



HKUST Research on Designing Cost-effective Shipping Retrofitting Incentives

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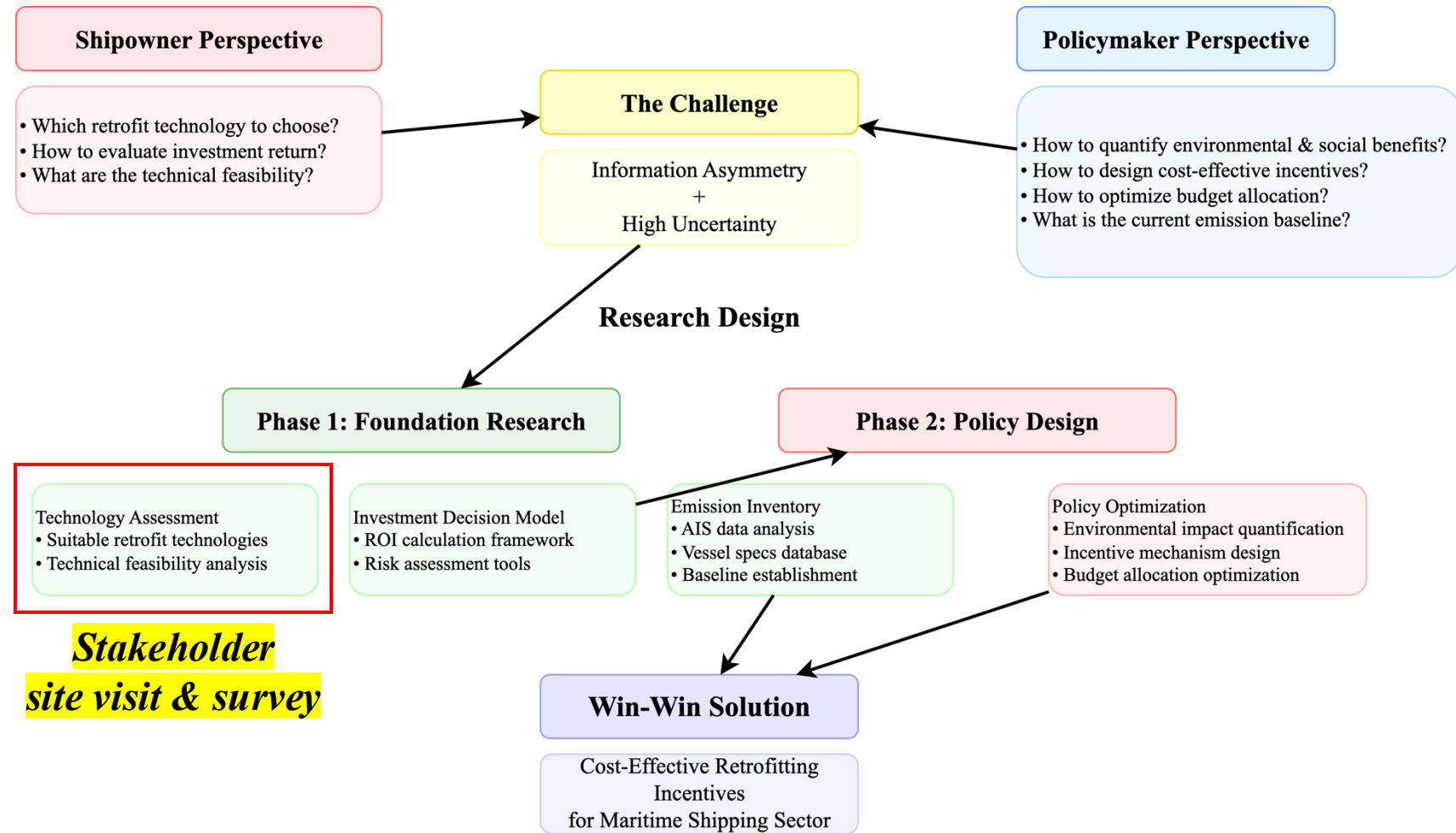
- The Hong Kong Marine Department's Green Incentive Scheme covers **only until the end of 2026** (deadline: December 31, 2026), but unknown/ undefined afterwards
- China's Ministry of Transport (MOT) and National Development and Reform Commission (NDRC) introduced new subsidies for vessel replacement and renewal (August 2024), **but comprehensive retrofitting policies remain lacking**

