

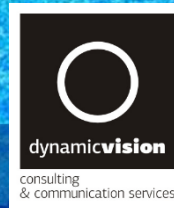
EnerNETMob integrated project

Progress of electromobility in the MED area

Interreg
Mediterranean



EUROPEAN UNION



Dynamic Vision
Ioannis Mardikis

INTERREG MED project REMEDIO - International Conference:
“HORIZONTAL CONDOMINIUM AS A LIVING LAB FOR URBAN RENEWALS”
1st October 2019

STRUCTURE

ENERNETMOB OVERVIEW

EUROPEAN FRAMEWORK

NATIONAL FRAMEWORKS & SPECIFIC MEASURES



EnerNETMob OVERVIEW

16

Partners



12

Countries



5,74M €

Project Budget



EnerNETMob is a Strategic project of the Interreg-MED Programme that has 3 phases: testing + pilot + capitalization phase

Eventually it will promote policy recommendations and holistic SEMP's (Sustainable Electromobility Plans) that can be adopted by Member States

PARTNERSHIP



4 Ministries, 5 regional authorities, academia partners, energy agencies, clusters, research centres and advocacy/communication experts

EnerNETMob OBJECTIVE

EnerNETMob aims to draft, test and improve parallel **“Sustainable Electromobility Plans”** according to common standards and low carbon policies, in order to establish an **Interregional Electromobility Network”** crossing cities of all the Interreg MED area.

EnerNETMob **develops electromobility solutions** and tests pilot actions **so as to overcome medium-trip limitations** and provide **common technical standards** and common low carbon policies, following the 2014/94/EU Directive.

THREE PILOT TYPES:

PILOT 1

Optimize the mileage of Battery Electric Vehicles for **sea-road trips** & (9 charging points and 5 electric vehicles: Malta, Albania, Greece (Thessaly), Croatia, Montenegro



Let's not forget inter-modality !

PILOT 2

Sharing electromobility in combination with **renewable energy sources** by **replicating car-sharing or bike-sharing systems already implemented** in bigger urban areas of 5 EU countries.

(15 charging stations: Cyprus, Slovenia, Greece (Peloponnesse), Italy, Spain).



PILOT 3

Last mile freight transport connections. Battery Electric Vehicles in 3 cities in collaboration with **SMEs** and **farmer associations** to propose a sustainable business model for agri-food chains.



ICT PLATFORM

- To manage and monitor the charging infrastructures and Electric Vehicle services;
- To interconnect local "Small-Scale Infrastructure Network" within a transnational "Inter-regional Electromobility Network".

Partners will interconnect and integrate the tested "Small-Scale Infrastructure Networks" using **common technical standards** through a shared ICT platform consisting of common **tools** and **protocols** for the charging stations.

EUROPEAN FRAMEWORK-WHERE ARE WE?



WHERE WE ARE - POLICY ASSESSMENTS

Analysis phase 1

- Assessment of policies and **Regulations/Directives adopted by EU Commission and Parliament** and the benchmarks at EU levels.

Analysis phase 2

- **National Policy Frameworks** in the 12 countries from the consortium:
 - 2014/94/UE Directive;
 - Covenant of Mayors and SEAPs;
 - National Policy Frameworks according to SUMP;
 - Local benchmarks and good practices.

Current Development of Electromobility in the EU

Development of Electric Mobility in the EU

Electric
Transport
framework

Directive
2014/94/EU: On
the deployment
of alternative
fuels
infrastructure

Sustainable
Energy
framework

Directive
2009/28/EC on
the promotion of
the use of energy
from renewable
sources

Sustainable
Mobility
framework

Com(2013) 913 C
– Concept for
SUMP

Air Quality
framework

Directives
2008/50/EC and
2015/1480 on
ambient air
quality and
cleaner air for
Europe
Directive
2016/2284 on the
reduction of
national
emissions of
atmospheric
pollutants

Covenant of
Mayors

Sustainable
Energy Action
Plan (SEAP)

Electric Transport Framework in the EU

Directive 2014/94/EU: On the deployment of alternative fuels infrastructure

GOALS

- Common framework of measures for the **deployment of alternative fuels infrastructure**
- **Minimum requirements** for the building-up of alternative fuels infrastructure,
- Member States **reporting state of implementation** of their respective national policy **every 3 years**, November 2019 thereafter.

