



WHEN TRUST MATTERS

携手共进，迈向绿色航运新未来

Navigating Together Towards a Green Shipping Future

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Mr. CHEN Keng, Vice President / Area Manager China South

06 December 2023



Our purpose
我们的宗旨

**To safeguard life,
property, and the
environment**

**保护生命，财产和环境
安全**

Our vision
我们的愿景

**A trusted voice
to tackle global
transformations**

**应对全球转型的可靠声
音**

A global assurance and risk management company

全球化的保障和风险管理机构

159

年 / years

~13,000

员工 / employees

100,000

客户 / customers

100+

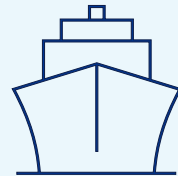
国家 / countries

5%+

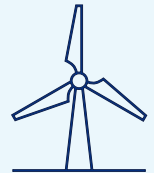
年营收投入研发 /
of annual revenue for R&D

船舶及海工入级和咨询

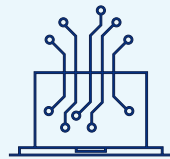
Ship and offshore
classification and advisory



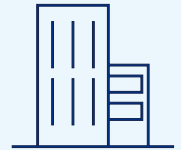
能源咨询、认证、验证、检验和监测
Energy advisory, certification, verification,
inspection and monitoring



软件, 信息安全, 平台和数字化解决方案
Software, cyber security, platforms and
digital solutions



管理体系认证,
供应链及产品认证
Management system certification, supply
chain and product assurance



The world's leading ship and offshore classification society

世界领先的船舶和海工船级社

Global network

Survey stations in 67 countries and expertise in all ship and offshore segments

~11,000

Ships and mobile offshore units in DNV Class

22%

Market share in orderbook (as end of Oct 2023, by GT)

Local expertise

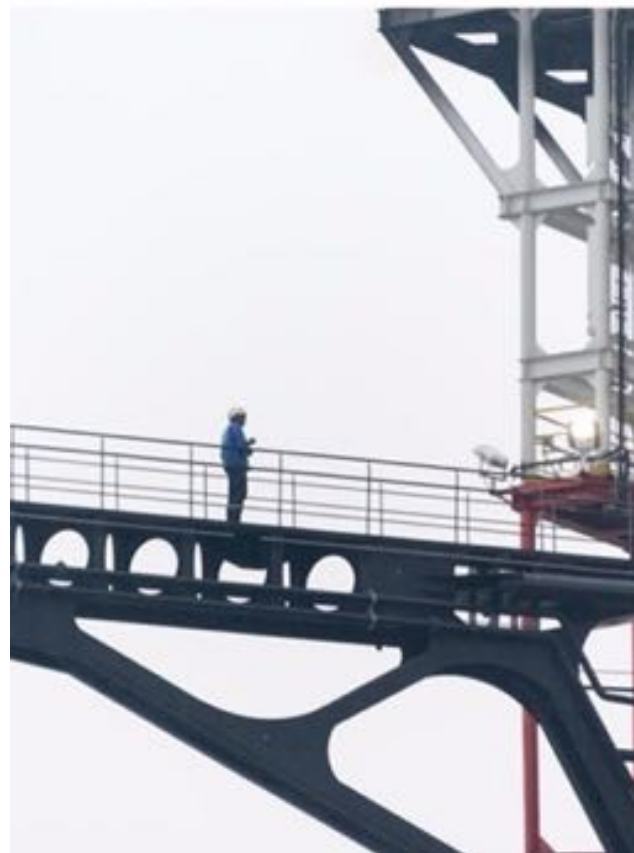
Dedicated Ship Type Experts (STEs) and "2D" development expert knowledge

~1,000

Staff in China

25%

Market share at Chinese yards' orderbook (as end of Oct 2023)



