

2020
CiViTAS
Cleaner and better transport in cities

DESTINATIONS



Measure Evaluation Result

LIM 4.1 - Electric car rental
connecting Limassol town with
airport and port

Project Acronym:	DESTINATIONS
Full Title:	CIVITAS DESTINATIONS
Grant Agreement No.:	689031
Workpackage:	9 - Evaluation
Responsible Author(s):	Nicole Mavrovounioti, Thomas Parissis
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Date:	13/04/2021
Status:	Final
Dissemination level:	Public

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THE CIVITAS INITIATIVE
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Executive Summary

Before the implementation of this measure, the available options for commuting from the airports and port to the tourist area were limited to taxis, rental cars, and airport shuttles. Back then, Limassol city provided very few sustainable options, only the airport shuttle. Hence, the main goal of LIM 4.1 was to promote alternative sustainable mobility options, mainly to visitors arriving at the airport and ports who needed to travel into Limassol's tourist area. The actions carried out intended to effectively attract part of the car rental business to greener mobility options.

In collaboration with the Electricity Authority of Cyprus (EAC), the exclusive organisation which installs electric vehicle (EV)-charging stations in Cyprus, the best locations for the stations were mapped to create a successful network in the Limassol region. The stations were installed in 9 areas in the region, and their locations were included in the Limassol Mobility application (LIM 7.4). Also, both airports of Cyprus have EV-charging stations, and thus, these stations should motivate car rental companies to create EV rental services which connect the airports, port, and Limassol tourist area. In 2015, the number of EV-charging stations in Cyprus was 15, with only 3 in the Limassol Region. During DESTINATIONS, Limassol Tourism Development and Promotion Company Ltd (LTC), in collaboration with the EAC, installed 7 more EV-charging stations, 4 of which also had shelters. Overall, the DESTINATIONS actions and the specific implementation of this measure led to the conclusion that the actions contributed to the increase of EVs available in the region, both private and available for rental. The number of EVs in Limassol before the project (in 2016) was 40, and this increased during DESTINATIONS by 80 new EVs, to a total of 120 EVs in December 2020. Furthermore, maps and posters have been designed and printed to disseminate the EV-charging stations. Maps served as promotional material for the service and have been distributed to hotels, tourist information offices, and other locations.

Additionally, research with five car rental companies with more than 500 cars was conducted to determine the movement trends of car rental companies' customers between 2018 and 2019. It analysed car rental options in airports, ports, and Limassol's tourist area.

Despite the permission issues and delays for the construction of EV-charging stations, all outputs were completed on time and the evaluation was successfully undertaken. The new service provides a new lifestyle option and the number of EV owners is gradually increasing. This gives an additional option to people wanting to use a sustainable alternative. The installation of EV-charging stations represented an incentive to car rental companies to increase their EV fleets.

Through the implementation of the measure, the levels of CO₂ emissions were reduced to 36 tCO₂ and 47.04 MWh, since the e-car rental system is an environmentally friendly service. EVs do not produce tailpipe emissions from directly burning fossil fuels, which is a key contributor to climate change and harmful air pollution. In addition, there was a respectable prospect of economy reaching 19,200 L of fuel savings and 23,808 €, since the e-cars are based on a business strategy to offer a more cost effective and sustainable option for visitors' mobility. Also, following the survey, 60% of residents and tourists were aware of and 15% had accepted the new sustainable mode of transport, and therefore the use of the nearly inaudible e-cars achieved a reduction of 3200 dB compared to the baseline situation (5600 dB).

A Description

Limassol Tourism Board, with the support of key stakeholders, has installed 7 EV-charging stations, 4 with dedicated shelters, funded by the DESTINATIONS project. The key stakeholders involved (with different levels of commitment and contribution) were the following: Cyprus Electricity Authority, Cyprus Ports Authority, Limassol Marina, Car Rental Companies, Local Authorities, and Limassol Region Municipalities that offer free parking offer for e-cars and Hermes Airports.