Member States must provide a national framework containing:

- **Current state and future development** of the market
- National **targets by 2020: recharging points** and **registered EVs** and measures to ensure they are reached
- Designating urban/suburban agglomerations **to be equipped** with recharging points
- **Requirements** for the recharging points deployed

Current Development of Electromobility in the EU

Sustainable Mobility framework

Com(2013) 913 C – Concept for SUMP

Establishes the concept of Sustainable Urban Mobility Plans (SUMP). Despite SUMP's not being specific to electromobility, these may foster the use of EV via indirect measures (tax relief, free parking, free use of recharging stations, low emission zones...).

The Covenant of Mayors

Sustainable Energy Action Plans (SEAP)

SEAPs demonstrate the commitment of local authorities to go beyond their own national climate and energy objectives. Concrete measures related to electromobility might include the installation of charging points.

Lines of action

Ongoing work is identifying the following financing strategies

Direct Measures

- Grants for purchasing electric vehicles
- Grants for installing recharging stations
- Purchase of electric vehicles for public transport

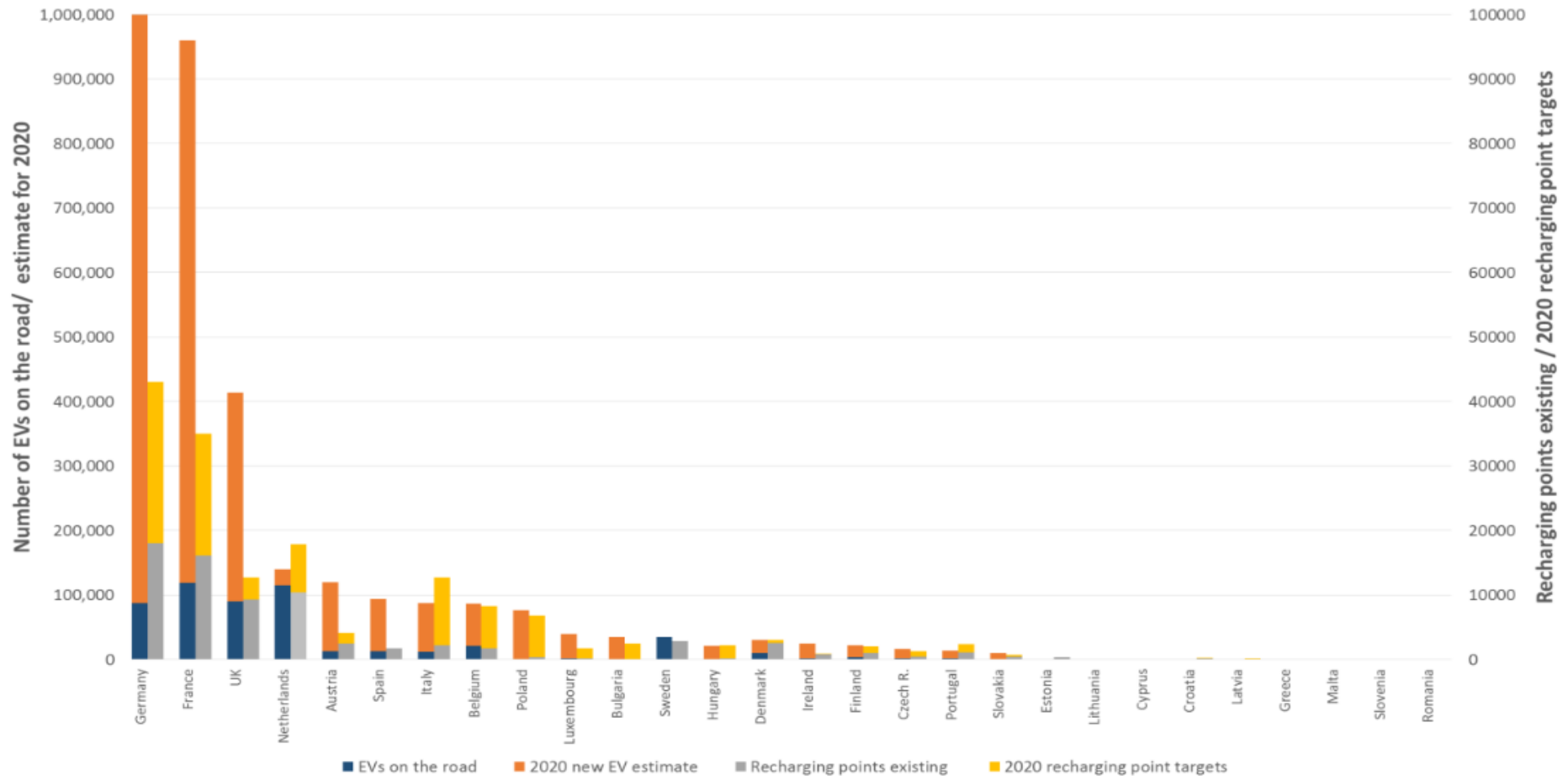
Indirect measures (often at a lower administrative level)

