

Electric mobility solutions for tourists and residents

Municipality of Rethymno, Crete, Greece

KEY FEATURES

<p style="text-align: center;">Highlights</p> <ul style="list-style-type: none"> - Installation of 2 SOLAR CARPORTS (4-car and 8-car respectively). - Installation of 1 EV charging station (for 2 vehicles). - Installation of 10 Micro-mobility charging stations for e-bikes and e-scooters. - Placement of informational signs 	<p style="text-align: center;">Main Objectives</p> <ul style="list-style-type: none"> - Promote electromobility. - Raise awareness of sustainable mobility. - Combination of RES and electromobility. - Enhance city's image as a sustainable tourism destination. - Expansion of e-vehicles charging stations network in the region.
<p style="text-align: center;">Investment/Maintenance Costs</p> <ul style="list-style-type: none"> - Total budget: 67.949,52 € - 4-Car-Port 22.258,00€ - 8-Car-Port 33.294,00€ - E-car Charging Station 5.952,00€ - Micro-mobility charging stations 1.736€ - Informational Signs 4.709,52€ 	<p style="text-align: center;">Impacts & Results</p> <ul style="list-style-type: none"> - Charging facilities for 2 cars and 10 e-bikes/e-scooters. - Approx. 30 KWp installed solar power producing around 45.000KWh/year allowing for example the municipal e-car to cover approx. 225.000 Km





CONTEXT

The present action is part of the Interreg MED INCIRCLE project (<https://incircle.interreg-med.eu/>) which builds up on previous projects (BLUE ISLANDS, EMBLEMATIC, CASTWATER, MITOMED, ALTERECO LOCATIONS, Act4LITTER), capitalizing knowledge and available tools to test a new methodology that applies the principles of circular economy to the tourism sector, with a focus on the needs of islands and low density areas.

INCIRCLE tailored policies address **mobility, energy efficiency, use of limited resources as water and waste production**, while enhancing community prosperity and quality of life.

In the framework of the project the municipality of Rethymno –an island tourist Greek municipality - is implementing a local demonstrator aiming to promote electromobility in combination with Renewable Energy Sources among tourists and residents. The initiative builds up on actions already implemented through CIVITAS DESTINATIONS project and ERDF funding.

Rethymno is the third largest municipality of Crete with 63,000 habitants. It accommodates more than half a million tourists and attracts more than 1.5 million visitors on day tours and cruises annually. Therefore, the municipality is building up an integrated approach to face the rising challenges of both growing sectors: mobility and tourism.

In 2007, Rethymno Municipality set its vision: ***“Rethymno will become a city model for sustainable development, not only a unique touristic destination”*** and since then each political decision and strategy is aligned with. In 2009, the Sustainable Mobility Action Plan for Rethymno is conducted and in 2014 the action plan was updated in *“Mobility Action Plan for the Sustainable Development of Rethymno Municipality”*. The signage of the Covenant of Mayors followed with the *Sustainable Energy Action Plan (SEAP)* in 2011. In 2016, Rethymno Municipality was the first Greek city becoming member of a CIVITAS initiative project – the CIVITAS DESTINATIONS project. The *Sustainable Energy and Climate Action Plan* completed in 2017. Today, Rethymno Municipality is a step away from the **Sustainable Urban Mobility Plan (SUMP) and the Sustainable Urban Logistic Plan (SULP)**.

In Crete most of tourists travel among different attractions by internal combustion cars and scooters. The goal of the municipality of Rethymno is to address the intense seasonal tourist fluctuation, to reduce car usage, to achieve a shift in transport modal share and offer upgraded and innovative mobility services for citizens and tourists.



The Project

The Day before INCIRCLE project....

Through **CIVITAS DESTINATIONS project and ERDF funding**, Rethymno Municipality has introduced e-vehicles in Crete. Those zero emissions, quiet and efficient vehicles circulate in the city enhancing Rethymno's eco profile. Also, Rethymno installed the first public charging points in the region, aiming to support the use of e-cars by tourists and citizens. Rethymno is leading the way for regional EV charging network, as a fundamental condition for the uptake of EVs in the island.

The demonstrator of INCIRCLE project for Rethymno Municipality builds up on the actions already implemented:

- ✓ Installation of 3 public double e-vehicle free charging stations in city center (CIVITAS DESTINATIONS project-HORIZON 2020) – free of charge.
- ✓ A municipal e-car, employed by the Municipal Technical Services Department with dedicated signage and messages to promote electromobility. (CIVITAS DESTINATIONS project-HORIZON 2020).
- ✓ A mini e-bus of 23 people capacity, fully accessible circulating in the city covering the needs of tourists and citizens during summer and winter period respectively. Free of charge! (CIVITAS DESTINATIONS project-HORIZON 2020)
- ✓ Complete a series of raise awareness activities -Test drives, advertorials, social media posts, public events, leaflets and postcards – enhancing e-mobility and its benefits. (CIVITAS DESTINATIONS project-HORIZON 2020).
- ✓ Installation of one (1) fast charger in city center (ERDF funding) – free of charge.
- ✓ Launch of sharing system of e-scooters (Private Public Cooperation)
- ✓ Launch of public e-bike sharing system in combination with the installation of a Photovoltaic shelter to charge the e-bikes batteries. The shelter is storing the PV produced energy to batteries but there is the option to be connected to the grid.

