

MED ATLANTIC ECOBONUS



Co-financed by the European Union
Connecting Europe Facility

ADDRESSING EXTERNALITIES IN MED ATLANTIC ECOBONUS

PRESENTATION AT RORO SECA WORKSHOP
June 6th 2017

FACTSHEET:

Project	MED ATLANTIC ECOBONUS (2014-EU-TM-0544-S)
Call	CEF 2014
Priority	Motorways of the Sea
Member States	SPAIN, ITALY, PORTUGAL, FRANCE
Beneficiaries	Puertos del Estado (ES) Ministero delle Infrastrutture e dei Trasporti (IT) Instituto da Mobilidade e dos Transportes (PT) Ministère de l'Environnement, de l'Énergie et de la Mer (FR)
Implementing bodies	Rete Autostrade Mediterranee S.p.A. Rina Services S.p.A.
Coordinator	Puertos del Estado (ES)
Schedule	Start date: July 2015 End date: November 2018e
Budget	1,543,838 € (Funded 50%)
Contact	Puertos del Estado, ES agongora@puertos.es

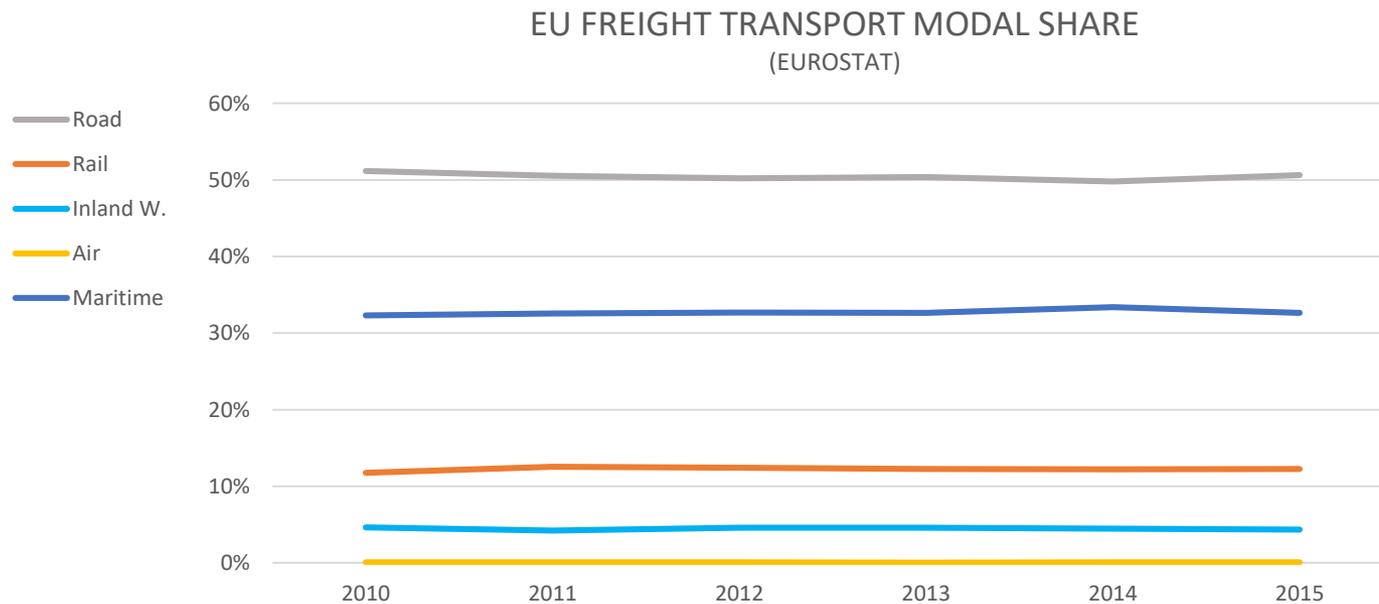
OBJECTIVES

- The Project aims at analyzing the viability of a new coordinated **incentive scheme to demand for Motorways of the Sea** delivering clear positive impacts to the environment and society. It stems from the cooperation of the Ministries of Transport of Spain, France, Italy and Portugal.
- It is conceived as a **feasibility study** contributing to the development of EU transport policy with **no preconceived results, but building upon previous experience and current framework and initiatives**.
- The initial scope is the Atlantic and Mediterranean markets. However, the study will be structured considering the **potential transferability** of the scheme to other EU regions and modes.
- The **viability of the scheme** will be analyzed considering its different elements (technical, legal, financial, technological, etc.) and the consensus reached with stakeholders. The findings and recommendations will be supported by an impact assessment.