- Tax relief
 - Parking free of charge
 - Free use of recharging points
 - Free tolls
 - Exemption of local vehicle tax
 - Entrance allowed in low-emission zones
 - Use of bus lanes
 - HOT lanes
- } Economic incentives
- } Right of use/prioritization

Impact Assessment for Directive 2014/94/EU considerations

benchmark of 4 million electric vehicles on the road by 2020

2020 recharging point targets and EV estimates



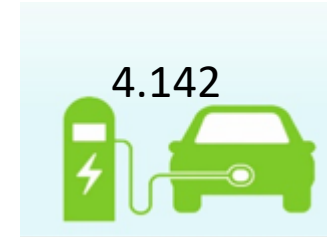
NATIONAL FRAMEWORKS - Austria

Austria-wide: 120 support programmes. Subsidies to purchase EVs at federal, state and local levels.

There are currently **4142** charging points publicly accessible.

Objectives

- Long term infrastructure investments
- Spatial development
- Noise reduction
- Advancement of electro-mobility
- Reduction of greenhouse gases
- Reduction of pollution



2016 strategies



Carinthia
Styria
Tyrol

Measures

- Tax relief for electromobility
- NoVA exemption, the exemption from motor-related insurance tax and the exemption from motor vehicle tax.
- The federal and state governments supports electromobility with funding, studies and the constant adaptation of the legal framework.

NATIONAL FRAMEWORKS - Croatia

Objectives

- Establish a minimum infrastructure for the **supply of electricity** to the territory of the Republic of Croatia by 2020
- Boats for supply of electricity from **land to inland waterways** and seagoing vessels
- Increase the number of **electric recharging points** accessible to public
- Growth of **electric vehicle market**



Measures

- Government **co-financing** infrastructure for filling vehicles on an alternative drive (2014 – 2030)
- **Tax relief** for zero or reduced emissions (2014 – 2020)
- **Incentives to purchase** electric and hybrid cars
- **Financing** Research, Technological Development and Innovation (2014 – 2020)

Measures



Primorje-Gorski Kotar County
City of Rijeka

NATIONAL FRAMEWORKS - Cyprus

Objectives

- Assessment of current state and future development of the **alternative fuels market** and the corresponding infrastructure incl. cross-border continuity
- National Targets and objectives on number of **recharging/refueling points**
- Designation of **key areas** to be equipped with charging points and CNG refueling stations
- Consideration of the need to **install electricity supply** at airports



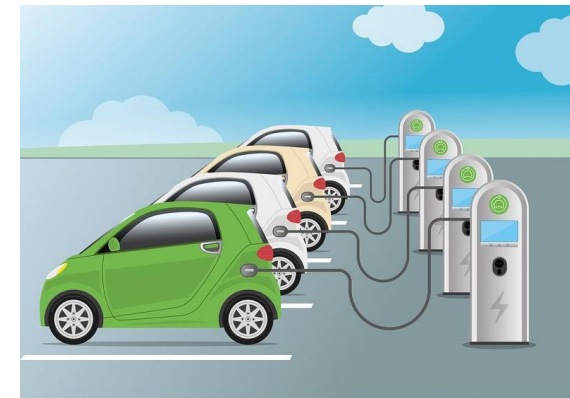
Measures

Nicosia

- Charging stations for electric vehicles
- Operation of green buses, either Electric or Hybrid
- Nicosia SUMP

