

EMOBICITY

Peer Review Report

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1. Policy context and policy challenges encountered

Greece has made some serious progress regarding the uptake of e-mobility at a national level. During 2019 and before the launch of the EMOBICITY project, it was estimated that the e-vehicles were no more than 600 and the number of charging stations was low and unclear (estimation of about 15 public charging stations).

In order to tackle this situation, Greece proceeded in a series of actions to increase the uptake of e-mobility, including:

Legislative measures:

- The legislative initiative for the promotion of e-mobility started about a decade ago in Greece, with the latest addition being Law 4710/2020 (Promotion of e-mobility and other provisions) and thus forming a more complete framework.
- Joint Ministerial Decision 42863/438/2019 determined conditions and technical specifications for the installation of charging points for EV in vehicle service facilities, in publicly accessible recharging points along the urban, interurban, and national road network, as well as in parking lots of public and private buildings.
- As aforementioned, the last major regulatory initiative for the promotion of e-mobility has been Law 4710/2020. Among other, the Law foresees:
 - The establishment of financial and fiscal incentives for the purchase and use of EVs, as well as the development incentives for EV production units and related items.
 - The spatial planning of the charging infrastructure with provision for the installation of charging points in private and public spaces, in new and existing buildings.
 - The simplification of the licensing process, regarding the installation of the EV charging stations.
 - The definition of electric vehicle now includes, in addition to cars, motorcycles, mopeds as well as e-bicycles. The incentives for the development of e-mobility, concern among other the subsidies for the purchase of EVs.

- Furthermore, according to the National Energy and Climate Plan (NECP), by 2030, 30% of all new vehicle registrations should represent electric vehicles.
- Moreover, the Climate Law (currently in the last stages of adoption) foresees among other:
 - o From 2023, one quarter of new corporate cars must be electric or hybrid, with emissions of up to 50 grams CO₂ per km,
 - o From 2030, all new vehicles must have zero emissions,
 - o From 2025, all new taxis and one third of new rental cars in Athens and Thessaloniki will have to be electric

Subsidy programs:

- In August 2020, the Ministry of Energy and Environment officially launched the program “GO ELECTRIC” including direct subsidies for the purchase of EVs, and foreseeing subsidies up to 48,5 million euros until December 2021. The main objective includes the renewal of private and professional vehicles’ fleets (current average age is 15,7 years) and the renewal of taxis’ fleet (currently average age 12 years), through the introduction of EVs.

Individuals – Purchase/Leasing

Individuals can apply for ONE (1) VEHICLE

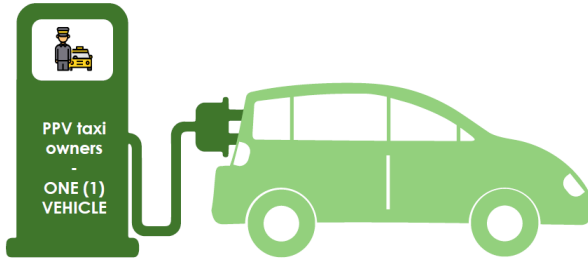
<p>Battery Electric Vehicle (BEV) → eco bonus 20% on Price Before Tax and up to 6.000€ (for PBT>30.000€, flat rate 15% up to 6.000€)</p>	<p>Optional purchase and installation of "Smart" home recharging point → eco bonus 500€</p>	<p>Electric 2/3 wheeler → eco bonus 20%</p> <p>Electric bicycles → eco bonus 40% and up to 800 €</p>	<p>Optional replacement of an old vehicle / old two-wheeler * → eco bonus 1.000€ / 400€</p>
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Vehicle Type	Individuals - Eco Bonus	Individuals - Scrappage
L1e to L7e (two and three wheel vehicles)	Up to 800 €	400 €
M1 BEV (PC kai PPV)	Up to 6.000 €	1.000 €
Smart" home charging point	500 €	-

Image 1: Go Electric subsidies for Individuals



TAXI vehicle owners - Purchase/Leasing



Vehicle Type	PPV taxi eco bonus purchase	PPV taxi eco bonus Scrappage
M1 BEV (PC and PPV)	Up to 8.000 €	2.500 €
M1 PHEV (PC and PPV)	Up to 5.500 €	2.500 €

- Battery Electric Vehicle (BEV)
→ eco bonus 25% on Price Before Tax and up to 8.000€
- Plug in Hybrid Electric vehicle (PHEV) (GHG emissions up to 50g CO2/km)
→ Eco bonus 15% on Price Before Tax and up to 5.500€
- Mandatory replacement and declassification of the old TAXI vehicle
→ Eco bonus 2.500 €