Markets shaped by global transformations

全球转型塑造的新市场

Decarbonization
脱碳

Digitalization
数字化

Sustainability
可持续发展

Managing growing system complexity 管理日益增长的系统复杂性

Rapid technology development
技术快速发展

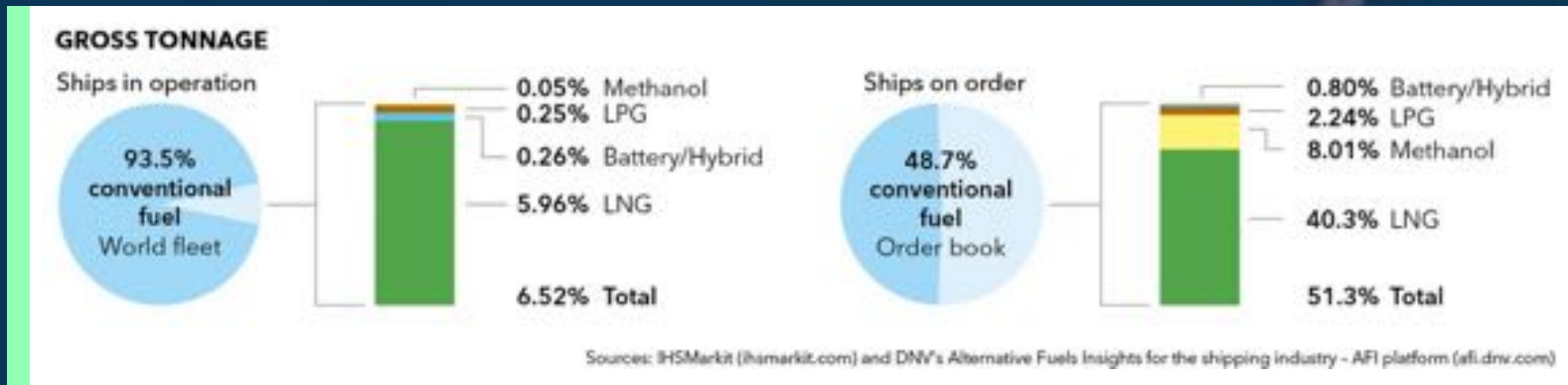
Increased regulatory pressure
法规和监管压力

Business model evolution
商业模式的演变

Increased need for transparency
透明度需求增长

Shipowners investing in fuel flexibility – half the ordered tonnage can run on alternative fuels

船东探索燃料灵活性 – 半数新造船订单具备替代燃料选项

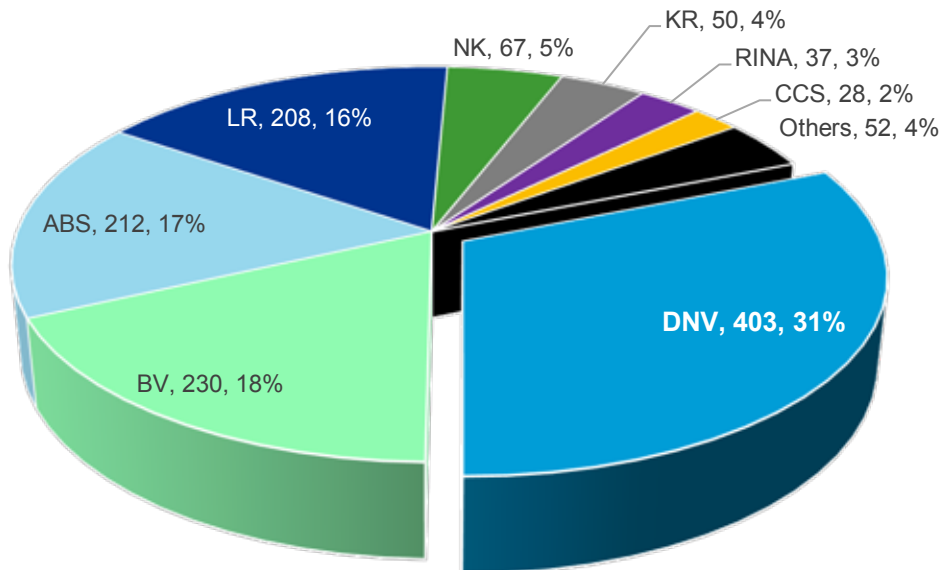


Newbuilding Orderbook Market Share in Alternative Fuels

替代燃料手持订单市场占有率

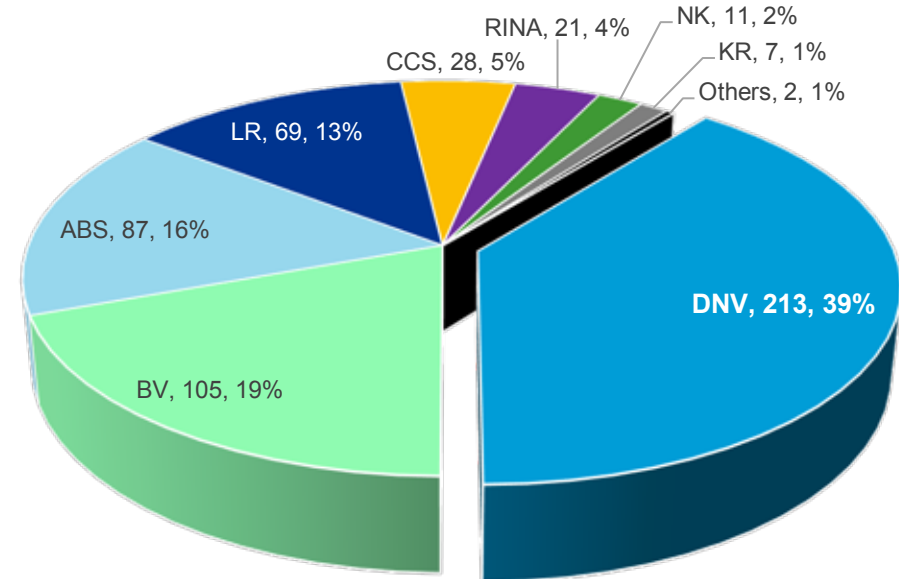
Dual Fuel Orderbook Market Share, build global
Total of 1,287 vessels

Source: IHS Markit, Oct 2023



Dual Fuel Orderbook Market Share, build in China
Total of 543 vessels

Source: IHS Markit, Oct 2023



Maritime Forecast to 2050 – key findings

面向2050年的海事展望 – 第七版的关键洞察



Strengthened IMO ambitions and first international CO₂ price in EU, set the decarbonization pathway



