

POLICY INSIGHTS

**MOTORWAYS OF THE SEA
INCENTIVE SCHEMES:
LESSONS LEARNT AND
PERSPECTIVES**

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I. ABSTRACT

The explanatory note aims at providing a general overview on the incentive programmes targeted to Short Sea Shipping, and specifically to Motorways of the Sea (MoS) segment, in which Rete Autostrade Mediterranee as in house agency of the Italian Ministry of Infrastructures and Transport is involved.

The document will synthetically depict the main elements, such as the general objectives, the beneficiaries, the incentive mechanism as well as the expected or obtained results, featuring three subsidies programmes addressed to Motorways of the Sea services deployment:

- firstly, a programme implemented during the 2007-2010 time frame at national level: Ecobonus;
- secondly, a current programme under implementation at national level: Marebonus;
- finally, a CEF Transport Action performing a study for the establishment of an incentive scheme for MoS at EU level: Med Atlantic Ecobonus;

The 2013 guidelines for the further development of the Transeuropean Transport Network (TEN-T) introduced a new approach towards a true network dimension of the common transport system, where the objectives of integration, sustainability and greening technologies in transport are firmly addressed as means of reducing the negative impacts of the transport activity on the environment. In this context, the 2013 guidelines brought the further development of sustainable freight transport services as part of the network contributing to a more efficient and greener transport. Thus, complementing the pure infrastructural approach used in the past. Moreover, environment is currently one of the major challenges for transport operators in the ever-increasing strict regulation aiming at reducing polluting emissions and stopping the climate change, with an immediate impact on the maritime transport regarding the regulation on Sulphur content of the maritime fuel entering into force by 2020.

Firmly believing that MoS is already an EU successful story and that the compliance to the new environmental stricter regulation could represent a chance to strengthen the competitiveness of the EU Short Sea Shipping sector, it is worth mentioning that the current MoS incentive schemes are regulatory-based on the 2008 EU State Aid Guidelines for Motorways of the Sea. A regulation conceiving financial aids just for the start-up phase while the new challenge is to support and to enhance MoS services, avoiding modal back shift due to new "green" fleet investments and higher operational costs of ship owners.

MoS are environment-friendly and they are going further beyond to be more and more green. The external costs saved in a single EU Member State are external costs saved in the whole EU.

OVERVIEW

The identified need at system level to stimulate a balance among the different freight transport modes by encouraging intermodal transport and, in particular, the modal shift by strengthening Short Sea Shipping and the so-called "Motorways of the Sea" led to the "Ecobonus" scheme.

The Ecobonus incentive was launched in 2007 by Italian Government and managed by RAM. It was an incentive for trucks, allocating the subsidy directly to the users of the maritime transport service, in order to promote a gradual shift of heavy goods vehicles from road to sea, by compensating the external costs incurred from road transport in relation to the identified maritime connections on a certain number of eligible routes.

BENEFICIARIES AND INCENTIVE MECHANISM

The incentive was addressed to road hauliers with the objective of fostering a modal rebalance of freight transport on the Italian territory by stimulating systems intended to sustain a gradual growth of short sea shipping modality (the so-called Motorways of the Sea).

Beneficiaries of these incentives were road haulage firms loading on vessels vehicles and swap bodies, accompanied or not by their drivers, in order to cover the sea routes selected by the Ministry, making at least 80 trips per year on each route. The incentive was intended to reimburse the external costs saved thanks to the use of the sea routes detected as alternatives to road transport. For each of these sea routes, a ceiling amount (expressed in %) of the subsidy for every trip performed was set, taking into account the actual difference, for each of the same routes, between the external costs incurred by road transport and those incurred by maritime transport (external costs included those produced by greenhouse gases, air pollution, noise, congestion and accidents).

Moreover, an additional subsidy was granted in favour of enterprises or consortia which reached the yearly level of 1.600 trips for each route.

The cumulative amount of the subsidy could not exceed 30% of the tariffs applied on the existing routes and the grants were provided as a reimbursement (up to 30%) of incurred costs by hauliers.

OUTCOMES AND RESULTS

Ecobonus results per trip made

NUMBER OF TRIPS	2007	2008	2009	2010
National routes	325,819	349,406	372,110	435,388
EU routes	136,030	139,722	107,2013	129,394
GRAND TOTAL	461,849	489,128	479,313	564,782

Source: Rete Autostrade Mediterranee Spa, 2013.

The number of trips on national routes grew fairly regular for the three-year period 2007-09 (about 20,000 trips per year), to increase thereafter up to over 60,000 in 2010.