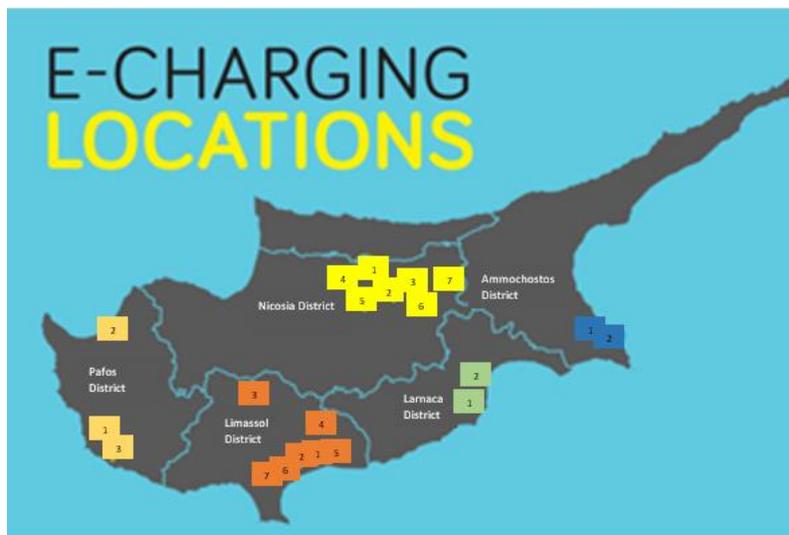


Figure 1: Limassol Maps of the EV-Charging Stations installed in Cyprus

In collaboration with the Electricity Authority of Cyprus (EAC), the best locations have been mapped to create a successful EV charging station network in the Limassol region. The locations of the EV-charging stations are included in the Limassol Mobility app (LIM 7.4), and maps and posters have been designed and printed to disseminate information about the existence and exact locations of the EV-charging stations. Maps are used as promotional material for the service and have been distributed to hotels, tourist information offices, shops, and other commercial activities in the city. Additionally, market benchmarking has been carried out regarding new electric car sharing options in airports, ports, and in Limassol's tourist area. Additionally, Limassol Municipality created a policy that supports the use of e-cars by providing free parking spaces in Limassol Municipality's parking places.

This measure aimed to propose an additional option to use a sustainable mobility mode for locals and tourists wishing to visit the island. The installation and creation of EV-charging stations in the road network is an incentive to car rental companies to introduce or increase the number of e-cars in their fleet and to create e-car rental services to connect the airports, port, and Limassol's tourist areas.

In the context of the project, an Integrated Sustainable Mobility Application, "Mobility Limassol", has been developed (LIM 7.4), which includes all the EV-charging stations in Cyprus, as well as the distances between the airports, ports, and Limassol's Tourist area.

A1 Objectives and outputs

City policy level objectives

The measure is in line with Limassol Municipality and Cyprus Electricity Authority according to the measure 'Sustainable Mobility application' contributing to the below objectives:

- Fewer CO₂ emissions and improved air quality/more attractive environment
- Less traffic noise in the city centre and increased attractiveness for tourists and locals
- Less energy consumption
- Improve public health and safety
- Change habits of local people and tourists
- Increase the total share of citizens that use sustainable mobility modes
- Increase the uptake of electric vehicles

Measure Specific objectives

- Increase tourists' mobility options by adding e-car rentals
- Offer the alternative of renting an electric car from the airport or port of arrival to get to the tourist area and back, instead of a taxi or rented car
- Promotion of sustainable mobility
- Increase the number of electric car chargers by at least 7

Outputs¹

- 7 double e-car stations
- 7 double EV-charging stations with shelters
- 20,000 maps produced and printed
- *Research for electric car rentals
- *National EV-charging network maps

Supporting activities

Hermes airport cooperated with local stakeholders to establish e-car stations at Larnaca and Paphos airports, while LTC, in collaboration with Cyprus Ports Authority, established e-car stations at Limassol port. Moreover, Limassol Municipality ensured the free parking policy for electric cars.

A2 Inter-relationship with other measures

The measure shares synergies and has a strong interaction with other CIVITAS DESTINATIONS measures as follows:

- **LIM 2.1:** *Sustainable Mobility Tourist Action Plan*, as this measure focuses on the extension and integration of the existing EV-charging station network. The network connects the city centre with the main island getaways of Limassol port and Larnaca and

¹ Extra output with DESTINATIONS budget

Paphos airports. Complementary, LIM 4.1 provides additional mobility modes, focusing on electric car rental, to visitors arriving at the airport and ports.

