

# CORE LNGas hive

## PROJECT PRESENTATION

2016

Coordination:





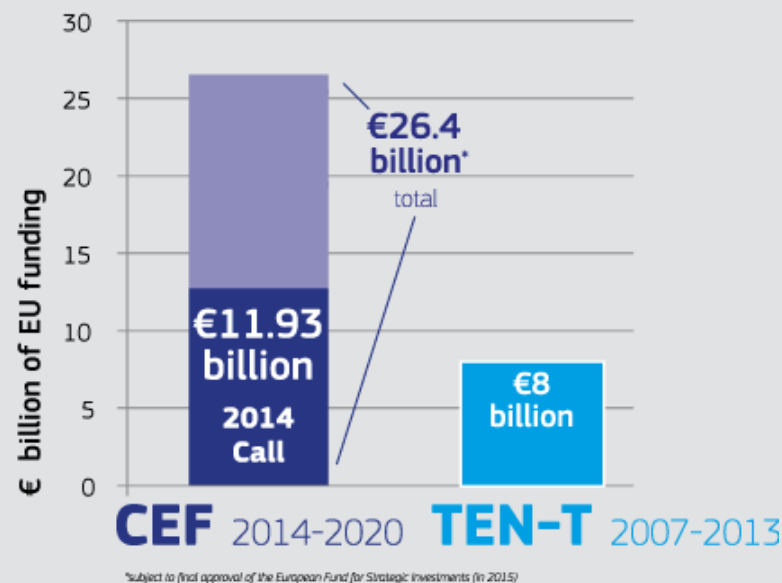
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# BACKGROUND

## 2014 CEF Transport Calls

### CEF FUNDING



### STRUCTURE

ANUAL		Innovation Freight Services Rail freight noise Telematics applications Core Network Nodes Logistics platforms	930 M€
MULTIANNUAL	FO-1	Core Network projects FFCC	6.000 M€
	FO-2	<b>Innovation</b> Safety and Security	<b>160 M€</b> 90 M€
	FO-3	Motorways of the Sea Core Network Nodes Logistics platforms SESAR RIS	250 M€ 500 M€
COHESION F.		Different Rriorities	4.000M€



CORE LNGas hive was granted with the 100% of the requested funds

# OBJECTIVES OF THE ACTION

## DEVELOPMENT OF LNG BUNKERING IN IBERIAN PENINSULA



### REGULATION AND NORMATIVE DEVELOPMENT

To make a **proposal of the National Policy Framework**, in view of fulfilling the requirements of the **Directive 2014/94/EU**



### INFRASTRUCTURE DEVELOPMENT

To define a **roadmap** and an **investment plan to scale up the results** of the Action

# GOALS



Breaking the egg-chicken dilemma, adapting the existing infrastructure (marginal investments) for the supply of LNG bunker and small scale services



Boosting the development of the normative needed around LNG bunker to adequately attend the demand



Developing a safety, robust and secure logistic chain



Enabling the Iberian Peninsula to offer holistic solutions to the new requirements of the shipping sector





# KEY ASPECTS

## COORDINATOR:



## PARTNERS

**42**

8 Public Partners  
13 Port Authorities  
21 Industrial Partners (NG  
operators, ship owners,  
external services)

## TIMETABLE OF THE ACTION

**2014-2020**

## NUMBER OF PROJECTS

**25**

## TOTAL BUDGET

**33,3 M€**

# PARTNERS



# SCOPE



## **REGULATION, NORMATIVE, MARKET**

- Proposal of the National Policy Frameworks
- Studies of demand and development of the logistic chain
- Safety, environmental and technical standards
- Social acceptance of LNG
- Training needs

## **INFRASTRUC. EQUIPMENTS**

- Adaptation of LNG Terminals to offer small-scale services and LNG bunker
- Developments on LNG logistic chain
- Use of LNG in maritime sector and port environment