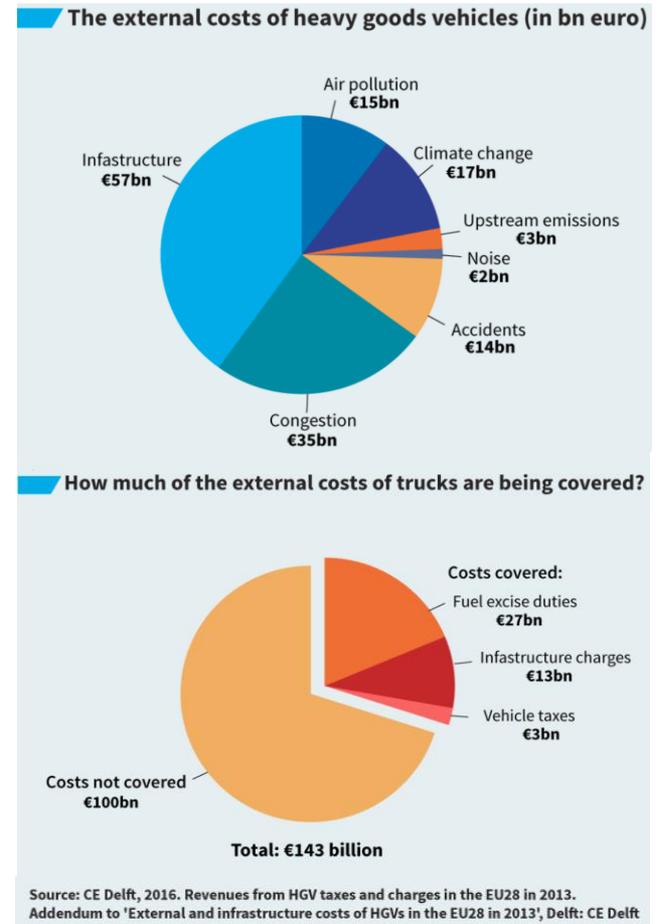
Rationale

- Current intra-European freight transport mode distribution illustrates the predominance of road, despite its impacts. *Could we add a pie for that (modal shares)?*
- **External costs** are not reflected in market prices of freight transport and hence they are **not taken into account** in transport decisions of transport companies and shippers.
- Rail, IWW, and MoS would reach higher shares if such external costs were to be **internalized** in the transport price across all modes.



Rationale

- According to a CE DELFT report, heavy freight vehicles taxes and tolls **do not even cover their infrastructure use cost**.
- Internalization of external cost was the goal of the Eurovignette Directive (1999/62/EC) that is facing great **implementation difficulties**. Revised or new policies / approaches are needed.
- Incentivizing “green modes” with an Ecobonus would **mirror the policy of road charging** following the “user pays” and “polluter pays” principles.



SOX DIRECTIVE

DIRECTIVE (EU) 2016/802 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 11 May 2016
relating to a reduction in the sulphur content of certain liquid fuels
(codification)



(30) Complying with the low sulphur limits for marine fuels, particularly in SOx Emission Control Areas, can result in a **significant increase in the price of such fuels**, at least in the short term, and can have a negative effect on the competitiveness of short sea shipping in comparison with other transport modes, as well as on the competitiveness of the industries in the countries bordering SOx Emission Control Areas. Suitable solutions are necessary in order to reduce compliance costs for the affected industries, such as allowing for alternative, more cost-effective methods of compliance than fuel-based compliance and providing support, where necessary. **The Commission should**, based, inter alia, on reports from Member States, **closely monitor the impacts of the shipping sector's compliance with the new fuel quality standards**, particularly with regard to **possible modal shift from sea to land-based transport** and should, if appropriate, propose proper measures to counteract such a trend.

(31) Limiting **modal shift from sea to land-based transport** is important given that an increasing share of goods being transported by road would in many cases run counter to the Union's **climate change objectives and increase congestion**.