- **LIM 4.3:** *Promote the uptake of electric vehicles*, campaign on e-mobility, as measure LIM 4.1 is also promoted through the e-mobility promotional campaigns planned under measure LIM 4.3.
- **LIM 6.1:** *Awareness of the use of sustainable mobility modes for leisure trips*, aims to increase the awareness about how to travel around for leisure trips using sustainable mobility modes, including electric vehicles.
- **LIM 7.4:** *Mobility application and travel planner for smart phones to provide real time information*, as the Limassol Mobility application provides information on the location of EV-charging stations.

A3 Target groups and/or affected part of the city or region

Tourists and residents moving across the Limassol region will be influenced by this measure.

A4 Stakeholders involvement

Stakeholder name	Activities description
Hermes airports	Cooperation to establish e-car stations at Larnaca and Pafos airports
Cyprus Ports Authority	Cooperation to establish an e-car station at Limassol port
Cyprus Electricity Authority	Cooperation to install EV Chargers in the Limassol region, Larnaca airport, Pafos airport, and Limassol port
Local authorities	Cooperation to establish e-car stations in the tourist area and old town area and free parking policy for e-cars in Limassol Municipality
Car rental companies	To find interested investors to set up this service
Hotel industry	To promote the service to their guests

Table 1: Stakeholder involvement

B Measure implementation

B1 Situation before CIVITAS

The available options for commuting from the airports and port to the tourist area were limited to taxis, rented cars, and airport shuttles that operate only at specific hours. The e-car rental system offers an additional option and serves people wanting to use a sustainable mobility mode but do not find the airport shuttle available at the time of arrival or departure.

B2 Innovative aspects

- **New conceptual approach** – This is a new conceptual idea since people would be able to travel from Limassol to the airports and port by using an electric car with no emissions instead of using their private cars or even the bus. New EV-charging technology has been used, providing additional mobility modes to visitors arriving at the airport and ports that need to travel into Limassol's tourist area.
- **Targeting specific user groups** – This measure mostly targets users that are traveling by electric car from airport and port to Limassol town.
- **New mode of transport exploited** – The e-car rental system is a new transport mode that serves for travelling around Limassol region and encourages other regions to follow this initiative in order to attract travelers. For residents, the service provides a new lifestyle service, without the costs or hassles of owning a car. This project will be self-maintained in the future and is expected to operate for the years to come.

B3 Technology development

Limassol Tourism Company, in collaboration with the EAC, installed new EV charging technology related to new functionalities, technical characteristics, and the design of the construction of the shelters. The shelters provide cover and protection to users during operation from sunlight and rain and partially provide cover for two electric cars during the charging cycle. Also, the shelters provide sufficient signage indication and, in combination with asphalt car park markings, indicate the reserved area and special parking for the charging station. Additionally, they provide sufficient illumination and instructions to the user for the proper use of the charging unit. Markings on the asphalt provide clear indications that parking is prohibited for non-electric car charging purposes. The shelters also include night illumination with automatic switch on/off controlled by light sensors.

B4 Actual implementation of the measure

During the project implementation, Limassol Tourism Board, in collaboration with the car rental companies and their associations, made great efforts to increase the number of EVs available for rental connecting Limassol airports and port. Several meetings have been held with local Authorities and the Electricity Authority of Cyprus (EAC) to determine the locations of the EV-

charging stations. The purchase of shelters for the construction of 4 EV-charging stations was completed in November 2017. As a supporting activity, the EAC provided the design of the shelters, the request of the necessary permissions for the installation, provided the connection for the supply of electricity, guaranteed the perfect maintenance of the equipment, and performed the installation of the EV-chargers, at its own expense.

In collaboration with the EAC, the best locations have been mapped to create a successful network in the Limassol region. The stations that have been installed are at Mesa Geitonia area, at the New Port, two at Ypsonas Municipality, at Enaerios Parking, and at the parking area of Chesters. The location of EV-charging stations are shown in the Limassol Mobility application. In total, 7 EV-charging stations and 4 with shelters have been installed in the Limassol region by November 2020.

The local partners produced informative maps (20,000 produced) which included the locations of the stations. These also included a barcode to be used by tourists through a QR Code application in order to be informed about the exact locations of the spots (longitude/ latitude). Additionally, maps and posters have been defined and printed to disseminate information about the existence and exact locations of the EV-Charging Stations. Maps are used as promotional material for the service and have been distributed to hotels, tourist information offices, shops, and other commercial activities in the city.



Figure 2: Construction works for the installation of EV – Charging point with shelters at New Port and at the municipal Parking of Ypsonas Municipality

Since the start of DESTINATIONS, both airports of Cyprus now have EV-charging stations. The goal is that by providing the required conditions and the EV-charging stations, car rental companies will be motivated to create e-car rentals services which will connect the airports, port, and Limassol tourist area.

