

Engineering for new dedicated LNG jetty (Mugardos, Ferrol)

EV1

The aim objective of this subactivity is to develop the basic engineering for a new jetty for LNG bunkering.

The risk analysis is completed and the tender for the mooring study have been launched. It is foreseen that the study will finish by the second semester of 2018.



Partners involved



Puerto de Ferrol



After the finalization of the first deliverable "Definition and analysis of the different scenarios of LNG demand", this show the potential demand of LNG in the northwest of the Iberian Peninsula.

Given this opportunity, it is necessary to establish an action plan to promote the use of LNG as fuel, while the logistics chain that allows supply to consumers is developed.

- **EV1:** The Northwest of the Iberian Peninsula has a geostrategic position on the shipping routes and specifically regarding to the Atlantic Maritime Corridor, which belongs to the Motorway of the Sea of Western Europe. In addition, it constitutes the gateway to the ECA areas in Northern Europe.

Every year approximately 40,000 ships that pass through this corridor, navigate on its coasts. Additionally to them, there are 38,541 vessels based in ports in the region.

Moreover, this geographical area has a remarkable infrastructure. Thus, in this area there is a port belonging to the Basic Network, the port of A Coruña, and two belonging to the Global Network, the ports of Vigo and Ferrol. In addition, the ports of A Coruña and Ferrol have both external ports, with depths of 24 and 20 meters, respectively. Regarding to Liquefied Natural Gas (LNG), the Mugaros LNG terminal, operated by Reganosa, and the European leader shipyard in repairing gas carriers, owned by Navantia, are situated in the Ría of Ferrol.

In view of these capabilities, the LNG Hub project was launched in 2013, which initial studies have been co-financed by the TEN-T program in the Annual Call 2012 under the consortium led by Reganosa and in which are involved Navantia, the Port Authority of Ferrol-San Cibrao, the University of Santiago de Compostela, and the local government, Xunta de Galicia, through Instituto Enerxético de Galicia.

In June 2014 the first deliverable of this project, entitled "Definition and analysis of the different scenarios of LNG demand" was completed. In this study of the potential demand of LNG in the northwest of the Iberian Peninsula, it is estimated that by 2030 a demand of 2.2 million cubic meters will be reached.

In this sense, within this study, it has been developed a roadmap where actions that are essential for meeting both objectives are proposed, being one of the key points the establishment of a minimum infrastructure for the supply of LNG. This is the starting point for development, while allowing the increasing demand and, at a longer term, reducing the costs associated with both the technology and the fuel itself. In order to do this, one of the priority measures set out in the roadmap is the adaptation of the infrastructures of the Port of Ferrol to complete the development of the logistics chain that enables loading LNG from a supply vessel to other vessels (ship to ship bunkering).

For the implementation of this measure two phases are considered. In the first one, which is included within the EPA4 activity, it will be conducted the study including a pilot of a solution that ensures the small scale LNG supply while the specific infrastructure for it is not still finalised.

On the other hand, in a second phase, contemplated within the scope of the EV1 activity, the development of the adaptation of the infrastructures of the Port of Ferrol, which was started in the first phase of the LNG Hub, will be continued. Specifically, this activity will proceed to the engineering needed to make future decisions on investment and implementing a second berth from which to stock LNG supply vessels.

Thus, the proposed engineering works within the activity take as a starting point the conceptual design studies conducted during the initial studies, and they are the necessary and unavoidable prerequisite to develop future infrastructures that allow the distribution of LNG as fuel.

The main activities consist of the following:

- Review of previous conceptual design.
- Development of process diagrams.
- Specification of the necessary equipment and definition of auxiliary systems.
- Development of preliminary implementation plans.
- Estimation of the necessary investment.
- Defining the implementation program for the next phase of the project.
- Control and safety studies.
- Preparation of the documents required for the start of the implementation phase and implementation.

As for the expected results of the implementation of this activity, it should be highlighted the contribution of these to the objective of developing the basic transport network, which should be completed in 2030, promoting the effectiveness and visibility of the trans-European transport network. In particular, the implementation of the proposed action will contribute to the development of the core network corridors, namely the Atlantic Corridor CNC-7, supporting an efficient transport system, while the utilization of the capacity in existing infrastructures is optimised.

Moreover, the considered measures are a way to fight climate change and achieve the targets set in European strategies, as they are geared to the development of a European network of an alternative fuel, LNG, which will significantly reduce emissions and decarbonisation of transport.

The leadership of this activity is assumed by Reganosa, a TSO certified company that operates, maintains and manages Mugardos LNG terminal and its associated pipeline network. Therefore, Reganosa has a wide experience in the design and operation of systems identified in the proposed activities. In the same way, it has experience in adapting the access to the terminal depending on the evolution of the fleet of gas carriers.

Meanwhile, the Port Authority of Ferrol-San Cibrao (APFSC) is the public company responsible for the management of the Port of Ferrol, which is part of the Global transport network. This public administration, in addition to its knowledge of the ships' targeted activities, is responsible for developing the concessions associated with the development of the proposed infrastructures.

Finally, the Port Authority of A Coruña has joined the project as a stakeholder, which is, in addition, one of the main ports of the region and is part of the Basic trans-European transport network.