➤ Research Goal

- Design **cost-effective retrofitting incentives** for China's coastal container shipping sector

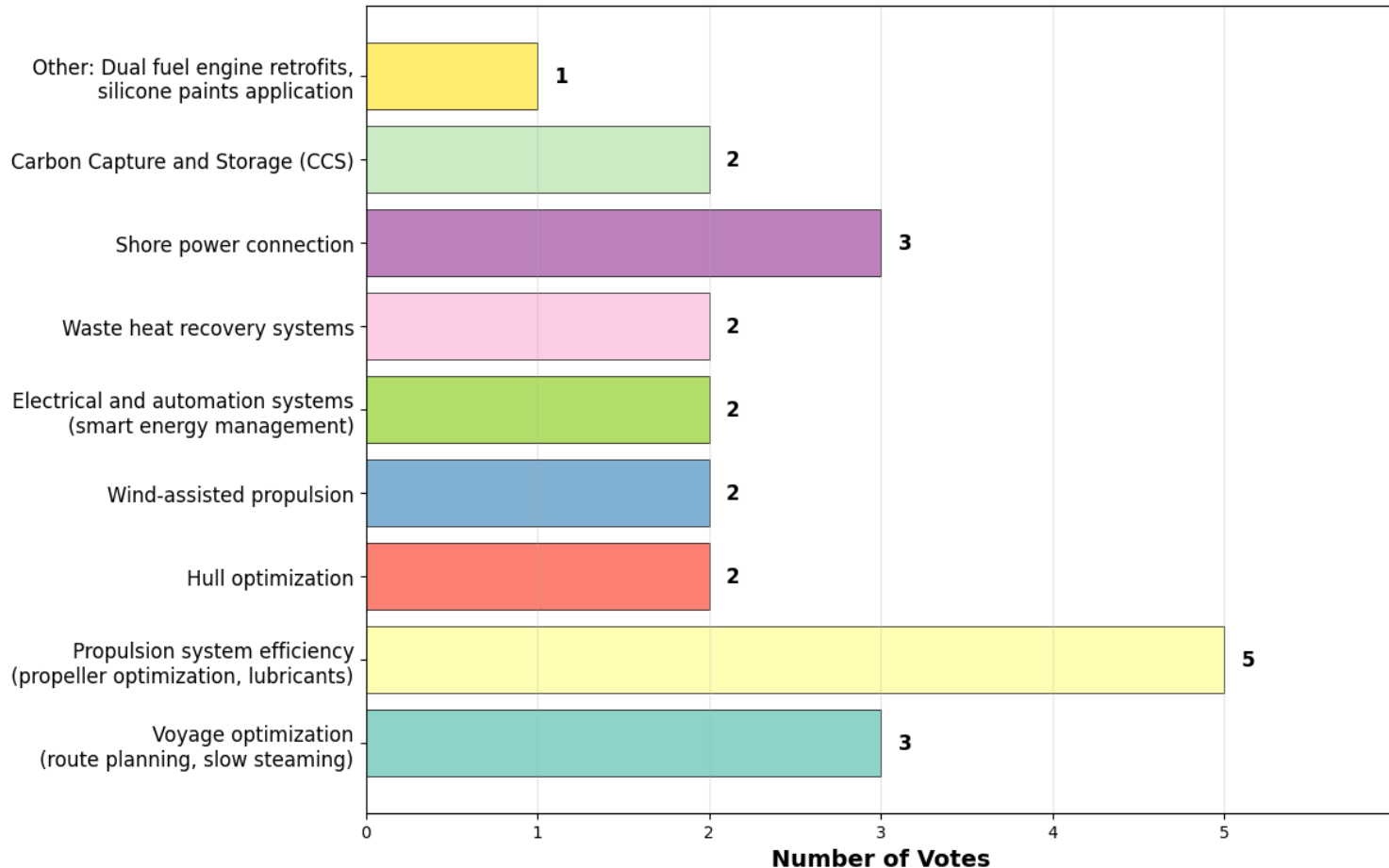
➤ Objectives (Phase 1)

