safely. In all these respects, it is important there is a close and constructive dialogue with all sectors of the shipping industry.

Thank you!