

EU Emissions Trading System

Impact on transhipment and alternative fuels

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Royal HaskoningDHV is an international engineering and consultancy company





Key messages







EU ETS might lead to shifts in European transshipment routing EU ETS price should be much higher to stimulate alternative fuels Ports and ESPO should monitor market distortions and develop a strategy for offering green fuels

Background

What

Shipping emissions included under EU ETS

When

Gradual phase in from 2024

Why

Boost decarbonisation of the maritime sector



How does EU ETS work?

Application

- EU <> EU (100%)
- EU <> Non-EU (50%)
- Non-EU <> Non-EU (0%)

Clause for 'neighbouring' hubs

- Tanger Med
- East Port Said

Review by end 2025



It is still cheaper to call in a non-EU port

Route 1

- Leg 1: Singapore > Marsaxlokk (50%)
- Leg 2: Marsaxlokk > Rotterdam (100%)
- ETS cost: 550k EUR

Route 2

- Leg 1: Singapore > Port Said (50%)
- Leg 2: Port Said > Rotterdam (50%)
- ETS cost: 429k EUR

Route 3

- Leg 1: Singapore > Damietta (0%)
- Leg 2: Damietta > Rotterdam (50%)
- ETS cost: 169k EUR



Will container liners change their transshipment services?

Liners will not change volumes:

- Capacity constraints at hubs
- Additional feeder cost/time

Liners might optimize their routing:

- Hamburg-Le Havre range:
 - via UK ports (e.g. Southampton)
- West Med
 - via North Africa ports (e.g. Tanger Med)
- East Med
 - via North Africa and Middle East ports (e.g. Jeddah)

Will EU ETS lead to uptake of alternative fuels?



No incentive to shift based on current market prices

E-methanol and e-ammonia

- Either fuel price too high
- Or EU ETS price too low



Operational costs example case: Marsaxlokk - Rotterdam

Going forward less need for subsidies

Example e-ammonia in 2040

Fuel price:

From \$875/ton to \$600/ton

ETS price:

■ From €73/ton to €175/ton

Difference between EU ETS break-even price and forecasted EU ETS price



■ LNG ■ e methanol (zero emission factor) ■ e ammonia

So, are alternative fuels not forthcoming? Not necessarily

EU

- FuelEU Maritime
- AFIR

IMO

- Mid-term measures
- **Public and private initiatives**
 - Price subsidies
 - Supply/demand alignment



European Commission



INTERNATIONAL MARITIME ORGANIZATION





EU ETS might lead to shifts in European transshipment routing

EU ETS impact assessment

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EU ETS price should be much higher to stimulate alternative fuels

Ports and ESPO should monitor market distortions and develop a strategy for offering green fuels



Impact on transhipment





Royal HaskoningDHV has developed own models to assist port authorities prepare for the future

Print screen of EU ETS model

	0	0	0		0				0		Annual Fleet in
	Service I	Service 2	Service 3	Service 4	Services	56	IVICE 5	Service /	Service 8	-	Bulk Carriers
Mainline charter costs	589,301	588,904	1,253,213	1,252,782	1,016,0	139	1,015,691	264,940	224,612		LNG tankers
Mainline tuel costs Mainline ETS costs	199,289	902,873	2,090,122	2,089,349 458,337	1,655, 3.77	9	1,655,114 363,472	335,724	314,203		LPG tankers
Feeder costs (incl handling)		-	-	-	-		-	-	-		Other tankers
Total	1,692,169	1,750,578	3,347,113	3,800,467	2,675,	541	3,034,278	683,273	548,253		Container < 3.00
mparison table - current services											Container 3.000
Service	Total cost (US	Delta (USD)	Delta (%)		4.500.000						Container 8.000
Service 1	1,692,169	u Dena (USD)	Dena (24)		4,500,000						Container 15.00
Service 2	1,750,578	58,408	3%		1,000,000		140				General Cargo
Service 3	3,800,467	453,354	14%		3,900,000			1.5%			RoRo Cargo
Service 5	2,675,541		-		3,000,000						Passenger RoRo
Service 5	3,034,278	358,737	13%		9 300000						Passenger
Service 8	548,253	[135,020]	-20%		5 1000000	2.94					Reefer
					1,000,000	1					Other Dry Cargo
					2,000,000						
					0				-20%		
					-500.000				_		
						Service 1	Service 3	Service 5	Service 7		
mparison table - potential services											
Service	Total cost (US	Delta (USD)	Delta (%)		5.000.000						
Service 9	4,607,700		-		2,000,000	_					
Service 10	4,519,820	87,879	2%		4,000,000						Fuel share scen
Service 12	1,034,885	[385,192]	-59%								Distribution use
Service 13	4,231,745		-		3,000,000						
Service 15	4,403,597	500,055	12/4	-	8 2,000,000 -	2%		12%			Scrapping dist
Service 16	4,186,764	216,833	5%								Alpha
Service 17	178,239	3.512	2%		1,000,000		.50%				Beta
				-	0				1290		
							-				Scrapping dist
					-1,000,000	Service 9	Service 11 Se	envice 13 Service 15	Service 17		Mean
											Standard deviat

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Print screen of global bunker demand model





Thank you for your attention

QR code to publication on EU ETS



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