Image 2: Go Electric for Taxi vehicle owners

Legal entities – Purchase/Leasing (up to 3 vehicles)

LCVs with a maximum mass of up to 3.5 tonnes (BEV / PHEV)
→
eco bonus 15% on PBT and up to 5.500€ / 4.000 €



Electric two-wheeler, tricycle
→
eco bonus 20% up to 800 €

Battery Electric Vehicle(BEV)
→
eco bonus 15% on BPT and up to 5.500€



Vehicle type	Legal Entities Eco Bonus	Legal Entities Scrappage
L1e to L7e (two and three wheel vehicles)	Up to 800 €	400 €
M1 BEV (PC and PPV)	Up to 5.500 €	1.000 €
N1 BEV (LCVs with a maximum mass of up to 3.5 tonnes)	Up to 5.500 €	1.000 €
N1 PHEV	Up to 4.000 €	1.000 €
Smart charging point	500€	-



Optional replacement of old vehicle/2-3 wheeler
→
eco bonus 1.000 € / 400 €


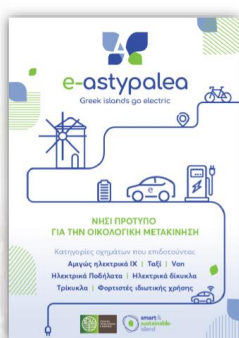


Image 3: Go Electric for Legal Entities


- Another recent subsidy program for the promotion of e-mobility in Greece is called “e-Astypalea”, aiming to transform the Astypalea island into an energy-autonomous island, producing energy exclusively from renewable energy sources (RES), coupled with an energy storage system. The program runs as an

initiative (Memorandum of Understanding) between the Greek government and Volkswagen Group.

Objectives & Budget



- ❖ An emblematic project, aiming
 - to transform ASTYPALEA to an energy-autonomous island, producing energy exclusively from RES, coupled with a Storage System.
 - to have only pure electric vehicles (BEVs) circulating on the island roads, charging their batteries from electricity produced 100% from RES
- ❖ “e-Astypalea” subsidy scheme supports inhabitants, taxi owners and local enterprises to replace their conventional cars with electric
- ❖ “e-Astypalea” subsidy scheme supports inhabitants and local enterprises to replace their conventional cars with electric
- ❖ “e-Astypalea” budget 9 M €, scheme duration 2,5 years, budget distributed as:
 - 70% for private/company cars(M1 , N1), 20% για motorbikes/motocycles (L),10% bicycles
- ❖ “e-Astypalea” expected kick-off : July 2021




e-mobility Office

Image 4: The e-astypalea subsidy programme

Subsidy table

	BEVs (M1, N1) (Retail price before taxes, up to 50.000€)	e- 2/3 wheels (L)	e-bikes	Smart Charger	Disabled-Families with more than 3 children
Privates (up to 1 vehicle)	40%, max 12.000€	25%, max 2.000 €	40%, max 800€	500 €	500-1.000 €
Vehicle Withdrawal	Optional 3.000 €	Optional 800 €	-	-	-
TAXIs (up to 1 vehicle)	40%, max 15.000€	-	-	500 €	1.000 €
Vehicle Withdrawal	Mandatory 4.500	-	-	-	-
Enterprises (up to 30 vehicles but max 15 cars)	40%, max 12.000€	25%, max 2.000€	40%, max 800€	400€	-
Vehicle Withdrawal	Optional 3.000 €	Optional 800 €	-	-	-



e-mobility Office

Image 5: The e-astypalea subsidy programme



Tax incentives mostly addressed to companies rather than individuals, including indicatively:

- expenditure discount is increased by 50% for Battery Electric Vehicles (BEV)
- The charging costs of EVs (for work purposes) incurred by employees are considered a company expense, leading to the reduction of the taxable income

Tax benefits

(mostly addressed to companies)

1. Expenditure discount INCREASED by 50% for BEV

- Buying a BEV: 30.000€
 → accounting cost 45,000€
 → reduction of taxable income (15,000€*0.22=3,300€)

2. Expenditure discount INCREASED by 30% for PHEV

- Buying a PHEV (50grCO2/km) : 30.000€
 → accounting cost 39.000€
 → reduction of taxable income (9.000*0,22=1980€)