# STRUCTURE

## ACTIVITY 1 MANAGEMENT

## ACTIVITY 2 STUDIES

## ACTIVITY 3 PILOTS

## ACTIVITY 4 IMPACT ASSESSMENT

WP1.1 Administrative	WP2.1 Transversal	WP3.1 CNC Mediterranean	WP4.1 Observatory on Directive implementation
WP1.2 Technical	ET0 National Policy Framework	EPM1 Barcelona: Dedicated LNG flexible hoses for bunkering	WP4.2 Roll-out and Investment Plan
WP1.3 Financial	ET1 Technical, Safety and Environmental specifications on LNG	EPM2 Barcelona: Barge retrofit for LNG bunkering within the port	WP4.3 Impact ACT-2
WP1.4 Stakeholders	ET2 LNG demand and supply chain analysis for the Roll out (MED corridor)	EPM3 Barcelona: Straddle carrier retrofit	WP4.4 Impact ACT-3
	ET3 LNG demand and supply chain analysis for the Roll out (ATL corridor)	EPM4 Cartagena: dedicated LNG mooring jetty for small scale services	WP4.5 Dissemination of results
	ET4 LNG demand and supply chain analysis for the Roll out (Gibraltar Strait and peripheral regions)	EPM5 Valencia: LNG/CNG mixed station for vehicles and small boats	
	ET5 LNG social acceptance	WP3.2 CNC Atlantic	
	ET6 LNG advance training requirements and vocational programme	EPA1 Bilbao: Adaptation for LNG small scale services in big scale jetty	
	WP2.2 Feasibility	EPA2 Bilbao: Barge retrofit for LNG bunkering in the Cantabrian coast (navigable)	
	EV1 Engineering for new dedicated LNG jetty in regasification plant of Ferrol	EPA3 Bilbao: New tugboat powered by LNG	
	EV2 Rescue boat powered by LNG	EPA4 Ferrol: Adaptation for LNG mixed bunker/big/small scale services in existing jetty	
	EV3 Port locomotive powered by LNG (Tarragona)	WP3.3 Transversal	
	EV4 Tugboat powered by LNG (Barcelona)	EPT1 LNG powered electricity generator mobile unit for OPS	
	EV5 Adaptation for LNG bunkering/small scale services in regasification plant of Sagunto (Valencia)	EPT2 Multimodal transport for LNG logistics supply-chain (rail/road/sea)	
	EV6 Tugboat powered by LNG (Valencia)		
	EV7 Multimodal LNG bunker berth in port of Huelva		

# REGULATION, NORMATIVE, MARKET

## TRANSVERSAL STUDIES

### NATIONAL POLICY FRAMEWORK

- National Objectives
  - Incentives
- Measures to promote demand
- Observatory

### TECHNICAL, SAFETY ENVIRONMENTAL SPECIFICATIONS

- Bunker infrastructures
- Use of LNG in port environment

### LNG ADVANCE TRAINING REQUIREMENTS

- Training needs
- Training centers
- Accreditation processes

### LNG SOCIAL ACCEPTANCE

- Improve social perception
- Advantages of the product
- Smooth landing of LNG

# REGULATION, NORMATIVE, MARKET

## MARKET ANALYSIS

### LNG DEMAND AND SUPPLY CHAIN ATLANTIC CORRIDOR

### LNG DEMAND AND SUPPLY CHAIN GIBRALTAR STRAIT & PERIPHERAL REGIONS

### LNG DEMAND AND SUPPLY CHAIN MEDITERRANEAN CORRIDOR

- To foresee LNG demand along the Iberian façades of the corridors
- To define the most suitable logistic solution depending on distance and demand
- To analyze different business models

