Getting to 5%: An action plan for delivering zero-emission fuels in shipping

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		Timeline				Target by			
	Key actions needed to decarbonize shipping	**2022**	**2025**	**2030**	**2040**	**2022**	**2025**	**2030**	**2040**
Policy	Classification societies adopt robust zero-emission ready guidelines	■				In place			
	Classification societies research and set operational and safety standards	■	■				In place		
	Governments publish 1.5°C aligned decarbonization plans for domestic shipping	■	■				40 nations[1]		
	Governments set production targets for zero carbon fuels (intermodal usage)		■	■					
	Most national governments completely phase out fossil bunkers in domestic shipping				■				
	Multiple nations make plurilateral commitments to decarbonize shipping	■				Minimum 10 nations			
	Multiple G20 governments commit to funding for R&D and pilot projects related to zero-carbon shipping	■				Minimum 10 nations			
	International agreements on zero carbon shipping route creation (at least 3 global and 3 regional routes)	■	■				Minimum 10 nations		
	Intensified effort at IMO to agree long-term measures for shipping (e.g. MBMs and non-MBMs)	■							
	IMO clarify feasibility of retrofitting existing fleet	■	■				In place		
	IMO require new ships to be zero-emission ready, e.g. "GHG Reduction Plan with zero emission propulsion capability"		■	■			In place		
	IMO adopt measures in EEDI, efficiency, other greenhouse gasses & a roadmap to zero	■	■				In place		
	IMO adopt guidelines to estimate well-to-tank GHG emissions and regulation/ incentives for zero-emission fuels	■	■				In place		
	IMO agrees on comprehensive decarbonization strategy and net-zero by 2050 target	■	■				In place		
	Global agreement on gradual phase out and ban of fossil bunkers				■				
Finance	Increase transparency in ship finance, improve standard usage, and adopt stringent ESG standards (e.g., via Poseidon Principles)	■	■				In place		
	Develop risk-sharing framework (e.g., for first movers) and longer maturities for ship finance (e.g., green bond markets)	■	■				In place [2]		
	Mobilize industry and finance support for large scale demonstration projects	■	■				$3-6bn by 2025 [3]		
	Rapid deployment of investments on international routes in key countries		■	■					
	Mobilize government support (in key nations) for large scale demonstration projects	■	■				$2-4bn by 2025 [3]		
	Increase public finance (i.e. grants, loans) for zero-emission pilots and RD&D	■	■						
	Key nations provide financial incentives for creation of zero shipping routes (e.g., subsidies, grants, reduced levies)		■	■					
	Other countries ramp up financing for large scale demonstration projects		■	■					
	Spread of finance schemes and market-based mechanism for shipping globally			■	■				
Demand	Freight purchasers commit to price premium for zero emission freight and commercialize zero-emission shipping to consumers	■	■			20 commit	20 active		
	Shipowners, charterers and freight purchasers conduct feasibility studies for mid-term SZEF demand with potential producers	■							
	Container freight purchasers participate in system demonstrations	■	■				20 active		
	Freight purchasers market/commercialize zero-emission shipping to end customers		■	■			50 active		
	Freight purchasers commit to use zero emission shipping by 2040	■	■			10 commit			50 commit
	Broad coalitions commit to achieving 10 decarbonized deep sea routes by 2030	■	■					10 routes by 2030	
	32 developed nations decarbonize domestic shipping to 30% by 2030	■	■	■				32 nations at 30%	
	Leading countries issue domestic shipping tenders with zero carbon clauses and set out plans for inter-modal zero fuel usage		■	■					
Technology and Supply	Key shipping industry actors commit to net zero by 2050 and adopt SBTi	■				20 ship owners join Race to Zero			
	Cross-industry collaboration to develop smaller zero-emission ships	■	■			6 collaborations [4]	20 collaborations [4]		
	Green hydrogen supply scaled up and electrolysis costs come down		■	■			Hydrogen production at $2/kg		
	Develop small scale green zero emission fuel production facilities [in leading countries]	■	■			25 facilities [5]	50 facilities [5]		
	Development of first "Green Corridors" for zero-emission shipping	■	■				Minimum 5 deep sea corridors		
	Shipping companies commit to buying zero-emission propulsion ready vessels	■	■				10 deep sea ships in operation	100 deep sea ships in operation	
	Large-scale demonstration projects demonstrate zero viability		■				10 projects by 2025		
	Majority of international shipping is zero carbon				■				
	Government-energy industry collaboration to scale up affordable renewable energy [in leading countries]	■	■	■			0.13 EJ [6]	0.64 EJ [6]	
	Government-energy industry collaboration to scale up green zero emission fuel production [in leading countries]	■	■	■			0.13 EJ [6]	0.64 EJ [6]	
	Government-industry collaboration on large-scale zero emission demonstration projects [in leading countries]	■	■			2 projects	10 projects		

■ Domestic action
■ Plurilateral action
■ International action

1. 47 developed nations in IMO; 2. e.g., Climate Bonds Initiative; 3. Estimate of $0.5-1bn per large scale demonstration project including 2 ships, 2 ports with infrastructure, fuel production, and 40% government support based on UMAS LNG benchmarks;
4. Across industry segments and geographies; 5. 50 total whereof 10 in developing nations/SIDS/LDCs; 6. 2030 Target needs to be green ammonia or other non-transition option. Renewable energy need 2x fuel need