INTERNATIONAL CONFERENCE REDUCTING AIR POLLUTION FROM SHIPS IN THE MEDITERRANEAN SEA.

Madrid, March 18th, 2019

GOBIERNO DE ESPAÑA

MINISTERIO DE FOMENTO

Index:

- Fuel Inspections and samplings to vessels. Data, penalties applied and prospects for improvement and reinforcement, having in mind the IMO 2020 0,50% global Sulphur limit.
- Projects in which we are working to improve the air quality in our ports and coastal areas, in application of the European Directive 2014/94 on the deployment of alternative fuels infrastructure.
- New projects already launched to transform ships to make them cleaner in air emissions.
- New legislation to comply with the European Directive 2016/2284 on the reduction of national emissions of certain atmospheric pollutants.

SULPHUR INSPECTIONS TO REDUCE SOX.

Number of Ship's Inspections and Sampling obligations according Commission Implementing Decision (EU) 2015/253.

- 10% of Individual Ships to be Inspected.
- 20% of these Ships to be sampled.

Year	2015		2016		2017		2018	
	Target	Done	Target	Done	Target	Done	Target	Done
Number of Ships	961	937	1033	1075	1062	1021	1065	1229
Sampling and analysis	N/A	N/A	206	76	212	160	213	212

- 20 Sanction files for this reason in 2017.
- 29 sanctioning proceedings had been initiated in 2018.
- Amount of fines imposed between 3,000 and 12,000 Euro, having in mind the estimated economic benefits for the non-compliances found during the inspections.
- Planning to increase the amount of fines, due to the increase of fuel prices.

- According to the Sulphur Directive, from 01/01/2020, 30% of vessels inspected to be sampled.

- Regarding IMO 2020, 0,50% global sulphur limit, plan for enforcement checks by the use of sniffers with drones in Strait of Gibraltar Area.

- PSC MARPOL Annex VI Inspections focusing in checks for fuels on board >0,50% sulphur ban.

Directive 2014/94 on the deployment of alternative fuels infrastructure.

LNG C.E.F. PROJECTS:

- "**CLEANPORT**: Alternative fuels and solutions for port's cold-ironing: Standardization of regulatory framework and demonstration of feasible exploitation" - Action Nº 2014-ES-TM-0711-S.
- "**CORE LNGas HIVE**: Core Network Corridors and Liquefied Natural Gas" Action Nº 2014-EU-TM-0732-S.
- **GAINN4SHIP**: "LNG Technologies and Innovation for Maritime Transport for the Promotion of Sustainability, Multimodality and the Efficiency of the Network (GAINN4SHIP INNOVATION)". Action Nº: 2014-ES-TM-0593-S.
- "**GAINN4MOS**: "Sustainable LNG Operations for Ports and Shipping - Innovative Pilot Actions". Action Nº 2014-EU-TM-0698-M.

CLEANPORT:
3,174,529€ Grant.

Port of Barcelona:

Ferry “ABEL MATUTES”

LNG Port Aux. generator: Rolls-Royce Bergen C26:33L6AG: 1.620 KW

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CORE LNGas HIVE: Grant 16,647,880€.
42 Public and Private Enterprises.-

ET0	National Policy Framework
ET1	Technical, safety and environmental specifications of LNG
ET2 **ET3** **ET4**	LNG demand and supply chain analysis for roll out
ET5	LNG social acceptance
ET6	LNG advanced training requirements and vocational programme
WP4.1	Observatory
WP4.5	Dissemination of the results

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CORE LNGas HIVE:

- Adaptation of LNG terminals of the ports of Bilbao, Ferrol, Barcelona and Cartagena to supply LNG to bunker vessels.
- Two engineering studies for adaptation of LNG terminals of the ports of Sagunto and Huelva.
- Construction of a LNG bunker barge for Barcelona.
- Retrofitting of a multiproduct bunker barge to supply LNG. Already in service in Huelva.
- Construction of a LNG powered tugboat for the port of Bilbao.
- Two engineering studies for the construction of Tugboats NG powered, one by CNG and the other one by LNG <500GT.
- Construction of a new containerized LNG generator to supply electric power to the vessels for the ports of Barcelona, Vigo and Tenerife.
- Retrofitting of two straddle carriers to use LNG as fuel.
- New small scale LNG/CNG station for vehicles and small boats in the port of Valencia.
- Retrofit of a port rail locomotive to use LNG.
- Engineering and viability studies for the construction of a new LNG powered SAR & Rescue vessel for our National SAR Agency.