Limassol

- Limassol SUMP



NATIONAL FRAMEWORKS - France

Objectives

- Energy Transition for Green Growth Act of 2015 (LTECV) → target of 7 million recharging points for electric vehicles in 2030
- La stratégie pour le développement de la mobilité électrique en France
 - 0.2 million hybrid vehicles by 2030 (currently 56,000)
 - 7 million recharging points by 2030 (currently 15,900)
 - 8.1 million electrical vehicles by 2030 (currently 22,000)



Measures

- **Bonus for purchasing** new cars emitting the least CO2 and penalize the most polluting models
- Maximum amount of 6,300 €, reserved for vehicles that emit less than 20g CO2/km
- Bonus of 1000 €, reserved for the purchase of two-wheel electric
- Exemption for electric company vehicles from the **annual tax** applicable to company vehicles

NATIONAL FRAMEWORKS - Italy

Objectives

- Simplify authorization processes to build private charging infrastructures for the electric vehicles
- Guarantee the minimum uniform accessibility levels to the recharge service of electric vehicles
- Implementation of charging services at National, Regional and Local level
- Common minimum technical standards



Measures

- Direct incentives for the purchase of EVs.
- Spaces reserved for charging electric vehicles
- Obligation to equip the fuel distribution systems with high power charging points
- Authorizations for Local Authorities to establish pass permission of electric vehicle in limited traffic zones.

IMPACTS	2020	2030
Estimated number of electric vehicles (BEV)	45.000-130.000	n.a.
Estimated number of electric vehicles (hybrid and BEV)	n.a.	6.000.000
Estimated number of electric passenger cars (BEV M1 categories)	n.a.	1.600.000
Number of electric recharging points accessible to the general public	4.500-13.000 slow-normal 2.000-6.000 high power	n.a.
Electrical vehicle on recharging points ratio	10:1	n.a.

NATIONAL FRAMEWORKS - Spain

Catalonia

- Promote an electric mobility infrastructure
- Ensure that public electric recharging electrical stations are exempt from barriers
- Accessible and sufficiently distributed electrical recharging infrastructures

Measures



PIRVEC (Catalonia)

- 100 fast charging stations (800,000 €)
- 400 semi-fast charging stations (2,340,000 €)
- 25,000 domestic charging stations (2,625,000 €)

Barcelona – PMU 2019-2024

- 5000 € subsidy for purchase
- Exemption of registration tax, payment tolls, free parking, use bus lane, free use of recharging infrastructure.
- 70-85 % of recharging point cost subsidy

Balearic Islands

- Spanish region with more electric recharging points per habitant (ERDF and Balearic Islands grants)

Measures



- Replace vehicle fleet for electric vehicles
- Installation of private and public recharging points
- Promotion
- Prohibit usage of low sustainable vehicle from 2025



NATIONAL FRAMEWORKS - Spain

Zaragoza SUMP

- 1,635 electrical vehicles and 13 recharging points within 2020
- Increase number of e-vehicles
- Public transport electric fleet



Measures

- Discriminatory tax system
- Free parking in regulated area
- Solar energy for recharging points
- Funding installation of 97 fast charge points

National aids

Norm	Budget	State Aid Vehicle Electric	State Aid Infrastructure
R.D. 648/2011	72 M€	25% Price with battery / max depending on autonomy	
R.D. 294/2013	9.9 M€	According to autonomy and vehicle typology	
R.D. 414/2014	10 M€	According to autonomy and vehicle typology	
R.D. 1078/2015	13 M€	According to autonomy and vehicle typology	15,000 € fast 2,000 € semi-fast
Real Decreto 617/2017	12.3 M€		15,000 € fast 2,000 € semi-fast 1,000 € conventional
IDAE Res November 7 2017	5 M€	Supplement of Real Decreto 617/2017	15,000 € fast 2,000 € semi-fast 1,000 € conventional
IDAE Res November 21 2017	20 M€	Amount never exceed the cost of the investment to be made, before taxes	

NATIONAL FRAMEWORKS - Malta

Objectives

The Maltese transport plan:

