



Facilitating and simplifying *complex* transport solutions

Presentation

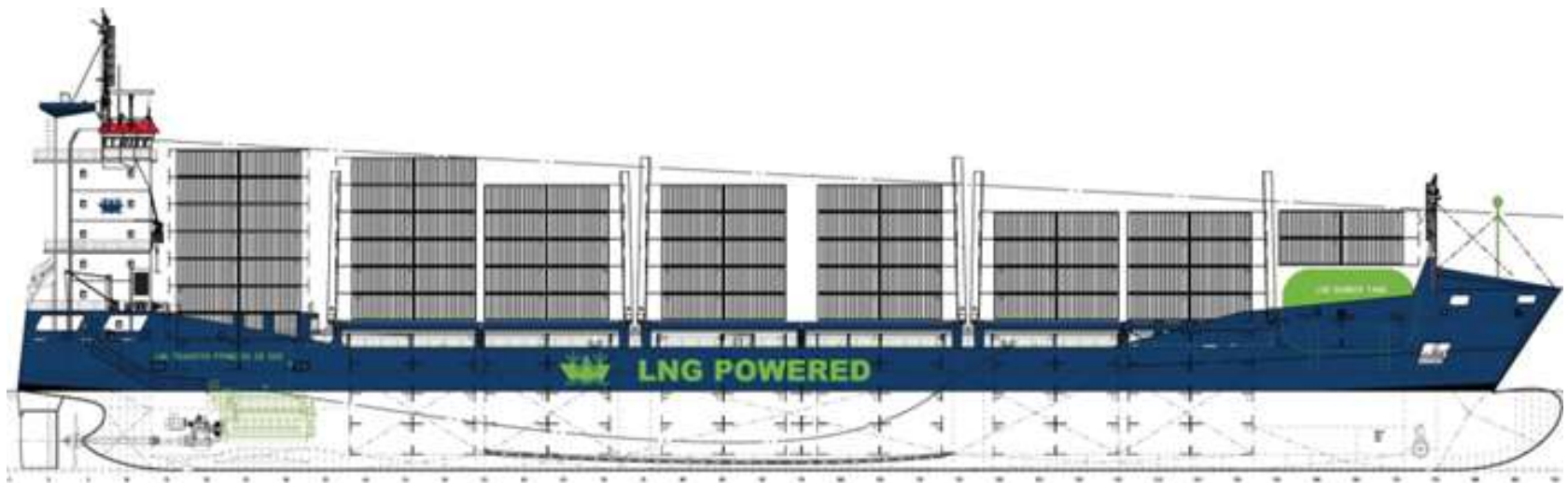
Presentation to: HEKLA LNG Seminar
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UNIFEEDER