Additionally, research has been completed regarding new electric car sharing options in airports, ports, and in Limassol's tourist area. The research included questionnaires and interviews with five car rental companies which owns more than 500 cars. The car rental companies answered questions regarding the customers' country of origin, age, preference for the type of car they want

to rent, the time period with the highest car rental rates, the rental criteria, as well as the days when the vehicle is available for rent. The survey also included questions about the availability of electric cars by the specific companies, the reasons why they have not yet included electric cars in their fleet, and possible suggestions. Results revealed that the use of rental cars was by a large percentage from UK customers. Also, the influx of tourists from England remained stable, without particular fluctuations during both years, 2018 and 2019, and across all companies. Finally, the purchase of electric cars by rental companies is still very difficult, since there are no incentives by the Government and the purchase of e-cars is still very expensive.

C Impact evaluation

C1 Evaluation approach

Expected impacts and indicators

Impact category	Impact indicator	Unit of measure
Economy	1- Saving of fuel costs	€
Environment	2- Saving of CO2 emissions	Ton CO ₂ /year
Environment	3- Traffic noise	dB
Energy	4- Energy consumption	MWh
Energy	5- Saving of fuel consumption	L
Society	6- Awareness level available about options for commuting from the airports/port	%
Society	7- Acceptance level about options for commuting from the airports/port	%
Society	8- Number of e-cars	N ^o

Table 2: Expected impact and indicators

Method of measurement

Impact indicator	Method*	Frequency			Target Group	Domain (demonstration area/city)
		Bef.	Dur.	Aft.		
1- Saving of fuel costs	E	M10	M26	M45	Transport service providers	Demonstration area
2- Saving of CO2 emissions	DC/E	M10	M26	M45	Vehicles in demonstration area	Demonstration area
3- Traffic noise	DC/E	M10	M26	M45	Residents and tourists	Demonstration area
4- Energy consumption	E	M10	M26	M45	Vehicles in the area	Demonstration area
5- Saving of fuel consumption	E	M10	M26	M45	Vehicles in the area	Demonstration area
6- Awareness level about options for commuting from airports/port	S	n.a.	M21-26	M34-41	Residents and tourists	City
7- Acceptance level about options for commuting from airports/ port	S	n.a.	M21-26	M34-41	Residents and tourists	City
8- Number of e-cars	DC	M1	n.a.	M39	Residents and Car rental companies	City

Table 3: Method of measurement

Detailed description of the indicator methodologies

- **2- Saving of CO2 emissions** – This indicator was estimated considering the number of new EVs in circulation during the project (an additional 80 EVs). The 80 EVs were considered to replace 80 conventional fuel vehicles, resulting in a reduction/saving of CO₂ emissions. So, 1 fuel rented car performs on average 3,000 km per year (50 km daily for 60 days, according to the car rental companies experience), which is on average 150 g of CO₂ per km (source: [Eurostat](#)). Therefore, 1 car would account for 450,000 g of CO₂ emissions per year or 450 kg of CO₂ per year. The 80 conventional cars would account for 36,000 kg CO₂ per year or 36 tones CO₂ per year considering the above assumptions.
- **4- Energy Consumption** – In the same sense, the annual energy consumption avoided by the EVs was estimated through improving the energy efficiency of EVs compared with fossil fuelled vehicles. For calculating the energy consumption, an average that an EV consumes 196Wh/km or 0.000196 MWh/km was used (source: [EV Database](#)). Considering that the 80 cars travel on average a distance of 240,000 km per year, the energy consumption to charge these EVs would be 47.04 MWh. The energy consumption of conventional cars in Cyprus in

2018 was 2.59 MJ/km (source: [ODYSSEE MURE](#)) or 0.000719 MWh/km, resulting in 172.56 MWh of energy consumed from the 80 cars in total for 1 year. The baseline is the energy consumption of conventional cars and the ex-post is the difference between the energy consumption of the conventional and e-cars.