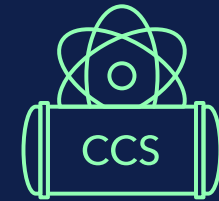
Shipping will require an estimated 30-40% of global cross-sector carbon-neutral fuel supply in 2030



Half the ordered tonnage can use LNG, LPG or methanol in dual-fuel engines

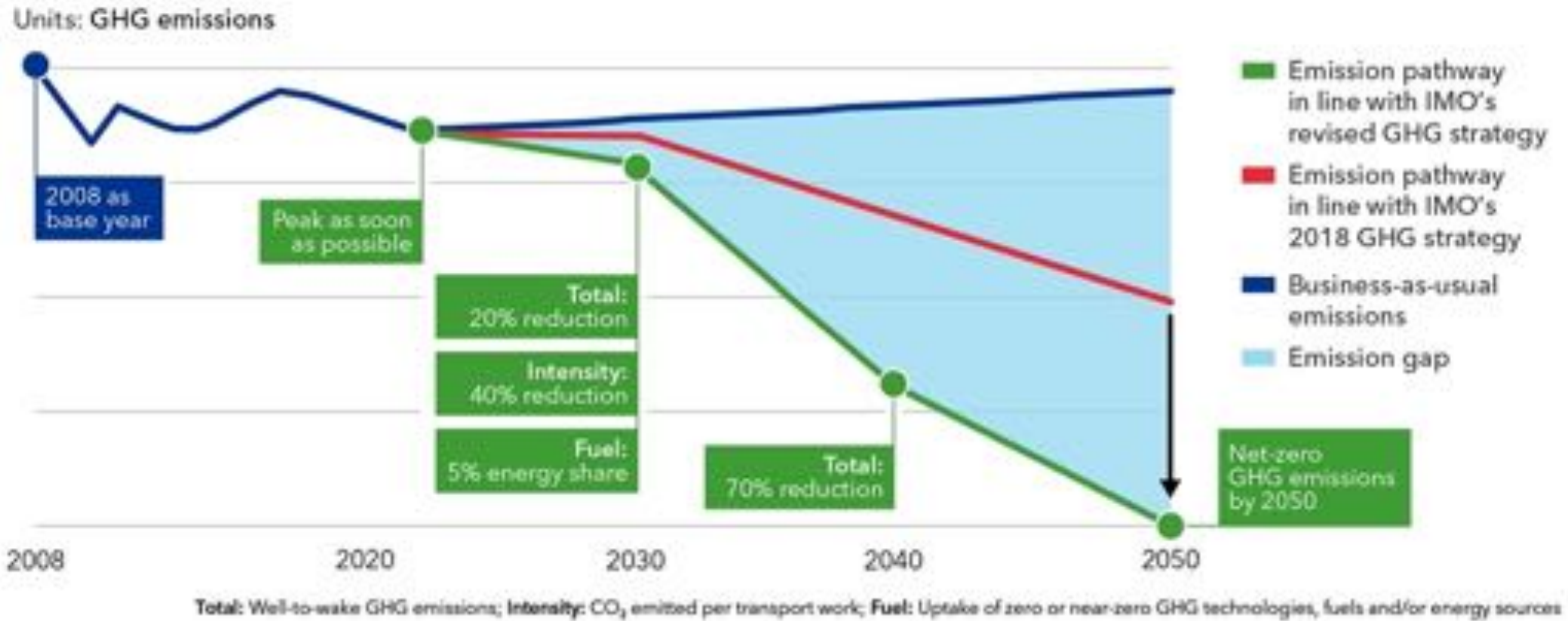


Global fuel production standards are needed to meet IMO's net-zero close to 2050 goal