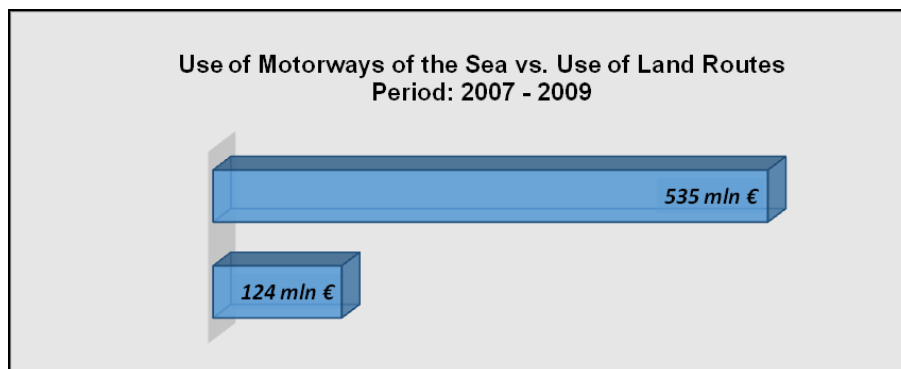
The number of trips on EU routes remained steady in the first two years, and then decreased consistently in 2009. This drop resulted tightly linked to the crisis of the Spanish GDP, as all the routes benefitting of the incentive were either to or from Spain. In 2010 the trend returned positive.

The Ecobonus then relieved the roads of about 500 thousand trips by articulated lorry for each year.

Furthermore, the Ecobonus led road haulage firms to increasingly opt for travelling by sea over the years.

In 2013 the National Technical University of Athens carried out a cost-benefit analysis on Ferrobonus and Ecobonus, highlighting the advantage for the community in terms of environmental and social cost saving as represented in the figure below.

Social and environmental costs incurred in the three-year period 2007-2009.



Source: D.Tsamboulas, Ecobonus&Ferrobonus. A socio-economic evaluation, 2013

The overall benefit in the period of validity of Ecobonus has been quantified in 411,000,000 euro obtained by using the following values, according to a report by *Associazione Amici della Terra*¹:

- 0.137€/km for sea transport
- 0.379€/km for road transport

The results of Ecobonus cost-benefit analysis have been applied to three different scenarios (2013, 2016 and 2020), and here below it is shown the estimation carried on for 2013 which is based on effective and actual data just one year after the end of the Ecobonus programme.

CBA Ecobonus for 2013

				2013
COSTS				
Total number of trips funded by ECOBONUS	Vehicle Trips	<i>a</i>		556.093
ECOBONUS per trip	€/trip	<i>b</i>		120,8 €
ECOBONUS Investment cost	€	<i>c</i>	<i>a x b</i>	67.173.132,51 €
BENEFITS				
Total Number of trips on eligible routes	Vehicle Trips	<i>d</i>		795.263
Volume shift 2013	%	<i>e</i>		
Diverted traffic from road (2013)	Vehicle Trips	<i>f</i>	<i>d x e</i>	41.708
Average Distance by land	Road kms (Sicily-Rome)	<i>g</i>		
Average Distance by sea (RoRo)	Sea Leg kms (Sicily-Civitavecchia)	<i>h1</i>		
	Road Leg kms (Rome-Civitavecchia)	<i>h2</i>		
Shipping cost per trip	€/trip	<i>i</i>		489,1 €
User Benefits	<i>(Funded trips-Diverted trips)*ΔC + 50%*Diverted trips*ΔC</i>	<i>j</i>		372.197.236,09 €
Vehicle Kms by road saved	Veh-kms	<i>k</i>	<i>f x (g-h2)</i>	35.660.586
External Road Costs saved	0,553€ per veh-km	<i>l</i>	<i>X x k</i>	19.736.993,34 €
Vehicle Kms by sea added	Veh-kms	<i>m</i>	<i>f x h1</i>	20.061.687
External Maritime Costs (RoRo)	0,383€ per veh-km	<i>n</i>	<i>X x m</i>	7.688.709,57 €
Total Benefits		<i>o</i>	<i>j+l-n</i>	384.245.519,85 €
NET BENEFIT		<i>p</i>	<i>o-c</i>	317.072.387,34 €
Net Present Value (NPV)		<i>q</i>		317.072.387,34 €
% Return of Investment		<i>r</i>	<i>o/c</i>	572%

Source: D.Tsamboulas, Ecobonus&Ferrobonus. A socio-economic evaluation, 2013

¹ Report Amici della Terra, 2008.

III. MAREBONUS (2017-2018)

OVERVIEW

Following the positive experience of the Ecobonus Incentive (2007-2010), the Italian government, through the implementing body RAM, decided in December 2015 to allocate financial resources in order to boost MoS services through the 'Marebonus' instrument (approved by EC with decision C (2016) 8459 19 December 2016).