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M/T “OIZMENDI” 1ST MULTIPRODUCT BUNKER SUPPLY VESSEL (HFO/MGO/ LUBEOIL/ LNG) in service.

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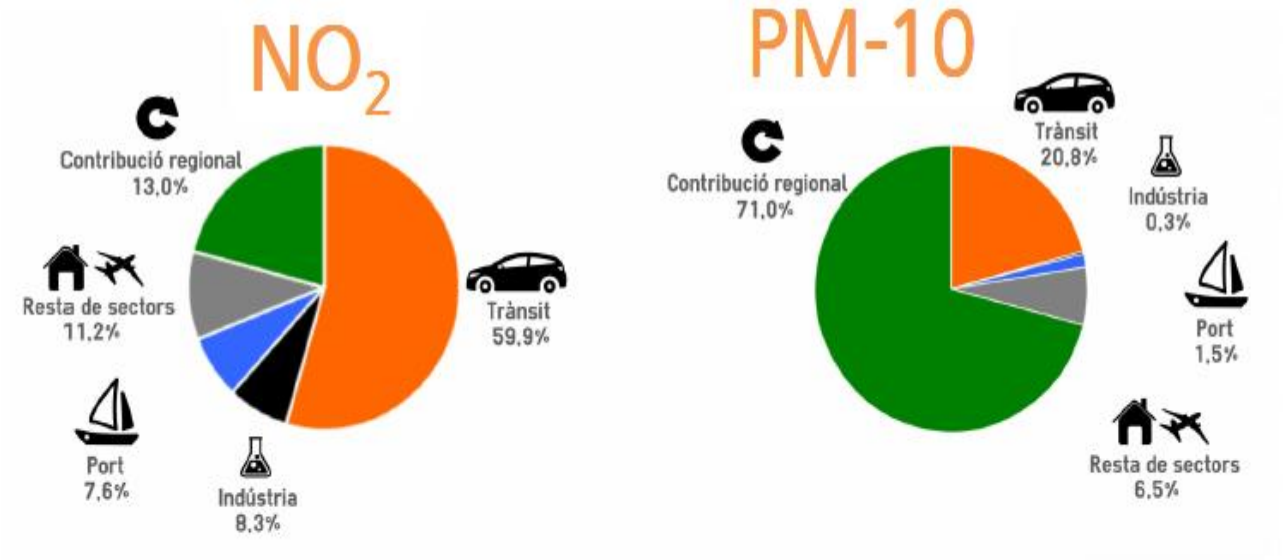

Port de Barcelona

50% + 20% reduction in port fees for vessels powered by LNG or using LNG as fuel during their stay in port.

CORE LNGas hive

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LNG dual-fuel

retrofitted ropax high-speed craft

1st in the World

ga.inn. 4Ship Innovation

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FUNDACIÓN valenciaport

FRED.OLSEN Express

valenciaport
utoridad Portuaria de Valencia

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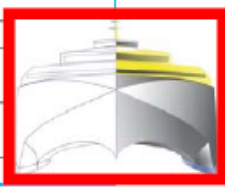
CIMNE