- Identify suitable **retrofitting technologies** for maritime shipping
- Develop **investment decision model**
- Update **emission inventory**



Some Result Samples of Part II Survey Form (Ocean-going Vessels) based on Returns from 7 Shipping Companies

Voting Results for the Most Feasible Energy Efficiency Technologies

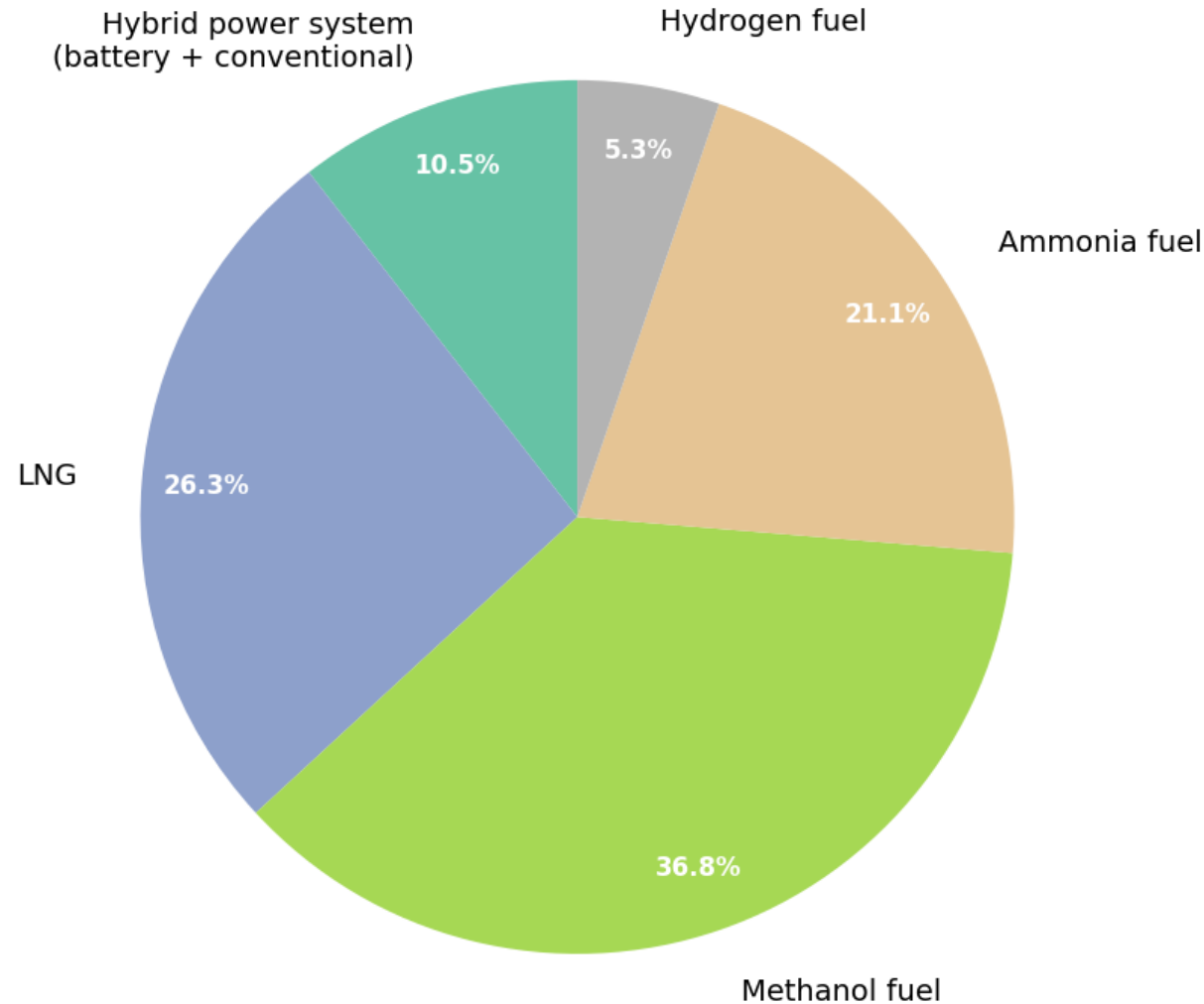


Note: Respondents could select up to 3 options | Survey Results from 7 Shipping Companies

- **Most Popular Technology:** Propulsion system efficiency (5 votes)