The objective of Marebonus is to support the launch of new maritime services for combined freight transport (MoS) or the upgrade of existing services for combined freight transport (MoS), sustaining so the whole intermodal chain and thus generating environmental and wider social benefits from reduced lorry journeys on the road network. Differently from the Ecobonus scheme, which was substantially dedicated at ensuring a sustainable start-up development of MoS services in Italy, the aim of Marebonus was to further enhance the modal shift from road to sea transport, supporting thus the deployment of MoS services.

Marebonus, with its allocation of 118M € (42 M € in 2017 and 76 M € in 2018), provides grants to ship-owners (up to 30% of operational costs) with the intention to offset some of the additional costs of switching to a more environmentally friendly mode of transport, with the commitment to transfer at least 70% of the aid received as discount or reimbursement to end users/road hauliers.

BENEFICIARIES

Marebonus is dedicated to ship owners and liner companies, also in form of consortia or through slots agreement, based in one of the European Union or the European Economic Area, which submit three-year projects for the realization of new Ro-Ro and Ro-Pax shipping services for multimodal transport of goods or the improvement of services on existing routes, arriving and departing from ports in Italy, connecting ports situated in Italy or in other EU Member States or the European Economic Area.

INCENTIVE MECHANISM

The incentive may vary until an established maximum of 10 euro cents per embarked units multiplied by each kilometer of road avoided. Eligible routes and distances in kilometers of road avoided are contained in an implementing decree issued after the ministerial decree.

INDIRECT CONTRIBUTION SHARING SYSTEM

In order to reinforce the intermodal chain and the financial sustainability of the projects to be implemented, the beneficiary will be required to allocate annually for customers who have made at least 150 shipments of transport units per year, a quota of at least 70% of the grant received. That percentage is raised to at least 80% for firms that have embarked at least 4000 shipments of transport units per year.

EXPECTED RESULTS FROM THE APPLICATION RECEIVED

Considering the application gathered at the closure of the call for proposal, we provide you some estimated analyses on the potential impact of the scheme.

The unit value of the contribution for each embarked unit should be between 0.03 cents euro and 0.05 cents euro (year 2017/18).

51 requests for access to the contribution were received from 7 companies:

- 11 new services projects: 8 (equal to 72.7%) are national and 3 (27.3%) are international; all are Ro-Ro;
- 40 improvement projects: 23 (equal to 57.5%) are national and 17 (42.5%) are international; 22 (equal to 55%) are Ro-Ro and 18 (equal to 45%) are Ro-Pax.

Type of projects	Scope of MoS route	Nr.	Segment	Nr.
New MoS Services	National routes	8	RoRo	11
	International routes	3	RoPax	0
Upgrading existing MoS services	National routes	23	RoRo	22
	International routes	17	RoPax	18

Based on the application received, it is expected to support new investments on MoS services serving Italian Ports for 538,1 Mln€ on a three year horizon, with a leverage effect of a 4.5 multiplier: 118 Mln of subsidies have triggered 538,1 Mln of investments on RoRo and RoPax services, especially on "greening" the MoS fleets.

Furthermore, taking into account only the new MoS services projects, the following estimation can be calculated:

- an additional 104.800 lm of weekly capacity (around 7,5% of the current MoS offer in Italy);
- 190.000 Heavy Duty Vehicles diverted from roads;
- 45,72 Mln € of external cost saved per year².

² Calculation based on "Update of the Handbook on External Costs of Transport" Report for the European Commission: DG MOVE, Ricardo-AEA/R/ED57769 Issue Number 18th January 2014;

OVERVIEW

The Med Atlantic Ecobonus (MAE) Action is an institutional study co-financed by the European Union CEF Transport Programme (Action nr. 2014-EU-TM0544-S) performing a comprehensive analysis on the potential use of eco-incentives measures to stimulate sustainable freight transport services in the current TEN-T framework and further CEF mechanism for the 2021-2027 period, open to all EU regions and modes of transport.

In particular, the overall objective of the Action is to contribute to the further policy development of the MoS and its specific objective is to design a new effective and sustainable incentive Scheme (ECOBONUS) which aims to support intermodal freight transportation via the increase of demand for MoS and is aligned with the framework and new priorities of the TEN-T policy. As a result, MAE Action proposes a new approach based on demand as compared to the classic CEF approach based on supply. The proper integration of both approaches within the TEN-T overall policy has the potential of creating important synergies between that can greatly increase the effectiveness of the EU sustainable transport and environmental policies.

Furthermore, the Med Atlantic Ecobonus approach is taking over the recommendations of the Sulphur Directive to avoid negative effects on modal (back) shift as a result of an increase in the price of the maritime ticket.

