



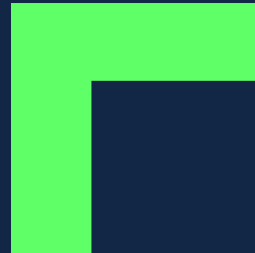
TECHNOLOGICAL INNOVATIONS & LEGAL RISKS

30 October 2025

DR. PIA REBELO

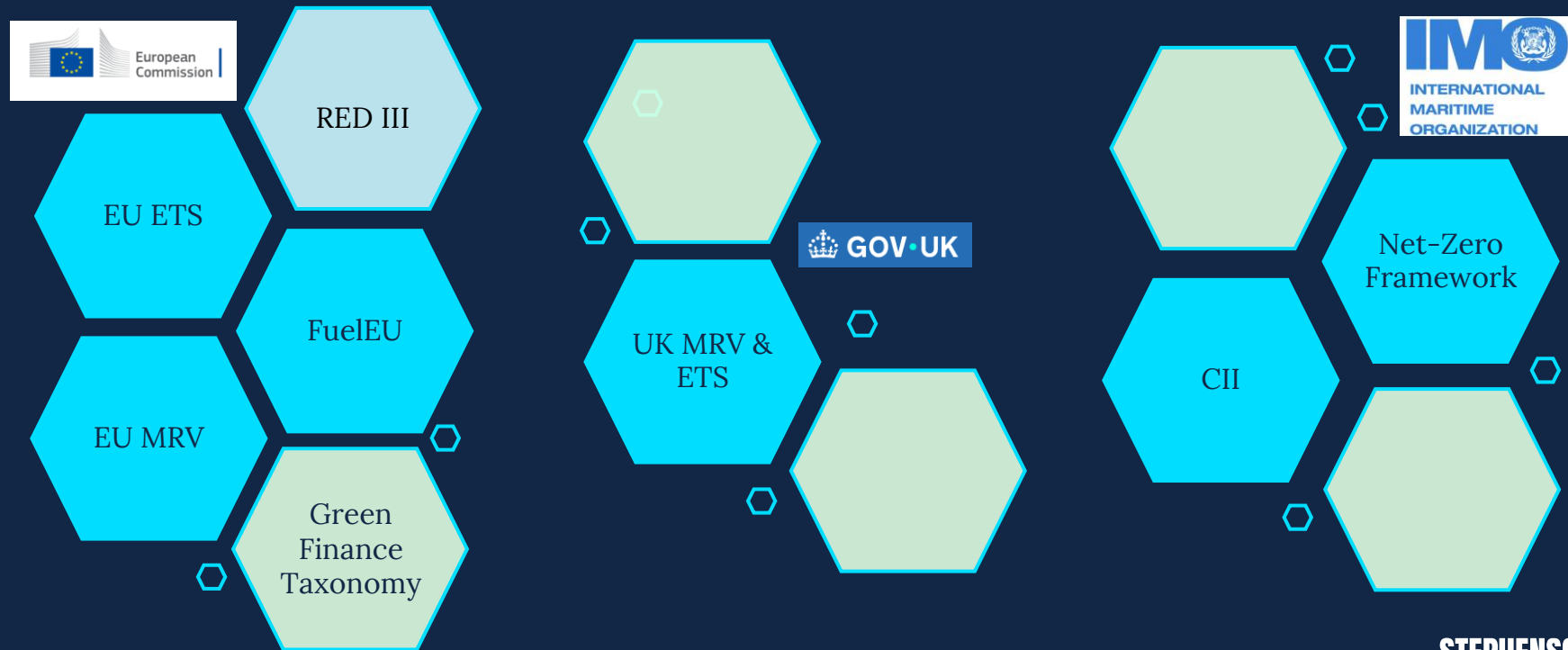
Legal Analyst

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+ REGULATORY IMPETUS FOR ENERGY EFFICIENCY AND NEW FUELS

2



IMPLEMENTING NET ZERO



Fuel Producers

Biofuels & RFNBO Production (WtW), CCS



Ports

OPS, bunkering facilities, joint ventures



Shipyards

Newbuilds & Retrofits



Shipowners

New technology, dual engines



Owners & Ship Managers

Registries, data exchange



Owners & Charterers

Slow steaming, bunkers, performance



Cargo interests

Blue Visby, Scope 3 accreditation



Lawyers

Develop Contractual Architecture

With new technologies and processes, come new risks

DESIGN RISKS - CONTRACTUAL ISSUES

+ Defects

- + Less tested technology
- + Effects on vessel performance
- + Liquidated damages clauses for shortfall in performance during sea trials

+ Risk Allocation

- + Shipyard/Buyer allocates the risks of defects
- + Design errors - capable of being characterised as “bad workmanship”.
- + Contractor has duty “to identify any areas where the works need[ed] to be designed to any additional or more rigorous requirements”

+ Specifications

- + Construct according to a design specifications?
- + Does this include guaranteed compliance with wider standards and regulatory context?
- + Modifications?

+ Warranty Provisions

- + SAJ shipbuilding contract form: warranty period under a shipbuilding contract is limited to 12 months.





Energy Efficiency

OPERATIONAL EFFICIENCY RISKS



PERFORMANCE WARRANTIES

Slow steaming = contractual breach? (due dispatch) Blue Visby and/or CII

Energy efficiency as a negotiated term

Speed Optimization



MONITORING

Operators must accurately define and track voyages

Information sharing

Consistency in Methodology



FINANCIAL COSTS OF NEW EE TECHNOLOGY

Cost Sharing Mechanisms

ETS COMPLIANCE (EU & UK)



CONTRACTUAL IMPLEMENTATION OF “POLLUTER PAYS”

- + Shipowner = default compliance entity
- + ETS Clauses in TCP
- + Bareboat chartering arrangements, will 3rd party manager accept mandate for ETS compliance?
- + Adequate recovery mechanisms for EUAs
- + Administrative aspects of ETS compliance: MOHA accounts
- + Clear trading routes
- + Adjusted Performance Warranties
- + Market risks: Fluctuating price of EUAs



Alternative fuels

BUNKER RISKS



PRODUCTION RISKS

Biofuels: land use change risks

RFNBOs: Electricity sourcing

RED III compliance and CCS Directive



FUEL CERTIFICATION

Robust traceability – Mass Balance

RED III certification; documentary evidence

ISCC EU, REDcert, CertifHY, Bonsucro EU, 2BSvs, etc



BIOFUEL BUNKER DISPUTES

ISO 8217:2024

Biofuel quality, handling, and storage

Fraud; supply issues

FUEL EU MARITIME COMPLIANCE



CONTRACTUAL IMPLEMENTATION OF “POLLUTER PAYS”

- + The ISM Company is the Responsible Entity, but Owner has interest in compliance decisions.
- + Contractual provisions needed to pass costs of compliance to charterer.
- + Biofuels provisions in TCP & supply
- + Bunker delivery notes
- + Other standards - ISO

DECARBONISATION TEAM



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