LNGHIVE2 Strategy
Decarbonising maritime transport

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The **LNGHIVE2** strategy aims to develop the technology and regulations necessary to deploy the infrastructure for the development of LNG as an alternative fuel.

- Innovation project + roll-out. From 50% to 20% subsidy.
- Aligned with the European Regulation on alternative fuels and Spanish MAN.
- Basis for the development of new decarbonisation policies. LNG as a carrier for renewables + H2.
2. Partners
Since 2015, with the start of the CORE LNGas hive project, a total investment of €248 million has been accumulated to boost the development of LNG as a maritime fuel in Spain.
4. Key Aspects

- **COORDINATOR**: LÍDER
- **PARTNERS**: 49
  - 8 Publics Partners
  - 13 Port Authorities
  - 28 Industrial and Shipping partners
- **STAKEHOLDERS**: 81
- **PROJECTS**: 43
- **TOTAL BUDGET**: 242 M€
  - Total Funding 58 M€
- **TIMELINE**: 2016-2024
5. LNG bunkering development in Spain

LNG Bunkering operations

LNG Bunkering m³

Fuente: GASNAM
6. LNG- fuelled vessels in Spain

### Vessels

Currently, there are 11 ships operating on LNG in Spanish waters on a regular basis. These ships belong to cruise companies such as Aida, Costa and P&O and Balearia shipping company, which has 9 Ro-pax ships.

### Emissions avoided annually

- **1,700 t SOx** Evitadas
- **205,000 t CO₂** Evitadas*
- **12,000 t NOx** Evitadas

**Equivalente**

- **134,000 vehículos**
- **1,68x flota vehículos Eléctricos España**

(*) Estimated saving from vessel 1.12 t CO₂/kW
### DIRECT IMPACTS

- The HIVE project has supported a large part of the **INVESTMENT** in LNG as a marine fuel.
- It has significantly **REDUCED** pollutant and **GHG EMISSIONS**.
- It has collaborated and assisted in the elaboration of the necessary **REGULATION** for the implementation of LNG.

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<tr>
<th>DIRECT IMPACTS</th>
<th>INDIRECT IMPACTS</th>
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<tbody>
<tr>
<td>• 54M € public budget</td>
<td>• 261M € indirect and induced expenditure</td>
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<tr>
<td>• 242M € total budget</td>
<td>• 1,624 indirect and induced jobs</td>
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<td>• 757 eq jobs created</td>
<td>• Multiplier 840% of public expenditure</td>
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<td><strong>34,000 t CO2 annual savings</strong></td>
<td><strong>420,000 t CO2 annual savings</strong></td>
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<td><strong>48.5 M€ annual savings</strong> in external costs, including other pollutants</td>
<td><strong>289M € annual savings</strong> in external costs</td>
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- **Compliance 2014/94**
- Safety guidelines for port operation
- Emergency personnel training and shore operation

- Gas system tolls
- Homogeneity in the regulation of bunkering service
- Conscious" regulation and easy stakeholder dialogue
Muchas Gracias! Thanks!

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