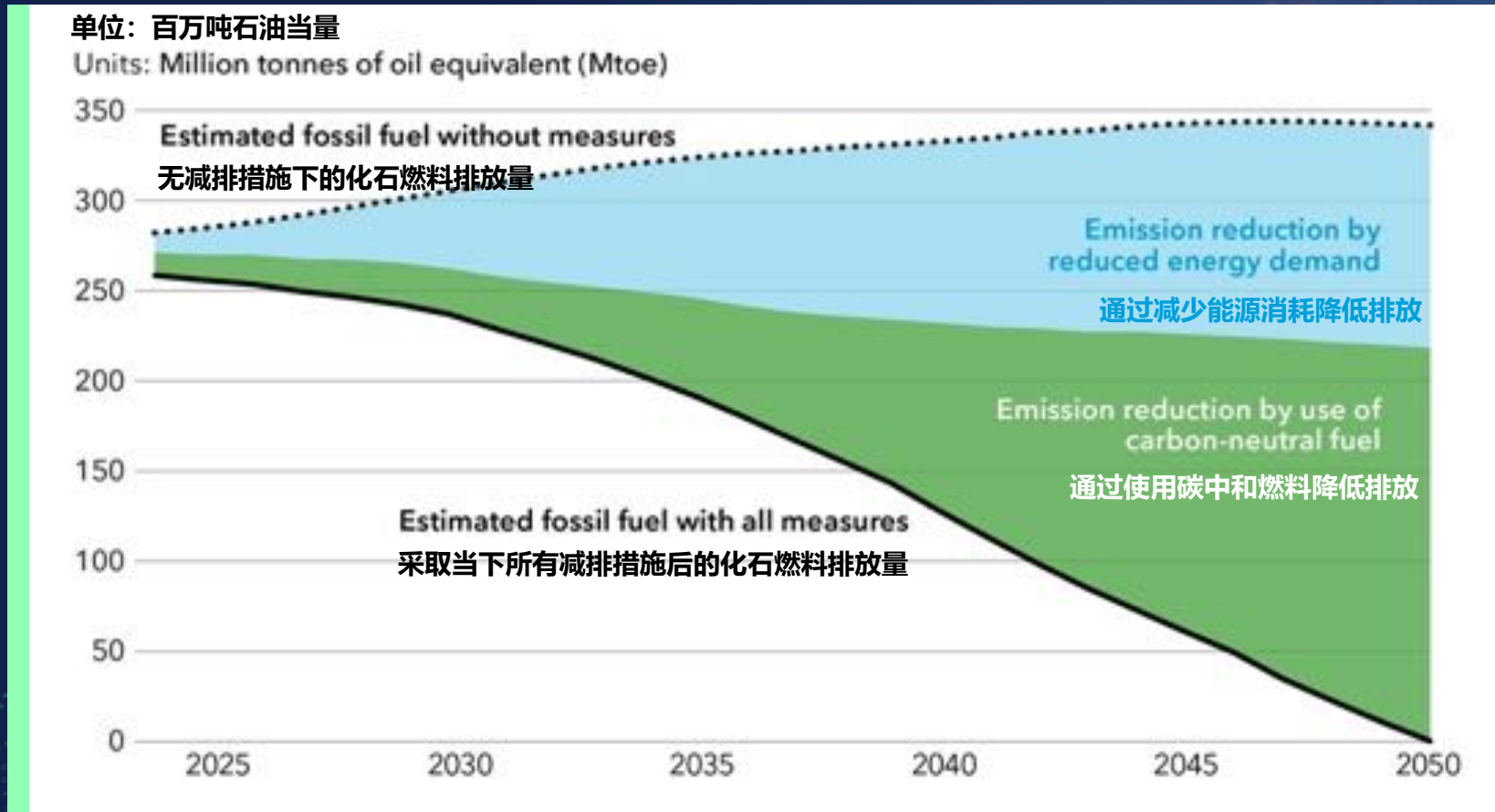
Onboard carbon capture and nuclear are technically and economically feasible options

IMO decarbonization ambitions significantly strengthened 国际海事组织脱碳雄心显著加强



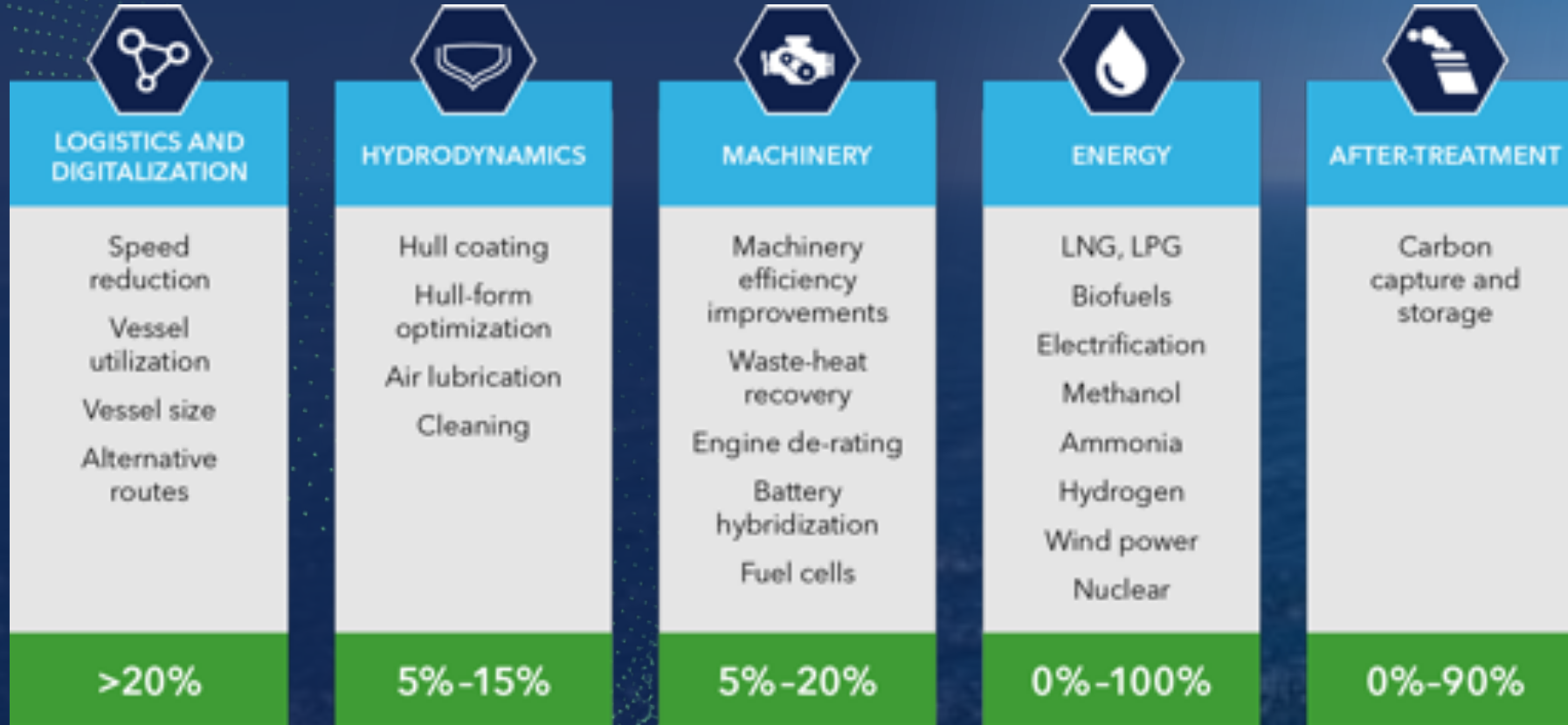
Reducing energy consumption is critical to reduce emissions and sustain increased energy costs