- **3- Traffic Noise** – This indicator was calculated based on estimations, due to the lack of directly measuring the impact of the 80 EVs moving around the region. The environmental sensors which have been placed in the 6 municipal areas are measuring the environmental pollution of all the modes of transportation that are passing through, and therefore it is hard to isolate only the noise from cars (EV and conventional). Therefore, an average reference was used that a conventional car produces a noise at 70 dB (Source: [Typically noise levels, DELTA](#)) and an EV produces a noise at 40 dB (Source: [CleanCharge Network](#)). As a result, the 80 conventional cars would produce 5,600dB in total from each area they pass through, and the EV would produce 3,200dB from each place they pass. The noise pollution from the conventional cars is the baseline and the ex-post is the noise pollution that is avoided due to the substitution of the 80 conventional cars by the 80 e-cars. The ex-ante, has been adjusted to be a decrease of 15 dB of traffic noise by car.
- **5- Saving of fuel consumption and 1- Saving of fuel costs** – These indicators were obtained based on estimations made in cooperation with the Cyprus Public Works Department of the Cypriot Ministry of Transport, Communication and Works, and Cyprus Electricity Authority. The number of e-vehicles available for rent was 80 EVs. As an assumption, based on the car rental companies input and experience, in order to be able to estimate the fuel consumption and cost, an average distance that people are likely to drive the e-cars (50 km daily for 60 days) was identified. The approximate consumption of an average car was 4 L/50 Km. Also, the average fuel price in Cyprus for the period of the implementation of the measure and the evaluation was set at 1.24 €/L.
- **6- Awareness level about options for commuting from the airports/port and 7- Accessibility level about options for commuting from the airports/port** – These indicators were calculated based on surveys (in 2018 and 2019) to assess the understanding, usefulness, and willingness regarding the actions related to the e-car rental. Survey findings were related to questions about the current situation of the available options for commuting from the airports/port to the tourist area. (Q: Do you know that you can use an electric vehicle from/to port/airport? & Did you use it at least once?). 350 people answered the surveys in both years, 175 in 2018 (172 tourists; 3 locals), and 175 in 2019 (175 tourists).
- **8- Number of e-cars** – This indicator measured the actual number of e-cars following CIVITAS DESTINATIONS in the Limassol Region. Data was collected from the Electricity Authority of Cyprus.

The Business-as-Usual scenario

Considering the type of indicators, mostly comprised of surveys and indicators whose information was gathered for the first time, carrying out a BAU analysis was not possible. If this measure had not been implemented, the 7 double EV-charging stations with shelters would have not been developed and thus citizens would have not been encouraged to purchase electric cars.

C2 Measure results

Impact category	Impact indicator	Unit of measure	Baseline	Ex-Ante	Ex-Post
Economy	1- Saving of fuel costs	€	0	11,315	23,808
Environment	2- Saving of CO ₂ emissions	Ton CO ₂ /year	0	49.46	36.0
Environment	3- Traffic noise	dB	5,600	4,400	2,400
Energy	4- Energy consumption	MWh	172.56	89.05	125.52
Energy	5- Saving of fuel consumption	L	0	9,125	19,200
Society	6- Awareness level about options for commuting from the airports/port	%	0	40	60
Society	7- Acceptance level about options for commuting from the airports/port	%	0	5	15
Society	8- Number of e-cars	Nº	40	60	80

Table 4: Measure results

C2.1 Economy

1- Saving of fuel costs

Based on the description of this indicator in section C1, 80 combustion vehicles were replaced by 80 EVs. Considering that, on average, each car performs 50km daily and consumes on average 8 L/km of fuel, a prospect of economy was identified reaching to 23,808€. EVs are based on a business strategy to offer a more cost effective and sustainable option to visitors' mobility.

C2.2 Environment

2- Saving of CO₂ emissions

Through the implementation of the measure and considering the assumption, the levels of CO₂ emissions were significantly reduced, resulting in a decrease of 36tCO₂, with the replacement of 80 fuel cars by 80 EVs. Electric vehicles do not produce tailpipe emissions from directly burning fossil fuels which contributes to climate change and harmful air pollution.

3- Traffic noise

As result of the replacement of 80 fuel cars by 80 EVs, it was estimated that noise levels polluting the Limassol region have been reduced by 3,200 dB. The 80 conventional cars would make a noise equal to 5,600dB (baseline), but as electric motors are very quiet, especially compared to internal combustion engines and their exhaust systems, the noise pollution would be equal to 2,400 dB.

C2.3 Energy

4- Energy consumption

To estimate the energy consumption that was saved, the energy consumption of 80 conventional cars for 50 km per 60 days was estimated. The result is used as baseline. To calculate the ex-post, it was estimated that those conventional cars have been substituted by 80 e-cars. The results indicated that the unnecessary use of fossil fuels in the car engines resulted in the reduction of energy consumption by 47.04 MWh.