Rethymno Municipality tries to ensure the sustainability of these measures and maximize the social and environmental impact.



The INCIRCLE project...

As the next step of the CIVITAS DESTINATIONS project, Rethymno Municipality through INCIRCLE project is going to implement a demonstrator activity which combines **Renewable Energy Sources with Electromobility**.

To be more specific, the **demonstrator – to be installed by 2021** – includes:

- Installation of a 4-car Solar Carport.
- Installation of an 8-car Solar Carport.
- Installation of an EV-charging station for two vehicles.
- Installation of ten (10) Micro-mobility charging stations for e-bikes and e-scooter.
- Placement of Informational Signs.

About the Solar Carports:

Rethymno Municipality had a close cooperation with the local department of the Technical Chamber in order to define the technical requirement and characteristics of the solar carports.

EVs are zero emissions vehicles, but the overall emissions of an EV depends largely on how the electricity used to charge their batteries is produced. This 68.000€ project is installing two PV car ports that are able to produce the energy required by the adjacent car charging stations whilst sending the excessive power produced to the grid (Net metering configuration)

With this configuration, there is no need for the use of energy storage devices which has been aborted after a cost/benefit analysis due to the high costs of such a technical solution.

Through a participatory with some engaged stakeholders, Rethymno Municipality decided the locations of the two solar carports; the 8-car port will be installed in the central parking lot of 4 Martyrs Square and the 4-car port will be installed in marina of Rethymno. Both locations are already equipped with 22 KW e-car charging stations. An additional station will be installed in Rethymno's marina.

About Micro-mobility charging stations for e-bikes and e-scooter:

Rethymno embraces micromobility as an option to ease pressures on public transportation and congestion. Micromobility is an amenity that fills in the gaps where existing transit systems may not reach. Citizens and tourists have the opportunity to enjoy ten (10) vital infrastructure for riders and rideshare operators by offering a convenient place to charge and store e-bicycles and e-scooters.



About Informational Signs.

An important part of the project is the clear promotion of the infrastructure through attractive informational signs. The signs will include information not only about the use and the project funded but also about the environmental impact of each infrastructure.

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Major issues encountered

- Solar car ports when introduced into an urban area could have a negative visual impact.
- Limitations imposed by the existing electricity grid.

Corrective actions

- Participatory process helped in identifying proper areas for the installation of the solar car port and charging stations. Rather than having a single large car port it has been decided to have two smaller in order to minimize visual impact and overcome the grid limitations.

Investment/maintenance costs

67.949,52€ total costs of investment:

- 4-Car-Port 22.258,00€
- 8-Car-Port 33.294,00€
- E-car Charging Station 5.952,00€
- Micro-mobility charging stations 1.736,00€
- Informational Signs 4.709,52€

Planned monitoring activities

The success of the measure will be monitored against the following indicators:

- Number of EVs charged at the charging stations.
- kWh supplied by the charging stations.
- kWh produced by the photovoltaic panels.
- Number of EVs vehicles circulating in Rethymno.



Positive side effects and continuity of the measure

The installation of the new charging infrastructure will expand the existing ones and send clear the message that Rethymno designs in the direction of sustainable development. Rethymno is increasing public charging stations in the area and is leading as a lighthouse example for other Greek cities. Also, the demonstrator action will empower the sustainable and eco-friendly profile among tourists and at the same time citizens can evaluate the option of install a private carport.

It is expected that private companies will invest in electromobility and offer in the near future EV rental cars to tourists in order to generate new business opportunities.

Key actors and stakeholder to involve

- Tourism Department of involved municipalities and regional government
- Chamber of Commerce and Industry
- Associations of Solid Waste Management
- Technical universities and research centers
- Hoteliers and Restaurants Association
- Travel Agency Association
- Hotel Employees Association
- Union of Car Rental Enterprises
- Port Authority
- Association of disabled people
- Electric grid operators
- Development agency
- Regional Energy Department
- Retailers and Traders Association
- Tourist Guide Association
- Other municipalities that could be involved in the offered services

Monitoring data available

Not available yet

Links to more Information

<https://incircle.interreg-med.eu/>

<https://www.rethymno.gr/en/municipality/incircle/INCIRCLE.html>