减少能源消耗对减少排放和控制能源成本至关重要



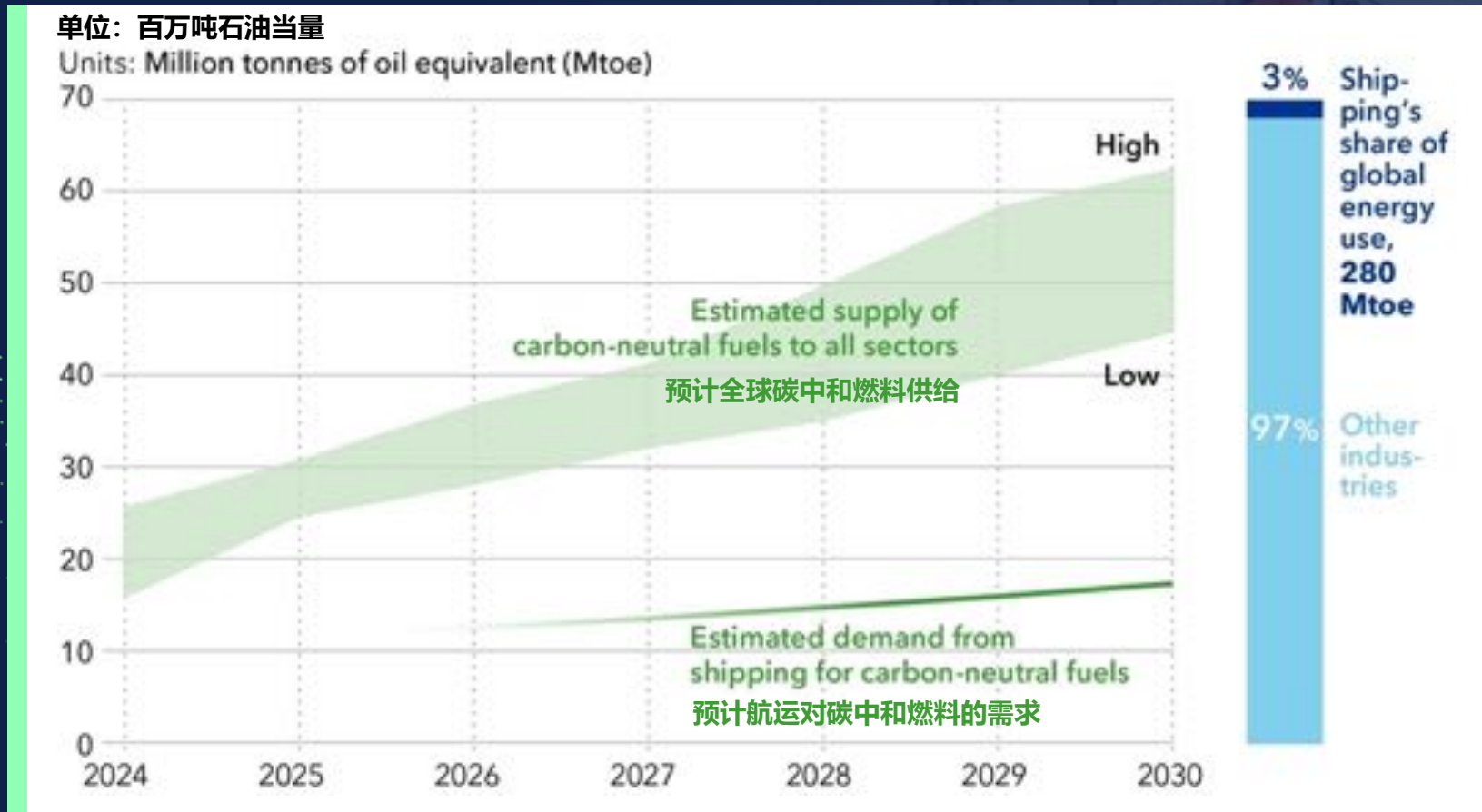
All decarbonization solutions must be explored