- 20% vehicle fleet being EV in 2025
- 590 charging points by 2020 meaning 1 charging point per 8.5 EVs



Measures

Maltese government:

- 2016: 2000 € to 10.000€ **grants** for the installation of charging stations by private companies resulted in failure
- 2017: 101,000 € **budget** that resulted in 16 EV purchases by private companies.
- 114 charging stations publicly available
 - 3 of which charged by solar panels **free of charge** for users

Awaiting for future EU funding

- 8 electric buses
- 10 medium-fast chargers (for public transport and private BEV owners)

EnerNETMob

- 2 recharging stations at both ends of Malta/Sicily ferry services

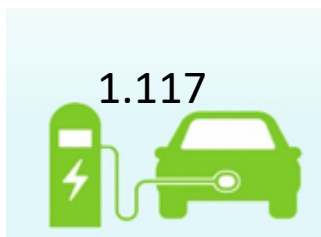
Additionally, a budget of **80,000€** for an expected **three garages** that will receive staff training on electromobility, and upgrade its services specialised for EVs.

BEV	Grant
M1 or N1 scrapping old ICE vehicle	7000 €
M1 or N1 without scrapping	6000 €
Registering second hand M1 or N1	4000 €
Registering a quadricycle (without old scrapping)	2500 €
Purchasing a new pedelec	400 €
Motorcycles (L1e, L2e, L3e or L5e)	400 €

NATIONAL FRAMEWORKS - Portugal

Implemented measures

- **MOBI.E** installs recharging stations
 - 1117 charging points of which 55 fast charging points. 4 fast charging points awaiting certification and 12 in installation process. Problem: fast charging points installed but not connected after several months.
- The Portuguese State finances with **aids**
 - Recharging network infrastructure
 - Electric vehicle purchase
- **Free parking** in some cities
- **Free slow charge** in national network until, at least, end of 2019.



Category	Description
Purchase Subsidies	Portugal - Purchase subsidies National Subsidy for BEV's: 3000€(persons), 2.250€ (companies) and PHEV's: 1.125 €
Registration Tax Benefits	Portugal - Registration tax benefits Tax reduction / exemption - CO2 based tax
Ownership Tax Benefits	Portugal - Ownership tax benefits Tax reduction / exemption - CO2 based tax 20% up to the maximum of € 400,00
Company Tax Benefits	Portugal - Company Tax Benefits: 250€
Local Incentives	Portugal - Local incentives Free parking in several Municipalities (Lisbon) Local energy utility company offers 1 year discount in house electricity rates for BEV buyers
VAT Benefits	Portugal - VAT Benefits Tax reduction / exemption - CO2 based tax

Year	Number of BEV & PHEV sold	Inter-annual growth (%)	Comments
2018	8 241	94,50	Record in annual sales
2017	4 237	115,08	
2016	1 970	50,96	
2015	1 305	260,50	Incentives reintroduced
2014	362	61,61	
2013	224	39,13	
2012	161	-23,33	Incentives withdrawn
2011	210		
Total	16 710		

NATIONAL FRAMEWORKS - Albania

Goodwill, slow action

Tirana lead: Saytaxi, Greentaxi, electrified bus line 16,

Needs

- to adopt a law in compliance with Directive 2014/94 EU affecting electric transport.
- concrete incentives for purchasing electric vehicles should be taken by the Government.
- non-financial incentives, for example preferential access to restricted areas, parking policy and dedicated lanes.
- spread the use of electric vehicles implement the use of electric buses in public transport.
- monitoring of the process.

Action plans



Sustainable Transport Plan for Albania 2015-2030
Finished but not approved

Tirana City SEAP

Shkodra SUMP (2017 – 2023)

Not approved officially yet

NATIONAL FRAMEWORKS - Montenegro

Despite having 74 EV registered (end 2018) it does not have any dedicated electromobility policy or infrastructure.



Measures

- **Poly-SUMP** developed in the Boka Bay and the Old Royal Capital Cetinje 2016-2020 (13.6% Montenegro population) financed by the United Nations Development Programme (UNDP).
- There are currently **6 charging stations** in hotels in Tivat, **one public fast charger** in Lustica Bay.
- The Port of Bar will use the **EnerNETMob** project opportunity to encourage the development of electromobility in Montenegro.