WES AMELIE

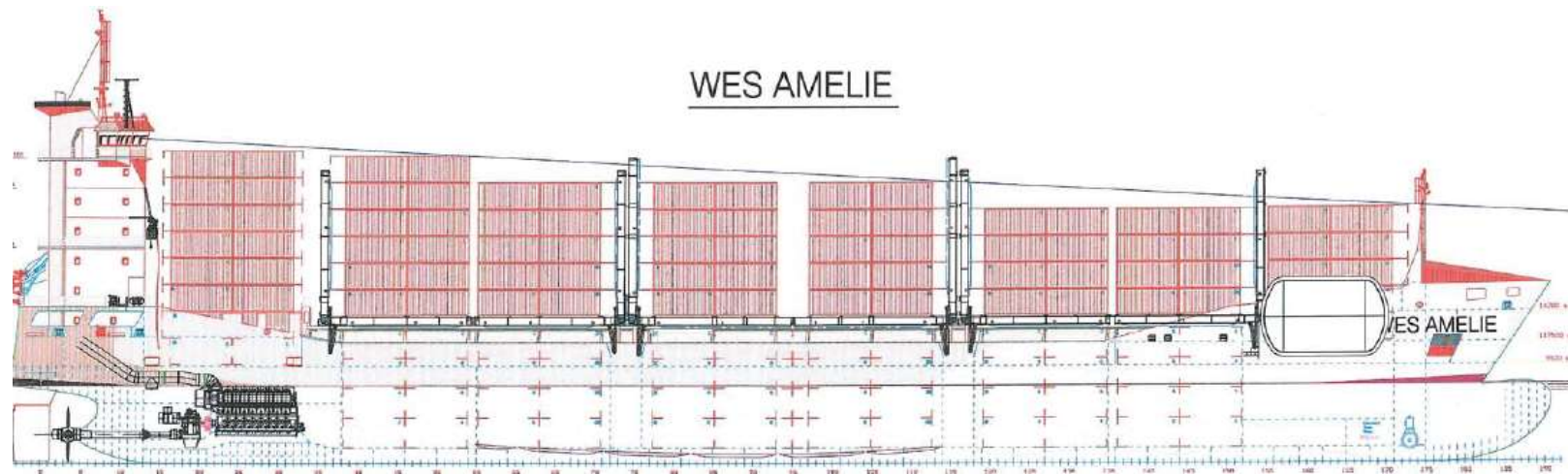
SSW 1.000 Dual Fuel - Version



Conversion – short version

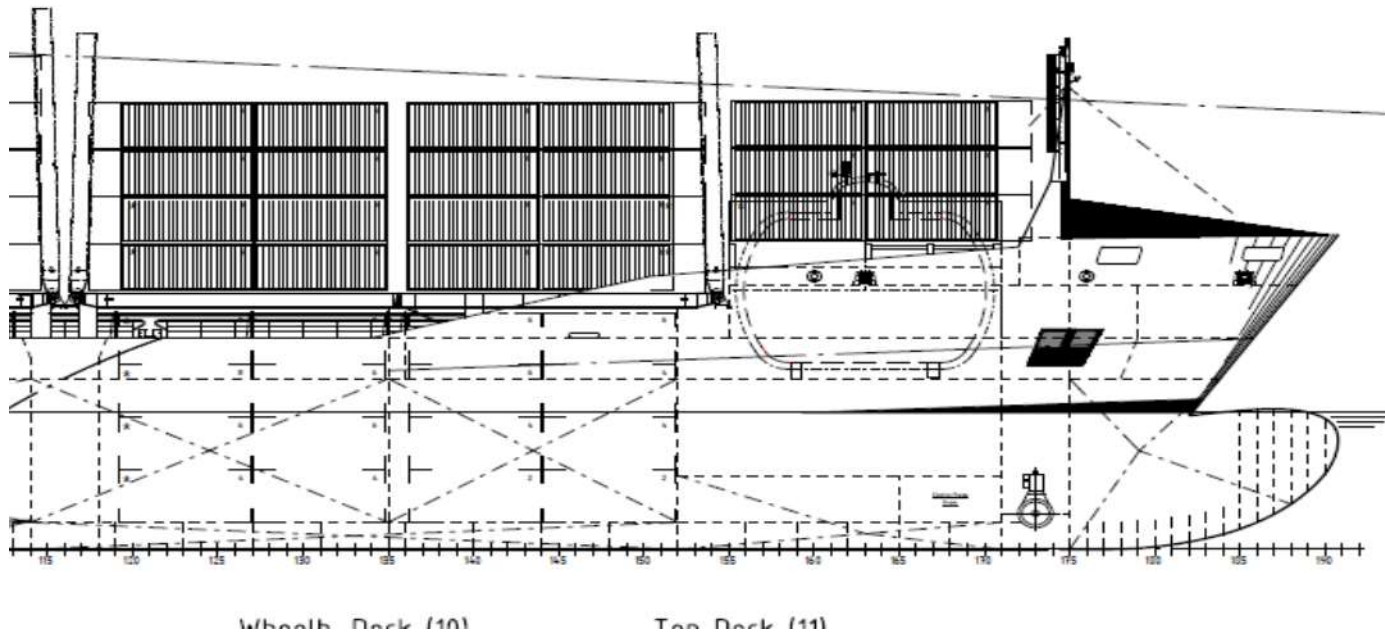
- <https://drive.google.com/file/d/0BzRDbLevsDrCV0VLT3dCMVN6Yzg/view?usp=sharing>

Conversion parts



- Part A) Furnishing the gas valve unit (GVU) room and retrofitting main engine
- Part B) LNG piping
- Part C) Furnishing the LNG-processing room and bunker manifold
- Part D) Tank installation

Tank position



Length: 11,10m
 Diameter: 8,00m
 Weight: 92tons
 Size: 490m³
 Capacity: abt. 400m³

Comparison of basic parameters before & after

	Before	After
Gross Tonnage	10.585	10.935
LNG-Tank Capacity	none	400m ³
Main Engine	MAN 8L48/60 B	MAN 8L51/60 DF
Main Engine KW	9.000kw	7.800kw
Cruising Range on LNG	none	abt. 2.900nm
Max. 14ton 20' Containers	740	711
9'6" HC capability on deck	303 x 40' 303 x 45'	301 x 40' 295 x 45'
MGO consumption @ 18,5kn	37ton/day	37ton/day
LNG consumption @ 18,5kn	-	28ton/day

POSITION	20'		40'		+20'		30'		+20'		45'		+20'		+40'	
	before	after	before	after	before	after	before	after	before	after	before	after	before	after	before	after
DECK FWD	322	322	156	156	10	10	188	188	8	8	62	62	10	10	94	94
HATCH COVERS	514	514	257	257	-	-	257	257	-	-	257	257	-	-	-	-
DECK FWD	68	36	32	18	4	-	32	12	4	12	18	6	4	-	14	12
DECK AFT	132	132	66	66	-	-	66	66	-	-	66	66	-	-	-	-
TOTAL	1.036	1.004	511	497	14	10	543	523	12	20	403	391	14	10	108	106

WES AMELIE after conversion

- Dual Fuel offers different modi operandi: HFO, ULSF, MGO and LNG
- Significant reduction of emissions on LNG mode:
 - -99% SOX , -90% NOX , -20% CO2, - 100% of Particles
- Positiv image effect towards the public, environmental organizations, politicians and investors
- Positive marketing value towards customers

WES AMELIE – bunker operation

- Bunkering at every call in Rotterdam
 - By truck in Waalhaven, 5-6 trucks delivering 100-120 TS
 - Time spend to shift approx 2 hrs
 - Time spend on actual bunkering approx 8 hrs
 - Only spot buying
 - Prefere to bunker at GATE, but our volume too small = truck delivery

Approval procedure

- Procedure agreed with supplier and Port of Rotterdam, a very time consuming process, we get only 8 permits at a time, then new application procedure !
- Port of Rotterdam present with several inspectors at every bunkering – very long check list !

Voyages

- 20 % more miles per KW
- Only had to change to MGO one time due to delivery problems of LNG
- Budget consumption 5000 TS LNG + 500 TS MGO (aux) – pro anno

HEN & EGG

- Bizz case better than anticipated
- Lack of LNG bunker facilities/infrastructure halts new builds/conversions
- Low LNG volume halts building of suitable barges (present barges to big for feeder vessels)
- Regulatory work do not support need for development
- The very strict regulation makes barriers to convert to LNG

- Few LNG vessels = low volume = poor regulation/understanding = high costs
- More LNG vessels = high volume = better regulation/understanding = low costs

Thank You for listening