现阶段必须探索所有可能的脱碳解决方案



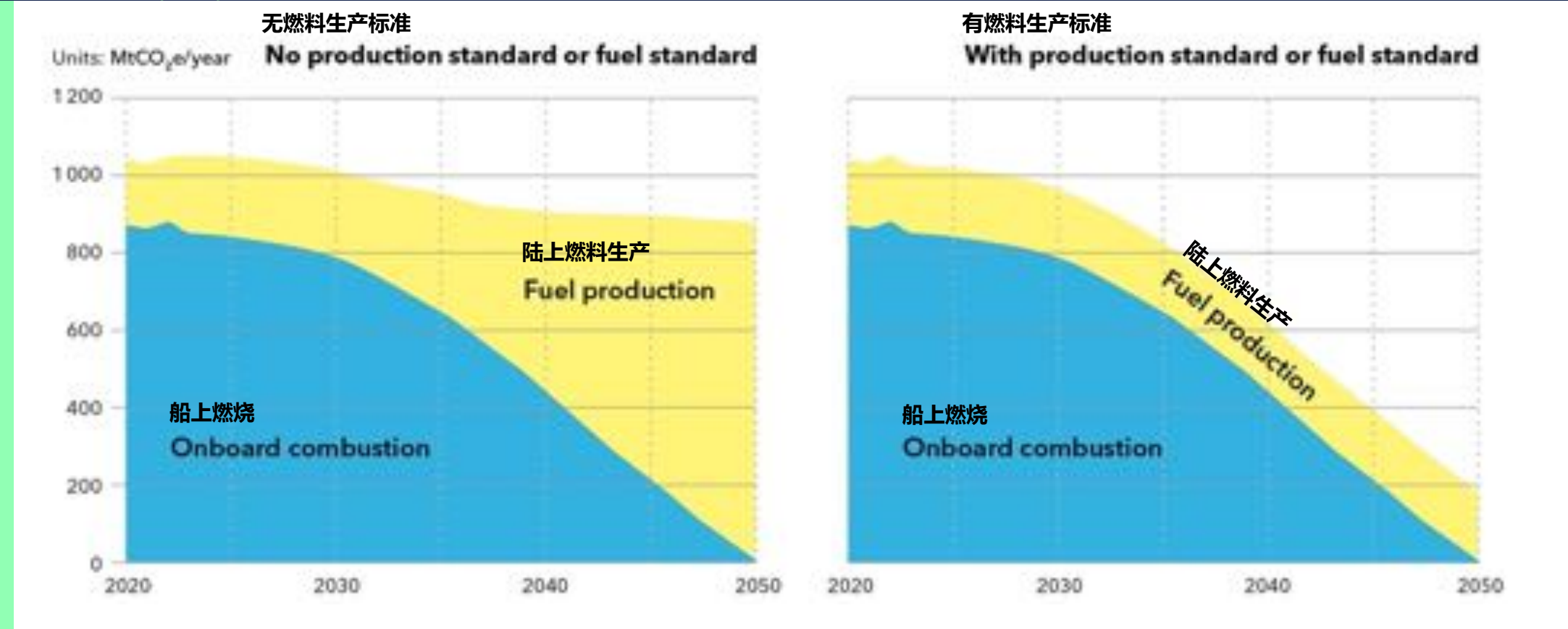
Shipping requires an estimated 30-40% of global carbon-neutral fuels in 2030

到2030年，航运业对全球碳中和燃料的需求将上升至30-40%



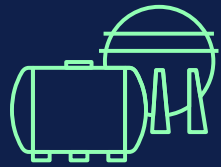
Regulations are needed to ensure emissions are not moved from ship to shore

需要制定法规以确保排放不会由船端向岸端转移



Maritime Forecast to 2050 – implications

面向2050年的海事展望 – 启发



Fuel producers must accelerate plans, but need offtake commitments from fuel buyers



Reducing energy consumption critical to lowering emissions and softening the impact of increased energy costs



The fuel and technology shift will require large scale training of seafarers, no matter which technologies and fuels are the winners



Further regulatory clarity and commercialization of new technologies is required



Cost of decarbonization must be carried through the maritime value chain by green corridors or similar mechanisms

The 2020s is proving to be the decisive decade for decarbonization of shipping

Maritime Forecast to 2050 – recommendations

面向2050年的海事展望 – 建议

Shipowners should:

- **Reduce** energy consumption now
- **Consider** all decarbonization options
- **Focus** on fuel flexibility
- **Consider** long-term fuel strategy