The project, which started in July 2015, will be concluded by the end of December 2018. Currently a first draft proposal of the incentive scheme has been delivered after intense debate between the partners and involvement of stakeholders.

INCENTIVE MECHANISM

According to the first proposal document, a "dual call mechanism" approach is proposed.

The first call would be addressed to the ship owners while the second would be addressed to the actual and potential users of the maritime services (road hauliers).

With the first call, the ship owners will register in the electronic platform managing the incentive and submit the lines for receiving the incentive by producing evidence of the greener actions that they have taken therein to improve the environmental performance of the maritime service (it is emphasized that this is the main goal of the eco-incentive measure). Only lines that are running at the time of the call would have the possibility to submit into the program. New lines starting after the launching of the call would have to wait to the next call for ship owners to be submitted. The calls for the ship owners are proposed to be annual on a 5 year total duration of the incentive scheme.

At registration, the ship owners will provide all the information needed to assess the environmental merit of the line using the external cost calculator tool, which was developed within the project in order to assess the proposed socio-environmental merit for each line. As a result of the assessment, the list of lines deserving an eco-incentive and the values of such eco-incentives per unit will be published so as to inform the actual and

potential users of these lines. On a yearly basis, following each call for the ship owners, a new list of lines with the corresponding eco-incentives per unit will be published.

After the publication of the first list, the call for the actual and potential users of these lines will be opened. With this call, the eligible users may be registered in the program producing evidence of the boarding events on relevant declarations. Unlike the call for ship owners, in order to minimize additional bureaucracy, this call for the users of the maritime services could possibly remain open for the complete period of the eco-incentive scheme (e.g. 5 years).

FURTHER STEPS

The implementation of the Action needs broad consensus at all levels. If the approach is accepted, the MAE Action could end up being the basis for further support to the development of the sustainable freight transport services component of the TEN-T. Now that the first scheme formulation is ready, it will be disseminated via 2 sectorial workshops in Brussels (8-9.11.2018), 4 national workshops in Italy, Spain, France and Portugal, the final conference in Lisbon (29.11.2018), a webinar presenting the scheme formulation (12.12.2018) and the final workshop in the European parliament (December 2018 tbc). The goal of those workshops is to raise awareness on the incentive scheme and gain feedback from private and institutional stakeholders in order to further perfect the scheme.

V. CONCLUSIONS

The past and current MoS incentive schemes implemented at national level have contributed to the following figures:

- 611 Mln tonnes of freight have been handled via SSS in Mediterranean ports (33% of total EU 28) and Italy has a 35,8% market share of the MED throughput; Italy is also leader for the intra-Black Sea traffic with a 30% of market share;
- in the RoRo segment Italy is the second country for tonnes handled, after UK, with a 21,6% of EU 28 market share;
- in Ro-Pax services, Italy is the leading EU 28 country for total passenger traffic and for national passenger traffic;
- at national level, RoRo traffic is the one that has grown the most in the 2014-2017 time frame (+24,2%), representing 21% of the freight handled in ports (similar market share to containerized traffic)

IT Ports	2014	2015	2016	2017	Change % 2016-2017	Change% 2014-2017	CAGR 2014-2017
Liquid Bulk [Mln t]	170,66	183,26	182,27	187,77	3,0%	10,0%	3,2%
Dry Bulk [Mln t]	72,71	71,42	74,34	71,09	-4,4%	-2,2%	-0,7%
Container [Mln t]	108,33	112,04	117,8	115,11	-2,3%	6,3%	2,0%
Ro-Ro [Mln t]	85,7	90	99,2	106,4	7,2%	24,2%	7,5%
Other general cargo [Mln t]	23,37	21,86	21,92	21,67	-1,1%	-7,3%	-2,5%
Total freight [Mln t]	460,7	478,6	495,6	502,1	1,3%	9,0%	2,9%
Container [MTEU]	10,22	10,18	10,57	10,65	0,8%	4,2%	1,4%
Total passengers [Mln pax]	44,8	44,71	48,7	52,06	6,9%	16,2%	5,1%
Cruise [Mln pax]	10,02	10,78	10,79	9,85	-8,7%	-1,7%	-0,6%
Ferry [Mln pax]	34,79	33,93	37,91	42,21	11,3%	21,3%	6,7%

Source: RAM S.p.A.

- In Italy, MoS traffic counts for 1.5 billion HDV-km, around 9% of the freights moved on national motorways in 2017 with an estimation of 680.000 Tonnes of Co2 equivalent saved, equal to the emission produced by urban traffic in a 1 Mln. inhabitants urban node per year.