(32) The costs of the new requirements to reduce sulphur dioxide emissions could result in modal shift from sea to land-based transport and could have negative effects on the competitiveness of the industries. **The Commission should make full use of instruments such as Marco Polo and the trans-European transport network** to provide targeted assistance so as to minimise the risk of modal shift. **Member States may consider it necessary to provide support to operators affected by this Directive in accordance with the applicable State aid rules.**

PROJECT MAIN ACTIVITIES



- The project starts with a **DIAGNOSIS**, reviewing existing information about previous incentive schemes to promote modal shift in Europe.
- These findings will provide the input to the scheme **FORMULATION**. Learnings from previous experiences as well as current situation, European strategy and transport policy will be taken into account.
- A proposal for a new incentive scheme would then be exposed to all stakeholders to build the necessary **CONSENSUS** leading to possible implementation.
- An **IMPACT ASSESSMENT** will be elaborated, using the reference budget stemming from the formulation and consensus.
- In case of positive assessment, and stakeholders acceptance, a roadmap for implementation will be elaborated as an **ACTION PLAN**.
- Results of the project will be broadly communicated through **DISSEMINATION** event/materials.

DIAGNOSIS FINDINGS

Marco Polo I, II

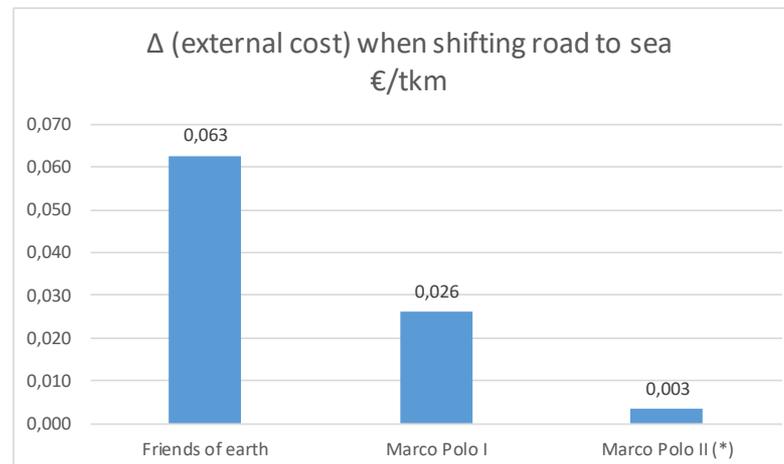
TEN-T

National and regional
programmes

Legal framework

Italian Ecobonus

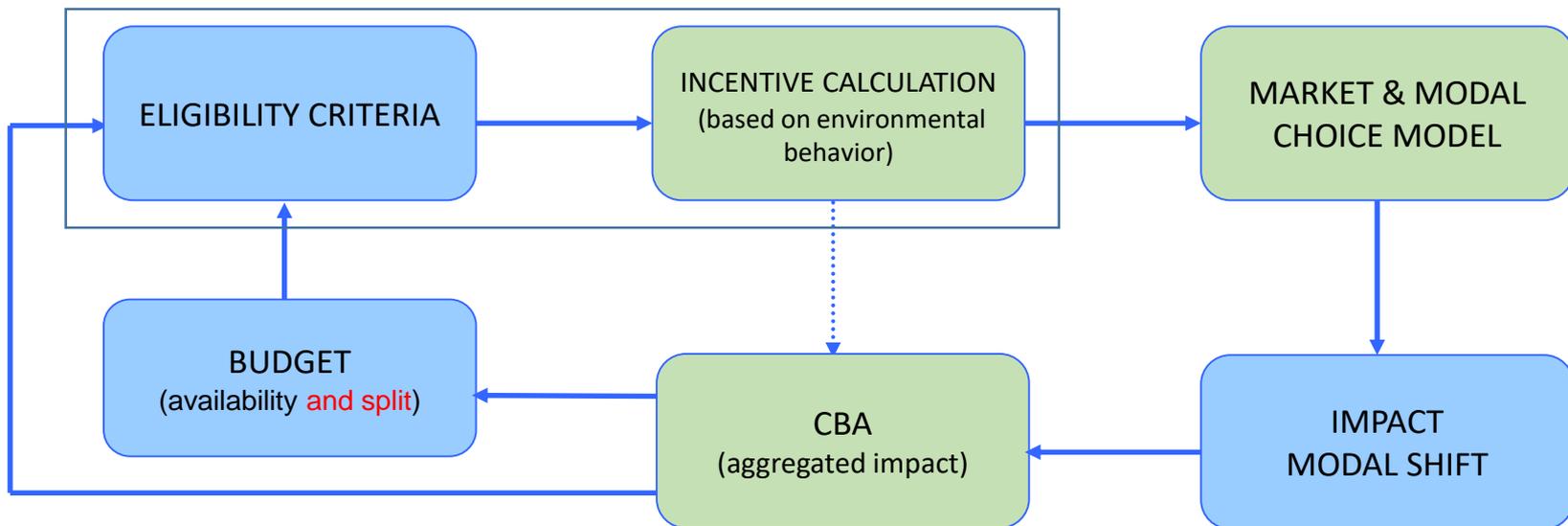
- Marco Polo has turned into TEN-t (from modal shift to greener shipping)
- However, modal shift is still anchored in the EU transport policy and in the scope of several programs at national level
- The incentive foreseen shall demonstrate positive environmental effects (reducing negative externalities) and be applied in a non-discriminatory way
- Deadweight needs to be addressed
- External costs calculation is extremely variable depending on the methodology