5- Saving of fuel consumption

The implementation of the measure resulted in 19,200 L of fuel saving, since the use of 80 conventional cars was limited and substituted by e-cars which do not require gas to drive. Additionally, this result reflects the condition that 80 cars are driven for 50 km for 60 days in a year.

C2.3 Society

6- Awareness level about options for commuting from the airports/port and 7- Acceptance level about options for commuting from the airports/port

The survey results revealed that during the implementation of the measure, the awareness level about EV options and acceptance level towards the available options for commuting from the airports/port to the tourist area were significantly increased. This was as the measure was accepted and adopted very fast by Limassol tourists and residents. Specifically in 2019, 60% of people answered that they knew about the possibility to use an electric vehicle from/to ports/airports, and 15% answered that they had already used it once. Contradictorily in 2018, 34% of people answered that they knew about the electric vehicle option and 4% answered that they had used it at least once. The developed maps and posters contributed to the increase of the measure's awareness and acceptance. Maps serve as promotional material for the service and have been distributed to hotels, tourist information offices and other locations.

8 - Number of e-cars

The number of e-cars was increased in four years by the addition of 80 more cars according to the data from the Electricity Authority of Cyprus.

C3 Quantifiable targets

No.	Target	Rating
1	Fewer CO ₂ emissions: 49.46t CO ₂	*
2	Less traffic noise in the city centre: 15 dB	***
3	Increase the awareness of people by 50%	**
4	Less energy consumption: 82.125 MWh	*
5	Less fuel costs: 11,315 €	***
6	Less fuel consumption: 9,125 L	***
7	Public health and safety	N/A
8	Increase the total share of citizens that use sustainable mobility modes	N/A
9	Reduction of long-term car rental: 250 rental cars in the long term	N/A
10	*Increase the number of e-cars: 60	***
<p>N/A = Not Assessed 0 = Not Achieved * = Substantially achieved (at least 50%) ** = Achieved in full *** = Exceeded</p>		

*New target, not in GA

Table 5: Assessment of quantifiable targets

Target 1, 2, and 4 have been based on assumptions as it was impossible to directly measure from the environmental sensors the CO₂ emissions, energy consumption, and traffic noise from EVs, while excluding other modes of transportation moving through the region (trucks, buses, motorbikes etc.). For this reason, based on the 80 new EVs which substituted the conventional cars, and based on the assumptions from the car rental companies (based on their experience), the impact of the 3 targets was estimated.

Target 2 was Exceeded, as with the measure implementation it was possible to achieve a reduction of 3,200 dB compared to the baseline situation (5,600 dB). The ex-ante value reflects that each car produces 15 dB less of noise pollution.

Target 3 was achieved in Full. During the surveys, it was well understood that 60% of the residents and tourists surveyed were aware and 15% had accepted the new sustainable mode of transport. The promotional materials for the service which have been disseminated to hotels, tourist information offices, and other locations contributed for the fulfilment of this target.

Targets 1 and 4 were substantially achieved. After the implementation of the measure, the evaluation results revealed that the CO₂ savings reached 36.0t compared to the expected 49.46t. Target 4 was expected to save 82.125 MWh, but after the implementation of the measure, achieved savings of 47.04 MWh. The targets can be characterised as Substantially Achieved due to delays of implementation of activities which exceeded the planned timeline and thus the data calculated for the 1 year period. Although EVs do not produce tailpipe emissions from burning fossil fuels, amounts of CO₂ are still emitted and energy is still consumed for the car's charging needs.

Target 6 was exceeded due to the reduction of conventional car driving which allowed 19,200L of fuel savings. Target 5 was exceeded, as through the measure, a prospect of economy reaching to 23,808€ was achieved. Those two targets aim to offer a more cost effective and sustainable option to tourists' mobility, and was successful. The EV rental system is proven to be an environmentally friendly practice. Before the measure implementation (before 2016) there were 40 e-cars in the Limassol region. After the CIVITAS DESTINATIONS project (after 2016 and up to 2020), there are now an additional 80 e-cars. Therefore, it can be understood that the actions of the CIVITAS DESTINATIONS project contributed to that increase. However, the car rental companies lacked concrete data for the use of the e-cars per year. For this reason, the car rental companies gave average values as an estimation to the distance that each rented car is driven and the number of days that these cars are rented. The conclusion was that it is a good estimation to assume that the e-cars were driven for 60 days per year and covered an average distance of 50 kilometres per day.