- **Joint Second Place:** Voyage optimization (3 votes) and shore power connection (3 votes) – **needs terminal operators' advice on their clients' OPS potential**
- **Technology Diversification:** 7 companies distributed relatively evenly across 9 technologies, showing industry openness to multiple solutions

Some Result Samples of Part II Survey Form (Ocean-going Vessels) based on Returns from 7 Shipping Companies

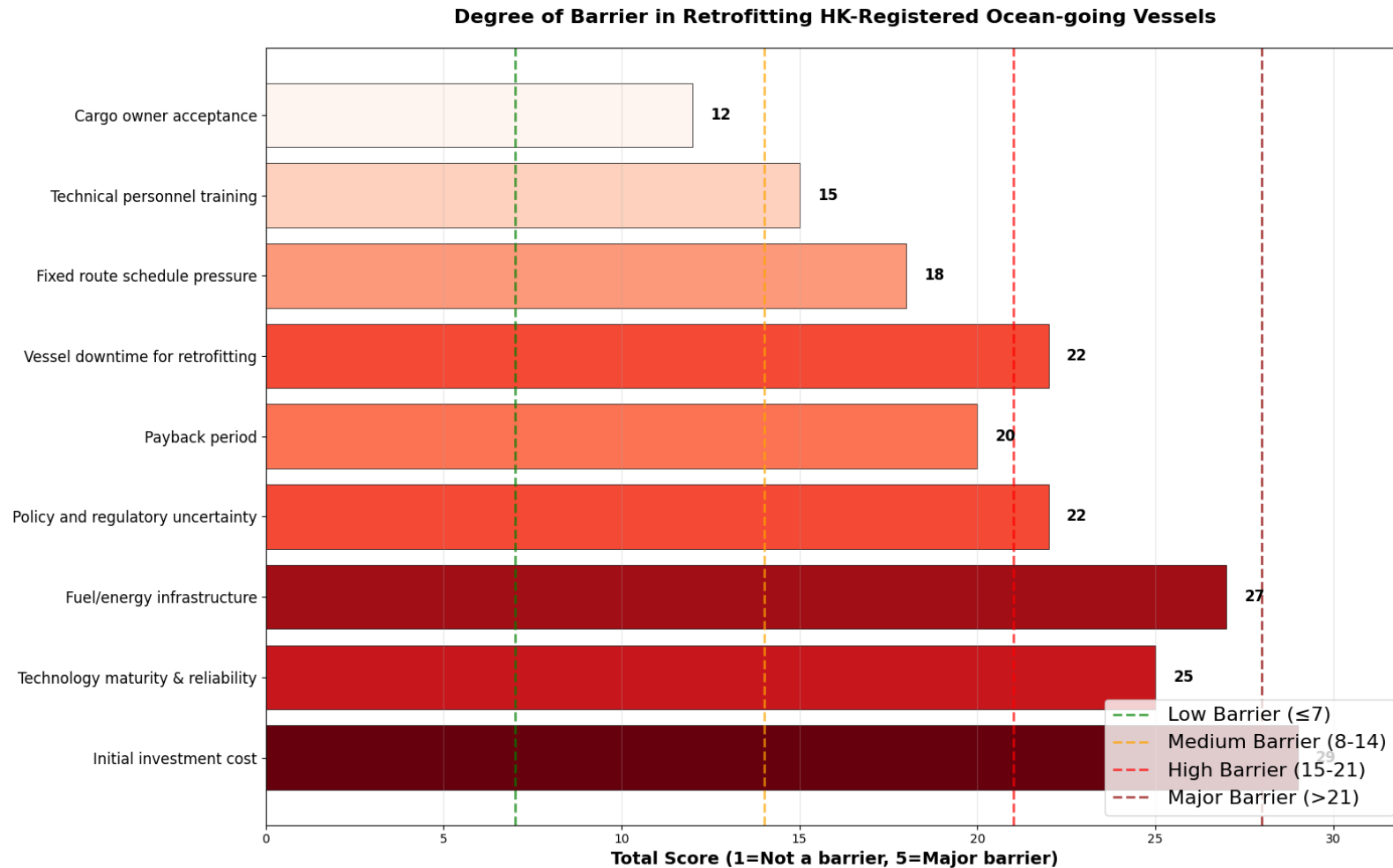
Voting Results for the Most Feasible Retrofitting Alternative Fuel Types