# INFRASTRUCTURE, EQUIPMENTS

## ADAPTATION OF LNG TERMINALS FOR BUNKERING

**ENGINEERING FOR A NEW  
DEDICATED LNG JETTY IN  
MUGARDOS LNG TERMINAL**



**ADAPTATION FOR LNG SMALL  
SCALE SERVICES IN BIG SCALE  
JETTY IN BILBAO LNG TERMINAL**



**DEDICATED LNG FLEXIBLE  
HOSES FOR BUNKERING IN  
BARCELONA LNG TERMINAL**



**ADAPTATION FOR LNG MIXED  
BUNKER/SMALL/BIG SCALE  
SERVICES IN EXISTING JETTY**

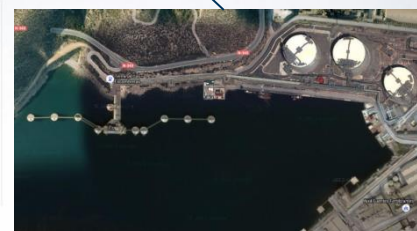
**ENGINEERING FOR A  
MULTIMODAL LNG BUNKER  
BERTH IN PORT OF HUELVA**



**ENGINEERING FOR A NEW  
DEDICATED LNG BUNKERING/SMALL  
SCALE SERVICES IN SAGUNTO LNG  
TERMINAL**



**ADAPTATION FOR A  
DEDICATED LNG JETTY FOR  
SMALL SCALE SERVICES IN  
CARTAGENA LNG TERMINAL**

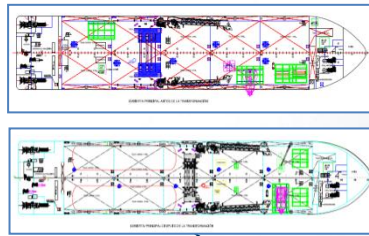




# INFRASTRUCTURE, EQUIPMENTS

## BUNKERING BARGES AND MULTIMODodal LOGISTIC

**BARGE RETROFIT FOR LNG  
BUNKERING SUPPLY IN THE  
CANTABRIAN COAST**



**MULTIMODAL TRANSPORT  
FOR LNG LOGISTICS SUPPLY  
CHAIN (RAIL/ROAD/TRAIN)**



Virtual image of the barge with the two tanks added in the deck (the image shows 50m³ tanks)

**BARGE RETROFIT FOR LNG  
BUNKERING SUPPLY IN THE  
PORT OF BARCELONA**



# INFRASTRUCTURE, EQUIPMENTS

## LNG UTILIZATION IN PORTS

LNG POWERED  
NEWBUILD OF A  
TUGBOAT IN THE  
PORT OF BILBAO



LNG-RETROFIT OF TWO STRADDLE  
CARRIERS IN THE PORT OF BARCELONA



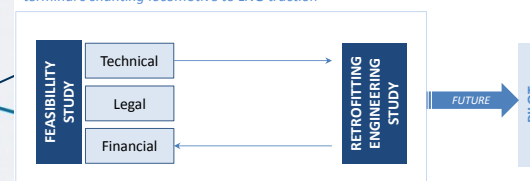
STUDY OF USE OF CNG IN A  
TUGBOAT IN THE PORT OF  
BARCELONA



STUDY OF A LNG-RETROFIT OF A  
RESCUE BOAT



Feasibility and retrofitting study for the conversion of a port terminal's shunting locomotive to LNG traction