SCHEME FORMULATION

- IT HAS TO BE CLEARLY BASED ON ENVIRONMENTAL ACHIEVEMENTS
- ADDRESSING GREENING OF TRANSPORT TO MEET TEN-T **OBJECTIVES**
- **BUILT** UPON TRANSFERABLE PRINCIPLES AND AGREED/COMMON TOOLS

SCHEME DEFINITION



TOOLS

Three technical pillars are at the core of the scheme formulation:

Externalities
Calculator

Modelling

CBA
methodologies

- To ensure transferability at EU level these three pillars need a common and accepted approach, based on European standards.
- This is particularly a challenge with External Cost valuation.
- A potential consensus, should be based on relevant, previous and current experiences, projects, initiatives, expert criteria, etc.

TOWARDS A EU EXTERNAL COST CALCULATOR

- Multiple reports, supported by multiple projects but not a single source for an EU approved and up-to-date external calculator available to support transport policies.
- The Joint Research Center, a scientific body of the Commission, has developed reports and tools in the past, but has no assignment to maintain and refine these tools.

- Update of the Handbook (2014)
- Marco Polo calculator (2013)
- External Costs of Transport in Europe (2011)
- Handbook on External Costs - IMPACT (2008)
- HEATCO project
- GRACE project
- CAFE CBA project
- UNITE project
- RECORDIT project
- StratMOS project
- NTM CorridorCalc project
- Supergreen project
- RoRo SECA project
- EcoTransIT calculator
- Clean Shipping Index



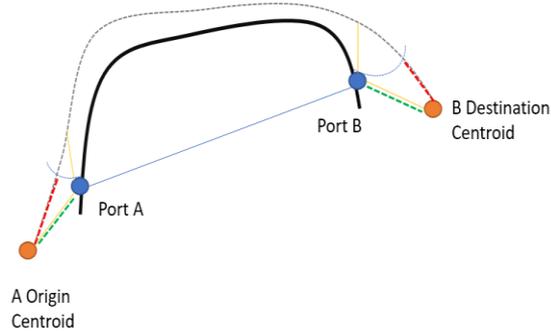
External Cost monetization



€ pollutant t	CO ₂ eq	SOx	NOx	PM
Road	34	11.300	11.700	29.400
Mediterranean	34	6.700	1.850	18.500
Baltic	34	5.250	4.700	13.800
Atlantic	34	2.900	2.250	5.550

€ per 1000 km	Noise	Accidents	Congestion
Road average	2,06	6,03	45,28

Calculation components



- Cargo origin and destination centroids
- Maritime distance (nm) between EU ports
- Alternative road distance (km)
- Road type: urban , rural, motorway, etc.
- Countries crossed
- Bottlenecks



- Vessel speed
- Fuel consumption
- Fuel used
- Air emissions and reduction technologies
- Capacity (RORO, ROPAX, CONRO?) and occupation rate.