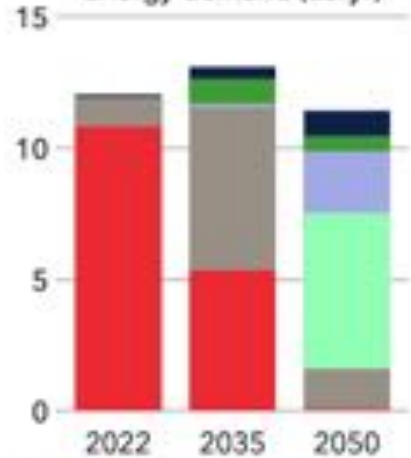
Pathway to Net Zero roadmap in Maritime

海事行业净零排放路线图

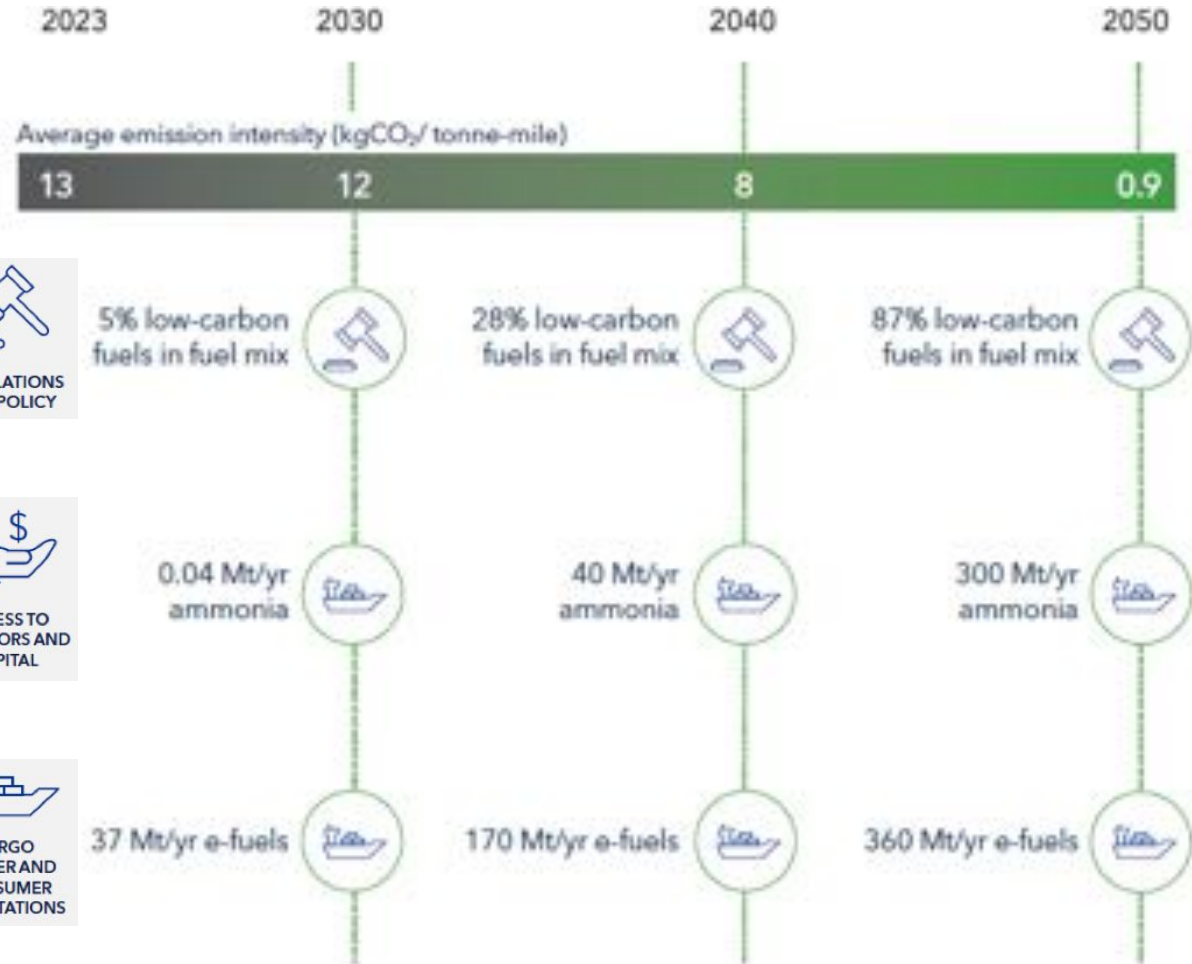
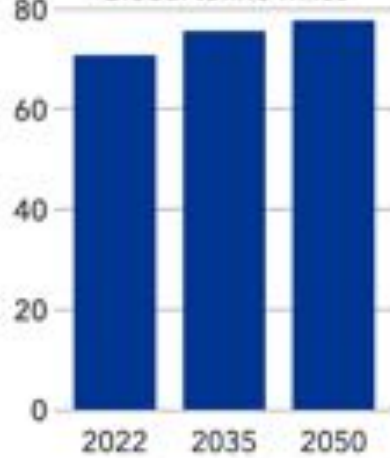