STUDY OF A PORT LOCOMOTIVE  
POWERED BY LNG IN TARRAGONA

LNG/CNG MIXED STATION FOR  
VEHICLES AND SMALL BOATS IN  
THE PORT OF VALENCIA



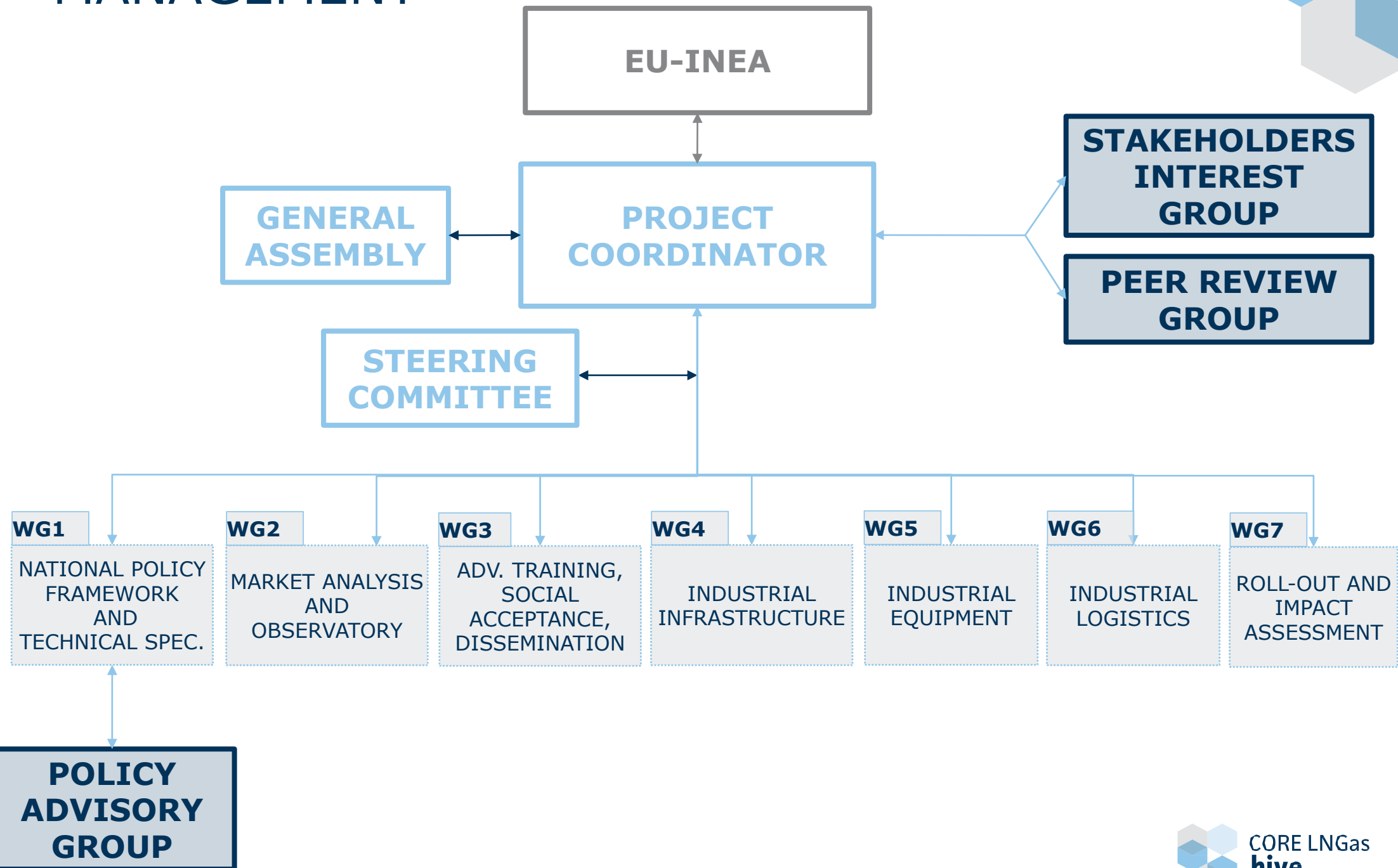
LNG POWERED ELECTRICITY  
GENERATOR MOBILE UNIT  
FOR OPS



ENGINEERING OF A LNG POWERED  
TUGBOAT UNDER 500GT IN THE  
PORT OF VALENCIA



# MANAGEMENT



# Thank you



CORE LNGas  
**hive**

[www.corelngashive.eu](http://www.corelngashive.eu)



Co-financed by the European Union  
Connecting Europe Facility