BUSINESS ON ISLAND: discount rates 75% and 35% respectively

3. Expenditure discount INCREASED by 50% for BEV

- Leasing a BEV: 30.000€, 300€ monthly rent
 → accounting cost 450€
 → reduction of taxable income (150*12*0,22 = 396€ per year)

4. Expenditure discount INCREASED by 30% for PHEV

- Leasing a PHEV (50grCO2/km): 30.000€, 300€ monthly rent
 → accounting cost 390 €
 → reduction of taxable income (90*12*0,22=238€ per year)



Image 6: Other incentives for the promotion of e-mobility

Tax benefits

5. The provision of a BEV or PHEV (50gr CO2/km) to an employee worth up to 40.000€ is not be taxed as a benefit in kind

6. Charging employees' EVs for job needs is considered as a company expense

- Expenses for the company, reduction of taxable income per vehicle
 e.g. Ten vehicles, annual cost 400 € per vehicle, total 4,000 €, reduction of income by 4,000*0.22%=880€

7. Increase in depreciation of asset to 50% when purchasing an EV

8. Increase in depreciation of asset to 100% for purchasing a charging station

9. Expenditure discount INCREASED by 50% (70% in islands) when charging station is publicly accessible

10. Expenditure discount INCREASED by 30% when charging station serves company needs



Image 7: Other incentives for the promotion of e-mobility



E-mobility Industrial Production Incentives

- Government’s policy to phase-out lignite by 2028 is an opportunity for local economic grc
- We support lignite regions by offering incentives for establishing production facilities related to e-mobility (vehicles, batteries, chargers, etc)
- Incentives:
 1. Exemption from salary costs during construction phase of a production unit.
 2. Over-depreciation of the upfront capital costs
 3. Tax reduction by 5% for 5 years
 4. Fast-Track procedures for licensing the activity



Image 8: Other incentives for the promotion of e-mobility

The combination of the subsidies and tax incentives led to encouraging results, as shown below:

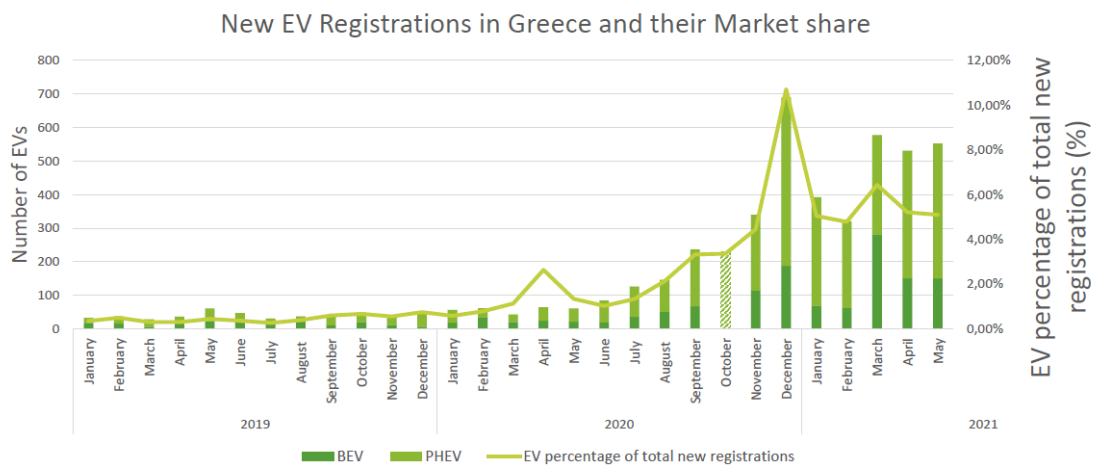


Image 9 – New EV registrations in Greece and their market share

Concretely, the EVs market share rose from 1% in August 2020 to 10,6% in December 2020. The average market share of EVs has been 2,6% (2.135 EVs) which is higher than

the forecast of the National Energy and Climate Plan (NECP). The trend seems to continue in 2021 as well, with 5,3% EVs market share for the first 5 months.

Nevertheless, despite the significant progress achieved the last years, there is still much room for improvement, as Greece has one of the lowest rates of number of EVs per capita and number of charging stations per km.

2. Selected Policy Instrument

The main objective of the policy instrument addressed in EMOBICITY for CRES, the NEEAP (now replaced by **NECP – National Energy and Climate Plan**), Measure 12: e-mobility, is to boost e-mobility through specific measures and incentives to private users. This is already achieved during the Phase 1 of the EMOBICITY through the introduction of Law 4710/2020 "Promotion of E-mobility" which activated the subsidy scheme "Go Electric" for EV acquisition by private users, as well as determined specific tax incentives for businesses for EV acquisition and regulatory measures for charging services and infrastructure. EMOBICITY managed to influence the policy instrument to a certain degree through knowledge gained by EMOBICITY good practices. EMOBICITY follows the progress of this Action and it is planned to continue to do so during Phase 2 of EMOBICITY.