Target 7 was not possible to be assessed due to a lack of such quantifiable data. Although it was not possible to measure the public health and safety directly, it is expected that this target has been improved, considering that the CO₂ emissions, energy, and fuel consumption have been decreased.

Target 8 cannot be assessed due to a lack of data on modal share, but is expected that the total share of citizens using smarter and more fuel-efficient mobility modes to travel from airports/ports to Limassol has increased. This conclusion is also drawn from the survey question "How did you travel to this holiday region" for which 56% answered PT, and 26.2% rented a car from the airport/port.

Target 9 cannot be assessed due to a lack of such statistical data. The unexpected situation with the COVID-19 pandemic affected not only travelling for leisure, but also the way of travelling in general. Therefore, although it is expected that people will avoid renting a car for their whole trip or periodically to visit some destinations which cannot be reached in another way, there is a possibility that the pandemic will change this intention until the elimination of the virus. However, the question from the survey "How did you travel to this holiday region", reveals that 56% of people travelled by PT, and only 26.2% rented a car from airport/port. This outcome is very promising, and maybe in the long term the number of rental cars will decrease even further.

Target 10 was exceeded, as the number of e-cars prior to DESTINATIONS was 40, and reached 120 EVs in the Limassol region by the end of 2020. The local partners believe that the outcome regarding the increase in EVs in the region has been encouraged by the CIVITAS DESTINATIONS project.

C4 Up-scaling of results

Not applicable

D Process Evaluation Findings

D1 Drivers

This measure had a high involvement of key stakeholders for the implementation of the activity. Additionally, the EAC supports drafting the specifications for shelters and EV-chargers. The EAC has undertaken the task of adding fast EV-chargers on the motorways connecting regions of the island. The engagement of the EAC added extra value to the implementation of the measure, since it plans to install 18 new EV-charging stations in Cyprus in a 3-year period.

D2 Barriers

The main barrier was the permissions and delays for the construction of the EV-charging stations. There was continuous communication with key stakeholders and responsible authorities to get the permission, and fortunately all outputs have been completed on time and the evaluation was successfully undertaken.

D3 Main Lessons Learned

For residents, the service provides a new lifestyle option, and electric car owners in Limassol are gradually increasing. This gives an additional option to serve people wanting to use a sustainable mobility mode of transport. The installation and creation of an EV-charging network on the island of Cyprus gives an incentive to car rental companies to increase their fleet with e-cars. The existence of the network all over Cyprus, and connecting airports, gives tourists the opportunity to choose an e-car. The fares for charging the e-vehicles is €6.44 for using the car for 220 km (30W).

E Evaluation conclusions

This measure ensures the increase of EV-chargers at 7 points in Limassol. Research on e-car sharing options around the city has been undertaken including questionnaires and interviews.

F Additional information

F1 Appraisal of evaluation approach

Delays occurred during the installation of the EV-charging stations due to difficulties in obtaining permissions. However, after several meetings, the problems were solved, allowing the evaluation of this measure to be fully undertaken.

Initially, the assessing of Targets 7, 8, and 9 was planned, but due to a lack of data it was impossible to assess these targets. However, the results from the other indicators and the results from survey questions revealed that these targets have been achieved.

Finally, in order to fulfil Targets 5 and 6, estimations with the car rental companies' advice were made regarding the distance that each of the 80 rented e-cars are driving and the number of days that these cars are rented.

To estimate Targets 1, 2, and 4, a series of estimations took place as it was impossible to isolate the emissions, energy consumption, and noise pollution only from e-cars.

Finally, a third survey was planned to occur between M44 and M47 to observe the impact of the measure in 2020 and how it had evolved from 2018 and 2019. Unfortunately, the arrivals of tourists in Limassol decreased dramatically and even the residents moves in the region decreased due to the COVID-19 pandemic. Therefore, the data resulting from surveys in 2020 would have not been representative and it was decided to consider the results from the survey applied in 2019 for impact evaluation approach.

F2 Future activities relating to the measure

There will be continuous meetings with the Electricity Authority of Cyprus for monitoring the installed EV-charging network, and continued collaboration with Communities and Municipalities to promote the installation of the EV-chargers in more sites in the Limassol Region.