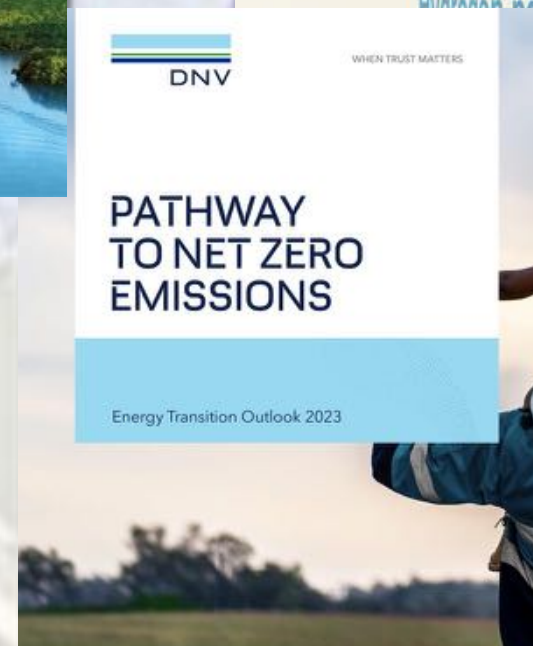
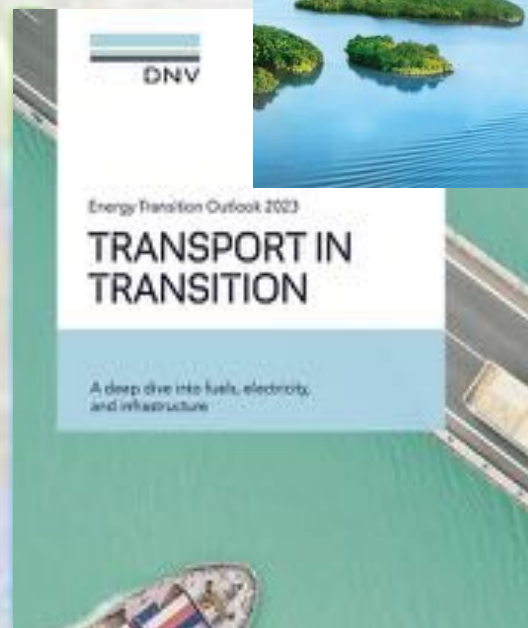
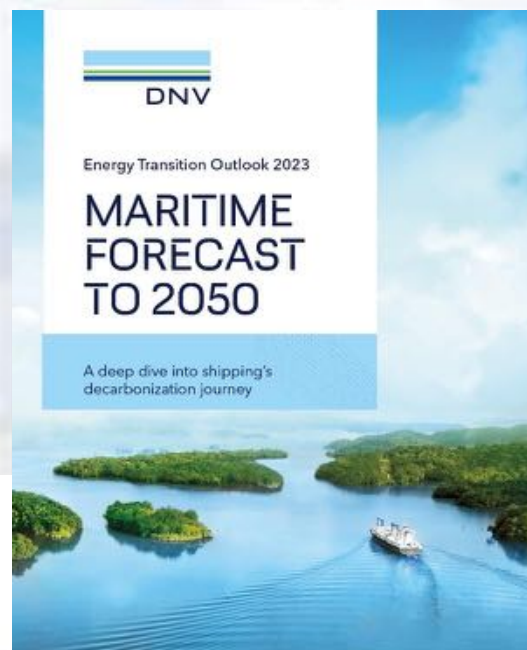
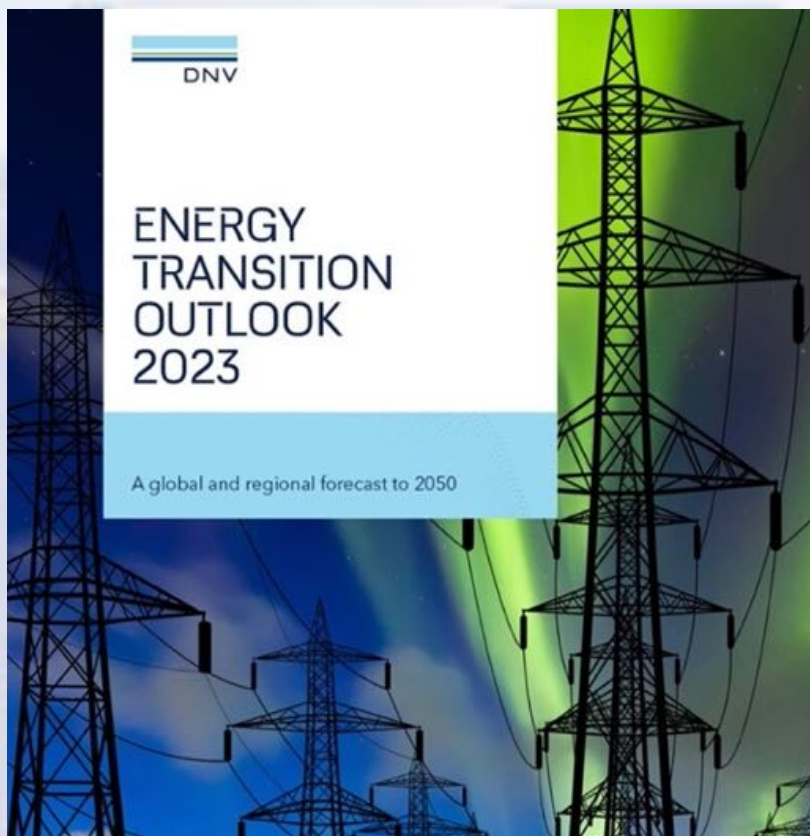
World maritime indicators

Energy demand (EJ/yr)



Global tonne-miles





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