3. Action Plan for the improvement of the selected Policy Instrument

The first round of the subsidy scheme ended in December 2021. Now, the focus of this Action will be on further improving the Policy Instrument through monitoring results and contributing actively to the 2nd round of the GO ELECTRIC subsidy scheme. CRES will be in contact again with the e-mobility Office of the ministry of Environment and Energy, in order to monitor the expected positive impact of this 2nd Round of the scheme to achieving the goals of NECP. The 2nd round is expected to start in April 2022, but in addition, EV purchases starting January 2022 are also eligible to receive subsidy. The 2nd round of the GO ELECTRIC is expected to run until the end of 2023 and the budget foreseen is approximately 50 mil. Euro. CRES will receive monitoring information from the Ministry through regular (bi-monthly) online meetings. Besides monitoring, CRES will actively assist to the further deployment of e-mobility in Greece and NECP goals achievement, through knowledge exchange meetings with local stakeholders and the EMOBICITY partners / foreign stakeholders, in order to continuously provide feedback to the Ministry on ways to maximise the impact of the subsidy scheme.

Some of the foreseen changes for the 2nd Round of Go Electric subsidy scheme are the following (**still under examination**):

Changes under examination to “Go Electric”

► **Must achieve NECP yearly targets**

In 2030 1 of 3 registered cars must be electric

NECP	2020	2021	2022	2023
New e-vehicle registrations	1350	3795	7589	11797

Major changes (under examination):

- Increase the number of company cars e.g. 10 (from 3)
- Increase the number of old company car replacements (1 per car)
- Subsidy charging stations for company use
- Increase subsidy for taxis
- Include in subsidy scheme municipal enterprises and private entities controlled by central government



Image 10 – New EV registrations in Greece and their market share

4. Peer Review meeting

The Peer Review meeting was held digitally (using the Zoom platform) on 20/06/22, 12:00 CET. The participants were the following:

<u>Name</u>	<u>Organisation</u>
Mrs Maria Zarkadoula	CRES
Mr Nikos Ntaras	CRES
Mr Tomislav Cop	EIHP
Mr Vedran Kirincic	Assoc. Prof. University of Rijeka
Mr Christian Dobler –Eggers	RMNH
Mr Miguel Quinto	AZORES
Mr Nuno Lopez	AZORES
Mr Carlos Soares	AZORES
Mr Helder Rodrigues	ADENE
Mrs Ana Cardoso	ADENE
Mr Reinhold Stadler	NWRDA - Civitta

Mrs Zarkadoula and Mr Ntaras as the hosts of the meeting welcomed the participants and presented the agenda. After a round of brief introductions from each participant, Mr. Ntaras gave a presentation with detailed information on the current legislative framework in Greece for e-mobility, the current subsidy programs and the validated Action Plan of CRES for the EMOBICITY project.

More specifically, the subsidy programs “GO ELECTRIC” and “e-Astypalea” were presented in detail, providing information on the potential beneficiaries, the subsidies amounts, the available budgets, duration of the schemes and the results achieved so far.

Furthermore, during the presentation, more information was given on additional incentives (mainly tax incentives for companies that purchase or lease electric vehicles).

Mrs Maria Zarkadoula, that a recent interesting development, the drafting of EV Charging Plans by each municipality in Greece is now almost complete and is expected to further boost e-mobility uptake.

Moreover, the validated Action Plan of CRES within the scope of EMOBICITY was presented. The plan involves mainly the monitoring and potential further improvement of the 2nd Round of the GO ELECTRIC subsidy scheme, in Greece.

Then, Mr Miguel Quinto from AZORES, gave a detailed presentation on the Azorean subsidy schemes for the promotion of e-mobility. Among other, a very interesting element has been that there is the possibility for a beneficiary to take advantage of both a subsidy from the Azorean subsidy scheme in addition to a subsidy from the national subsidy scheme for EVs, increasing in this way the maximum subsidy amount.

After the presentations, an interesting discussion took place involving all participants, including suggestions for further improvement of the Action Plan / 2nd Round of the GO ELECTRIC subsidy scheme.