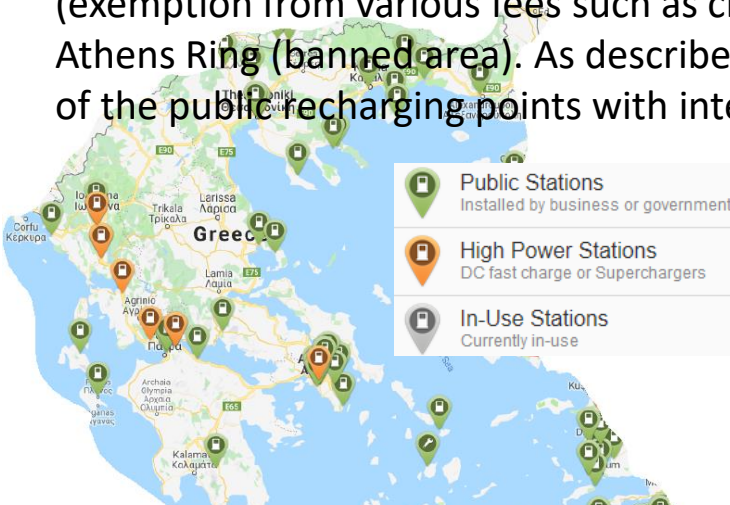
NATIONAL FRAMEWORKS - Greece

Ministry of Infrastructure and Transport

- Incorporation of Directive 2014/94/EU into the Greek national legal framework (law 4439/2016). Chapter A defines the minimum requirements for the development of recharging stations for electric vehicles and the refueling stations for natural gas vehicles (CNG/LNG) and hydrogen. It also defines the technical specs for recharging, refuelling and how citizens/users will receive the necessary information. Chapter B describes the simplification and speedup of the license processes needed
- National Policy Framework for the development of alternative fuels market infrastructure in transportation and for the implementation of the relevant infrastructure (Regulatory administrative act 77226/1), 31/10/2017
- Definition of terms, conditions and technical specifications for the installation of battery chargers for electric vehicles – recharging points (Joint ministerial decision 42863/438), 04/06/2019.

Implemented measures

In law 4429/2016, there are scenarios for the penetration of electric vehicles in the fleet until 2030 (exemption from various fees such as circulation fees, registration and luxury taxes and free access to the Athens Ring (banned area)). As described in Article 4 of law 4439/2016, there is a plan for the connection of the public recharging points with intelligent electricity measurement systems.



HELIEV/ CRES (National level)

Estimation of the number of (pure) electric vehicles (optimistic scenario)	397	3,500	8,000	15,000
Number of electric recharging points accessible to public	46	2,000	12,000	25,000
Ratio of recharging points / electric vehicles	0.1	0.6	1.5	1.7

NATIONAL FRAMEWORKS - Slovenia

The Ministry of Infrastructure manages the resources coming from the EU, its beneficiaries will be the Ministry of Infrastructure, local communities and private companies.

Established a network of fast charging station on the motorway network (2015).



Implemented measures

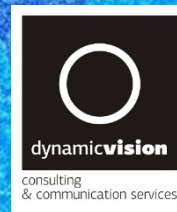
The procedure for licensing fuel selling stations in order to be able to provide charging positions for electric vehicles was simplified and technical standards were set for the recharging stations. Incentives are provided for EVs, such as exemptions from various taxes and fees, but additional measures are needed mainly for the construction of the relevant infrastructure.



BENCHMARKING

	Grants to purchase EV	Funding to install charging points	Tax relief	Aggressive Infrastructure targets	SUMPs	Indirect measures
Albania					✓	✓
Austria	✓	✓	✓		✓	✓
Croatia	✓	✓	✓	✓	✓	✓
Cyprus				✓	✓	✓
France	✓		✓	✓	✓	✓
Italy	✓				✓	✓
Malta	✓	✓			✓	✓
Montenegro					✓	✓
Portugal	✓	✓	✓	✓	✓	✓
Slovenia	✓				✓	✓
Spain	✓	✓	✓	✓	✓	✓
Greece				✓	✓	✓

Thank you for your attention



Dynamic Vision
Ioannis Mardikis

Email: jmardikis@dynamicvision.gr