- **Methanol Fuel Leading:** 7 votes, becoming the most favoured retrofitting fuel type
- **LNG Stable Choice:** 5 votes, as a mature alternative fuel
- **Ammonia Fuel Potential:** 4 votes, showing attention to future fuels
- **No Vote for Pure Battery**

Note: Respondents could select up to 3 options | Survey Results from 7 Shipping Companies

Some Result Samples of Part II Survey Form (Ocean-going Vessels) based on Returns from 7 Shipping Companies



Note: Barrier scale 1=Not a barrier, 5=Major barrier | Survey Results from 7 Shipping Companies

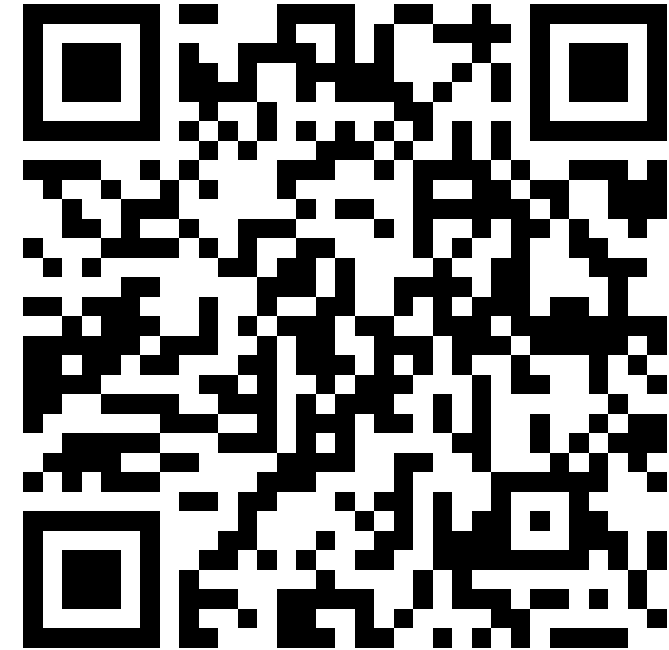
- **Greatest Barrier:** Initial investment cost - far exceeding other factors => **Will Financial Institutions offer solution?**
- **Technology and Infrastructure Challenges:** Fuel/energy infrastructure and technology maturity => **Will Port authorities facilitate infrastructure building?**
- **Operational Impact:** Policy uncertainty and vessel downtime also important considerations

We need your voices!

HK-Registered Ocean-going Vessels



China Registered Coastal Vessels





Thanks for listening!