Mr Vedran Kirincic, asked for more details on the subsidy program “e-Astypalea” and more specifically on the role of Volkswagen Group as project partner (together with the Greek Government). Mr Ntaras replied mentioning that VW will assist in the project through its technical expertise on EVs and by providing the necessary e-vehicles that will replace the existing conventional ones. The objective of the program is to replace about 1000 existing conventional vehicles on the island of Astypalea with electric ones (out of the total 1500 conventional vehicles). Furthermore, there will be the development of an e-car sharing scheme and a transport-on-demand scheme, in order to further reduce the use of conventional vehicles on the island. It should also be noted that all electric energy for charging the EVs on the island will be exclusively renewable and will be produced through a PV plant coupled with a wind turbine and a Battery Energy Storage System.

Mr Tomislav Cop, mentioned that it is somehow unusual to offer increased subsidies for e-taxis, as due to the greatly reduced operation cost (electricity cost to run an e-taxi is much lower comparing to the fuel cost for a conventional taxi) the payback time is expected to be very low. Mr Ntaras mentioned that this is true partly but we should also take into account that from an environmental point of view, e-taxis can have a significant impact reducing greatly the CO2 emissions due to their high mileage. Furthermore, due to their high mileage, e-taxis are good “demonstrators” of e-mobility, proving in practice that e-mobility is feasible even for vehicles with such high mileage.

Mr Reinhold Stadler mentioned that in Romania it is often observed that many drivers “stretch” as much as possible the operation of their conventional vehicles, especially for relatively new vehicles. This “stretched” operation could be minimized by incorporating disincentives for conventional vehicles’ use at a local / municipal level (for example by not issuing new permits). Another comment has been that last mile delivery with the

use of EVs can have a huge impact on CO2 emissions and should therefore be subsidized through the current programs available.

Mr Reinhold Stadler also mentioned that in Romania, it is foreseen that urban regeneration projects / retrofitting of old buildings must include the installation of charging stations for EVs (in addition to the provision that charging stations must be installed in new buildings). This could further promote e-mobility in Greece.

Mr. Miguel Quinto mentioned that, although the Azorean e-mobility incentive scheme is proving to be successful, in 2021 applications were mainly confined to São Miguel and Terceira islands. Nevertheless, the new incentive system includes financial incentives for the introduction of new electric vehicles in the Azores, either through purchasing or through leasing for both natural and legal (artificial) persons. In addition, it also allows financial incentives for taxis and car rentals located in Graciosa island, given that this island has been dubbed the Model Island for the promotion of innovative e-mobility solutions. However, no applications have been made either by taxis or car rental companies so far. This is something that can be assessed in order to know the causes for this underdevelopment. In the other islands, the incentive system is not open to this type of companies (taxis and rent-a-car).

Mr. Reinhold Stadler commented on this, mentioning that, perhaps, the cause may be the fact that the majority of the vehicles in question are relatively new.

Regardless, the regional incentive system for e-mobility includes a bonus under proof of vehicle scrapping

Mr Helder Rodrigues asked whether a dedicated subsidy is included in GO ELECTRIC for e-cargo bikes. Mr Ntaras replied that e-cargo bikes may be subsidized with the amounts foreseen for normal e-bikes. To this, H. Rodrigues commented that perhaps a dedicated and increased subsidy could be foreseen for e-cargo bikes as their price and the CO2 emissions' savings are considerably higher than those of normal e-bikes.

He also stressed the importance to directly talk with stakeholders like taxi drivers, in order to get valuable feedback on such subsidies schemes and e-mobility in general. He mentioned that for example and according to taxi drivers, there are qualities associated with e-taxis including a quiet and smooth ride that are very much appreciated by both drivers and customers. Such qualities seem to be the most important and should be taken into consideration when designing such subsidy programs or other programs for the promotion of e-mobility.

Mr Rodrigues also suggested that it would be greatly beneficial for the implementation of the Action Plan, if CRES could identify the most suitable KPIs to effectively monitor the progress of the Action Plan and the subsidy scheme. He also mentioned that it is of