- Fleet size
- Fuel consumption
- EURO standard mix

Simulation tool

Route ----> **Barcelona Livorno**

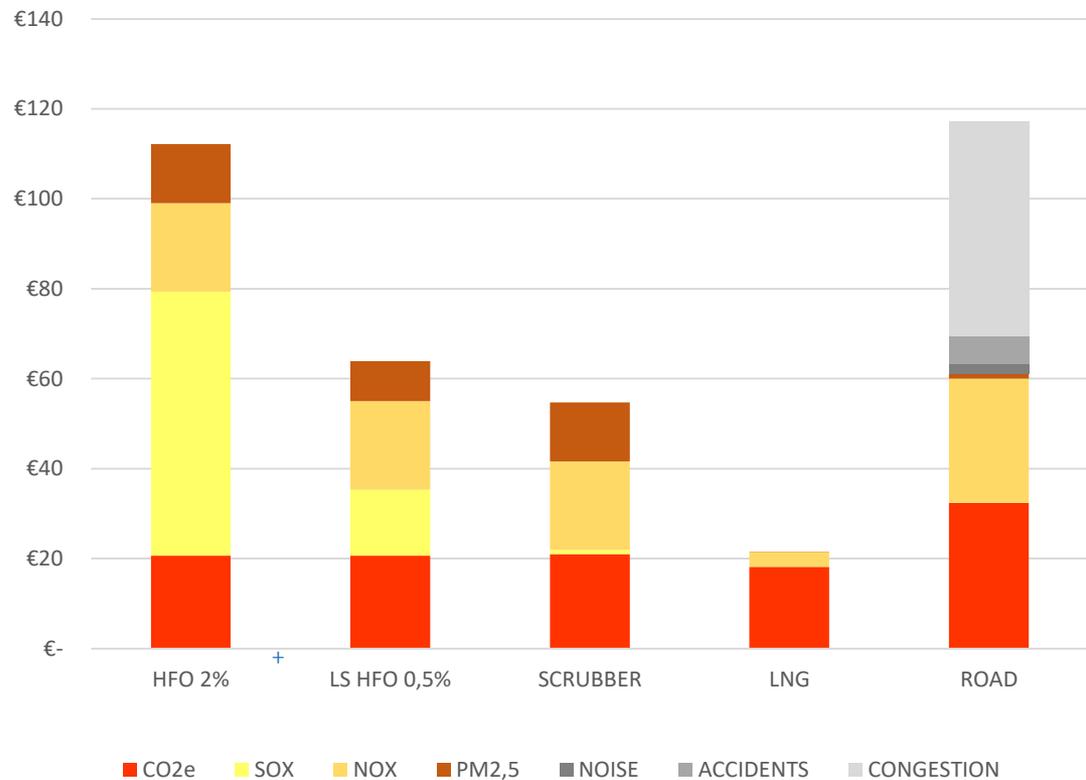
MARITIME DATA		
SHIP	Lane meters	4000
	Occupancy*	70%
	Pax	0
FUEL		HFO 2%S
REDUCTION TECH.		NONE
SPEED		17
YEAR		2016

*Occupancy: Set 65% as default

ROAD DATA	
NUMBER OF TRUCKS	200
AVG. SPEED	86,00

Include SOCIO-ECONOMIC

Barcelona Livorno
RORO 4000 LM 70% OCC. 17 kn



Challenges

EXTERNAL COSTS

- Obtaining updated and accepted valuation/monetization studies/references
- Updating the market average EURO standard of the road fleet
- Monetization of congested bottlenecks, (e.g. Pyrenees and Alpes)
- Monitoring actual vessel emissions (MRV?)
- Calculating or validating cargo centroids
- Characterization of the “average” road itinerary
- Default occupancy rate of vessels
- Disaggregate vessel externalities by cargo units and pax
- Dealing with emission at ports and auxiliary engines
- Harmonizing this policy with future EU road charging policies *beyond our scope?*

ECOBONUS

- Making the scheme transferable at EU level (agreeing the comprehensive approach, key principles/criteria and main tools, in particular the externalities calculator)
- Identify the potential modal (back) shift of an environmental driven scheme
- Narrow the eligibility criteria to only address pure modal shift, avoiding deadweight and competition distortion
- Legal framework, both under TEN-T regulation to be co-founded under CEF and state aid approval regime
- Secure the funding (multiple sources)
- Implement a smooth and optimised administrative process
- Achieve the wider stakeholder consensus (industry, academic, institutional...)
- Achieve positive cost-benefit & impact results
- Make it “reusable” by other modes and markets