First series of Large High Speed Ferries In Operation

Name	Bencomo Express
Yard Number	INCAT 053
Type of vessel	High Speed Craft 1994
Former Name	F/F "Bentayga Express" (22/09/2004)
Call Sign	EAZD
IMO Number	9206712
Port	Santa Cruz de Tenerife
Flag Registry	18/99 Registro Especial de Canarias
Vessel Number	215330
MMSI	224840000
Shipbuilder	Astilleros INCAT (Hobart, Australia)
Keel Date	01/02/1999
Launching Date	18/09/1999
Seatrials Date	25/09/1999
Delivery Date	02/10/1999
Service starting Date at The Canaries	25/10/1999
Class Society	Det Norske Veritas,
Class number	Id. Nº 21207
Class Notation	✠1A1 HSLC R1 Car Ferry "B" EO Certificate

Waterjets	4 x Wartsila LIPS LJ 150D
	Lips type
	4 x Wartsila LIPS
Shaft Seal	
Stabilizers for trimming	2 x INCAT Trim tabs
Stabilizers for heading	2 x Naiad Dynamics T-foils

Lmax	95,47 m.
Lpp	76,80 m.
L for tonnage	81,404 m.
B max	26,16 m.
B for Tonnage	26,16 m.
D main deck	7,693 m.
d max fwd	4,039 m.
d max aft	4,026 m.
d max amidship	4,013 m.
d light weigth	2,901 m.
Freeboard summer	1,061 m.
Max displacement	1700,03 t
Lightweith displacement	982,10 t
Deadweight	717,93 t
GT	6.344 GT
NT	2.839 NT
Min crew	18 personas
Max pax	871 personas
Speed	38 nudos
Cargo Capacity	330 line meters
Main Engines / Power	4 x Caterpillar 3618 4 x 7.200 KW
Total Power	28.800 KW 39.168 CV
Engine Dry Weight	35,9 tons
Ratio Power/weight	201 kW/ton
Auxiliary Engines/Power	4 x Caterpillar 3406 4 x 230 kW / 415 V / 50 Hz
Gearboxes	2 x Reintjes VLJ 6831 HR 2 x Reintjes VLJ 6831 HL
Geaboxes ratio	1,781:1



Fuel Consumption 2014	10.500 tons
Fuel Consumption 2006	9.500 tons

Project recently cancelled after detailed engineering study completed and full transformation of one engine to the use of LNG as fuel completed.

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Retrofitting of a bunker barge, cancelled after detailed engineering study completed.

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- New Royal Decree 335/2018, and a new Order TEC/1367/2018 modifying the structure of the tolls offered by the regasification plants, to include and reducing the tolls of refilling of ships in order to adapt their structure to allow the bunkering of LNG in small scale.

- The Port of Barcelona carried out three Hazid and Risk Studies for the supplying of LNG to vessels from Truck to Ships and Ship to Ship. Same risk studies were also carried out at the port of Bilbao and another one made at the port of Gijon for MTTS.

- Two big Cruise companies are already interested to call to the port of Barcelona with its new LNG cruise vessels, and one bunker company have shown interest to supply LNG bunker to those vessels and carried out compatibility and Hazid studies to do so. They also were done at the port of Tenerife.

- The shipping company Balearia dedicated to the transport of passengers and cargo between the ports of the peninsula (mainly Barcelona, Valencia and Denia) and the Balearic Islands, and the ports of Algeciras, Almeria and Malaga with Ceuta and Melilla, built two new Ro-Pax to reinforce its fleet by 2019, and one HSC for 2020, all powered by LNG, and has announced publicly its intention to transform six of its other Ro-Pax vessels to the use of LNG as fuel. One of them, the previously mentioned “Abel Matutes”.

Puertos del Estado

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LNGHIVE2 NEW PROJECTS SUBMITTED (2017 CEF BLENDING CALL 2ND CUT)

- LNGHIVE2 VESSEL DEMAND: 75,05 M€ (15,01)
- LNGHIVE2 INFRASTRUCTURE AND LOGISTICS SOLUTIONS: 23,69 M€ (4,74)

Puerto de Gijón

gasNatural fenosa

MTTS AND GAS STATION

gasNatural fenosa

LNG BUNKERING SHIP

enagas

ADAPTATION OF LNG PLANT IN HUELVA AND MTTS

saggas

ADAPTATION OF LNG PLANT IN SAGUNTO

enagas renfe

Puerto de Huelva

Autoridad Portuaria de Huelva

LNG IN MARITIME-RAIL CORRIDOR

MULTIFUEL BARGE

Marflet Marine

RETROFITTING 5 LNG POWERED FERRIES

BALEARIA

NEW LEGISLATION.