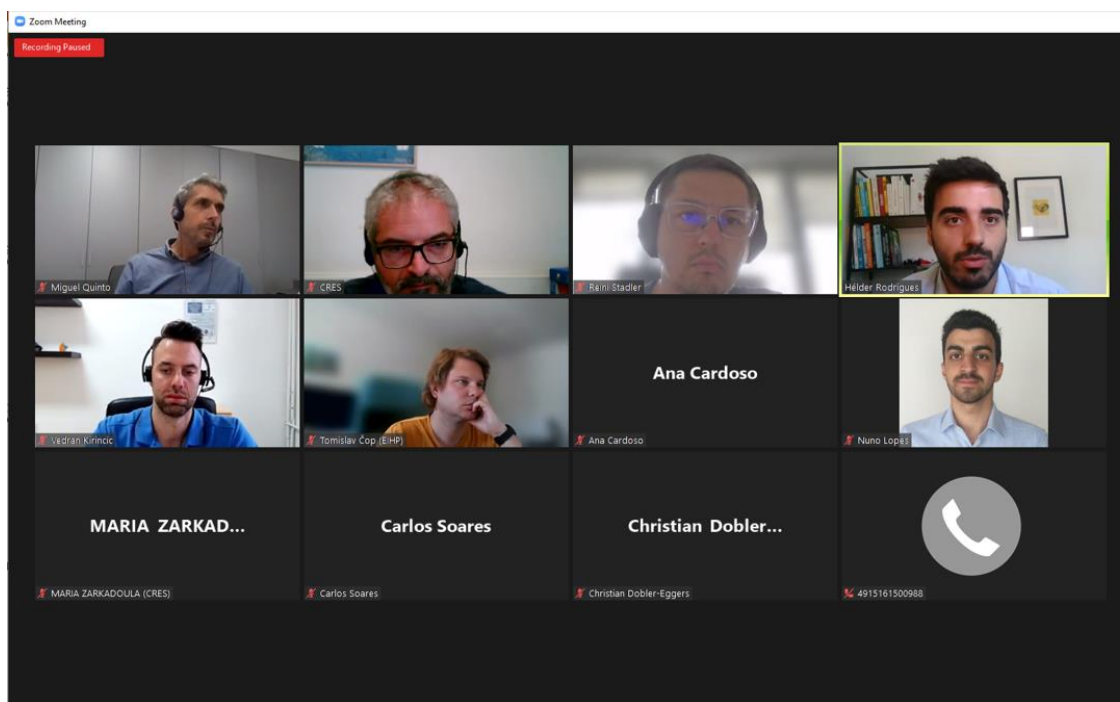
outmost importance to effectively communicate the benefits of EVs and train professionals like taxi drivers or fleet / cargo companies in order to effectively deploy e-mobility. Furthermore, Sustainable Urban Mobility Plans (SUMP) are a great way to integrate e-mobility, therefore discussions with local / municipal stakeholders should be further pursued.

Mr Christian Dobbler-Eggers mentioned that other incentives could also be taken into account. For example in Kassel, Germany, there is the 3 hour free parking rule for EVs. Furthermore he mentioned that in Germany it is possible for private users to lease EVs in combination with getting the subsidy. Another interesting remark has been that a subsidy scheme on wallboxes led some citizens to install wallboxes but many of them did not in turn purchase an EV as well.

Mr Vedran Kirincic mentioned that it would be perhaps more beneficial in the island of Astypalea and elsewhere, if there would be subsidies for EV leasing instead of EV purchasing.

Mr Reinhold Stadler mentioned that another way to further promote e-mobility through sharing schemes is by providing free parking spaces for e-car sharing schemes. This would greatly assist the service providers to more effectively operate.

Finally Mr Ntaras mentioned that the Action Plan implementation is not just about monitoring the results of the GO ELECTRIC subsidy scheme, but instead it is a two-way interaction between CRES and the Ministry of Environment and Energy (MoEE), as CRES will inform MoEE on good practices and lessons learnt from the EMOBICITY partner countries, to further improve the subsidy scheme.



5. Peer Review outcomes

The following key takeaways that arose from the Peer Review meeting are the following:

- Subsidy schemes are an effective way to promote e-mobility, especially in “early adopter” countries like Greece
- The example from Portugal, where a local subsidy scheme may be used in combination with a national subsidy scheme, could be further investigated as it would allow for higher overall subsidies and greater EVs penetration
- Shared e-vehicles should in many cases be preferred to purchased e-vehicles, therefore subsidy programs should be designed in order to reflect this
- Dedicated subsidies should be offered for e-cargo bikes as they are more expensive than e-bikes but have a greater impact on CO2 emissions avoidance

- In addition to subsidies for wallboxes for new buildings, there should be also subsidies for wallboxes in buildings' retrofitting
- It is very important to identify the most suitable KPIs and ways to effectively monitor the progress of the Action Plan and the subsidy scheme.

The aforementioned key takeaways will be discussed further with the Ministry of Environment and Energy as the responsible authority for managing the GO ELECTRIC subsidy scheme.



Annex