- Royal Decree 818/2018, which incorporates into the Spanish legal order the provisions contained in Directive 2016/2284 of the European Parliament and of the Council of 14 December 2016.

Atmospheric Pollutants	SOx		NOx		NMCOV		NH3		$PM_{2,5}$	
	2020-2029 for each year	2030 onwards	2020-2029 for each year	2030 onwards	2020-2029 for each year	2030 onwards	2020-2029 for each year	2030 onwards	2020-2029 for each year	2030 onwards
Commitments to reduce emissions. Reduction compared to 2005 Levels	67%	88%	41%	62%	22%	39%	3%	16%	15%	50%

New Law of Climate Change and Energetic Transition, in preparation, proposed to include the following measures:

- To encourage the development of the use of Natural Gas, with a mix of renewable gas with neutral carbon emissions, to favor the use of LNG as a transition fuel in the maritime transport, through the use of certificates of origin of the renewable gas and exchange of rights of emissions.

- To review the regulatory framework that regulates tolls for the use of the gas network, in order to make LNG supply services competitive as a fuel for maritime transport.

- To review the regulatory framework that regulates the regime applicable to the supply of electricity to ships berthed in ports, in order to make these supply services competitive for maritime transport.

- After approval by the European Commission of the corresponding request, to reduce the electricity tax that is provided to the vessels at berth.

- Annual R&D&I aids for the development, renewal and construction of more efficient ships or moved by alternative energies.

- The Port Authorities will:

- Bonus in the Ship's tolls to those who use LNG in their propulsion, as well as vessels that use LNG or electricity supplied from the port to feed their auxiliary services.
- Subsidize the Vessel, Merchandise and Passenger fees for transport operators that loads heavy goods vehicles in Short Sea Shipping lines.
- Reduce the Merchandise fees to those which enters or leaves the port by rail transport.
- Reward in the activity tax to the operators that sign with the Port Authority Agreements of Good Practices on energy efficiency.
- Implement energy efficiency measures and develop renewable energy projects for self-consumption, in line with the Energy Ports Management Guide.
- Include in the bidding documents of criteria for energy efficiency and reduction of polluting emissions for the licenses of port services of towage, mooring and fuel supply, with incentives for companies that use ships and boats that use alternative energies for propulsion and electrical generation, as well as in the dredging works of the ports.

Spanish Maritime Administration position regarding the creation of an Emission Control Zone in the Mediterranean Sea.

As you have seen, Spain is committed to reduce the pollutant ship's emissions.

Spain supports the creation of an ECA in all the Mediterranean Sea, provided that all its coastal countries support it and this is discussed and approved within the International Maritime Organization (IMO), as well as the ECAs of the North Sea and Baltic Sea for SOx and more recently for NOx, were approved.

It must be borne in mind that a large part of the international maritime traffic between the countries of Asia and the Middle East with Europe and America, and vice versa, goes along the Mediterranean Sea and the Strait of Gibraltar, so it seems logical that a possible ECA in the Mediterranean Sea has to be discussed and approved within the IMO.

If this possible ECA were only approved within the countries of the European Union, outside the IMO, it would create a distortion in the navigation routes in the Mediterranean Sea, since a large part of the maritime traffic would be diverted to waters beyond the waters of responsibility of the European countries, but this could not be applied in the Strait of Gibraltar, since it is an International Strait, and therefore a large part of the Spanish coastal areas would continue to be affected.

For this reason, Spain hopes to create an ECA in the Mediterranean Sea with the support of all its riparian countries and the IMO approval.

MANY THANKS.

ANY QUESTIONS?