# SURVEY TO ASSESS THE BARRIERS TO WIDESPREAD ELECTRIC VEHICLE USE IN A MEDITERRANEAN ISLAND SETTING



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#### Yearly sum of global irradiation incident on optimally-inclined equator-oriented photovoltaic modules

#### Yearly sum of solar electricity generated by 1 kW<sub>peak</sub> system with optimally-inclined equator-oriented photovoltaic modules and system performance ratio 0.75

#### Malta: 316 km<sup>2</sup>; 417,608 inhabitants



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#### Number of passenger cars per 1000 inhabitants, 2015



Number of households in Malta in 2015 was 151,300.

About 1.80 passenger vehicles (2.4 motor vehicles) per household. (Data: Eurostat)



#### Number of petrol and diesel passenger vehicles 2010-2016

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S. Martín Nieto and M. Weissenbacher, "Diffusion tube measurements of outdoor air pollution in Malta with special focus on the exposure of children", Sustainable Energy 2012: The ISE Annual Conference, 21 Feb. 2012, Qawra – Malta. Online: https://www.um.edu.mt/library/oar//handle/123456789/23548

## 2016 GDP per capita, PP adjusted

MT € 27,900
EU-28 € 29,100
AUT € 37,200
GER € 36,000

Source: Eurostat

Through five national programmes, Malta has been allocated EUR 828 million [ca. €2,000 per inhabitant] from ESI Funds over the period 2014-2020. With a national contribution of EUR 196 million, Malta has a total budget of EUR 1.02 billion to be invested in various areas,..

European Structural and Investment Funds: Country factsheet - Malta http://ec.europa.eu/regional\_policy/en/information/publications/factsheets/2016/europea n-structural-and-investment-funds-country-factsheet-malta

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..the EU-financed DemoEV project, which by December 2014 had installed 90 charging points [50 pillars, 40 of which have two charging points] on the islands, put 24 electric vehicles on the roads, and trained over 170 participants on the operation and functioning of electric vehicles.

.. The project's market research activities showed a marked increase in overall positive perception on EVs as a result of the project's activities.

(Calamatta, 2015)



DemoEV - LIFE10 ENV/MT/088 EU LIFE+ Funding Programme This project is part-financed by the European Union Co-financing rate: 49.64% EU Funds; 50.36% National Funds



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Source: Google Street View.

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## **EV** Grants

A grant of  $\leq$ 4,000 will be given to persons registering an electric car. The grant shall increase from  $\leq$ 4,000 to  $\leq$ 5,000 in cases of persons registering a Battery Electric Vehicle while at the same time opting to de-register another internal combustion engine propelled vehicle which is at least 10 years old from the year of its manufacture. Transport Malta, no date provided, http://www.transport.gov.mt/land-transport/electric-cars

#### 2017:

- €5,000 when registering a new or used electric vehicle without scrapping an older vehicle;
- €8,000 when registering a new electric vehicle and de-registering another vehicle which is at least 10 years old from year of manufacture;

Transport Malta, 2017, http://www.transport.gov.mt/news/press-release-25-july-2017-grant-schemes-on-electric-environment-friendly-vehic

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#### EVs in 2016

169 electric passenger vehicles in Malta in 2016, compared to 281,415 diesel and petrol ICE passenger vehicles.

Less than 0.1%.

Two EVs per public charging point.

## Survey- Method

- paper and online
- link to the online survey sent to email addresses and social media platforms
- target group: residents 18 years and older: population of 338,086 (2014 demographic review)
- confidence level: 95% (probability that the sample accurately reflects the attitudes of the population)
- margin of error: 10% (reflecting range that the population's responses may deviate from the sample's)
- resulting sample size: 97
- II questions, nine of which were polar questions (yes/no questions), while the remaining two were multiple choice questions.

- Demographics: Female respondents (54%) and male respondents (46%) relatively equally represented.
- Median age: 30 years for female and 37 years for male respondents. (For comparison, the median age of the Maltese population as a whole is 41.5 years.)
- Educational level: 2% primary, 19% secondary, 79% tertiary. (For comparison, 32.3% of the Maltese population have tertiary level education.)

- Half of respondents use car daily. Just over half not using car daily were women.
- 90% considered pollution generated by road traffic a problem.
   Of the remaining 10%, most were non-users of cars on daily basis.
- Over 85% of respondents had never driven an electric vehicle. Among those who had, there was only one woman.
- Half of respondents had considered buying an electric vehicle. Among men the share was larger (65%) comp. to women (42%). Many who had considered buying one had previously driven one.

• Main reasons of concern, <u>choice of up to three answers</u> out of:

- "The purchase price is too high"
- "The driving range is not sufficient"
- "The battery lifetime and its replacement costs"
- "Maintenance costs"
- "Charging takes too long"
- "Availability of charging points"
- "The resale value"
- "The technology"
- <u>Top three choices</u>:
  - I."availability of charging points"
  - 2."the battery lifetime and its replacement costs"
  - 3."the purchase price is too high"

- 85% of (both male and female) respondents indicated that they would consider buying an electric vehicle if the upfront cost would be the same as with a conventional ICE car
- 78% stated that if they were to buy a car within the next two years, they would purchase an EV if it was economically possible.
- 26% of respondents knew about the grant scheme available for the purchase of electric vehicles
- 35% knew that electric cars require the lowest registration tax and annual road license fee.

- Answering a question shown with a map that indicated the location of charging points: Just over half of all respondents stated that they <u>had not noticed any of the charging points</u> on the streets of Malta.
- Regarding the most important benefit of EVs, top two answers:
  - "EVs do not produce tailpipe exhaust" (67% of respondents)
  - "It shows that the owner is an environmentally friendly person" (14% of respondents)

## Conclusions

- DemoEV project (started 2012) so far failed to trigger a transition
- Only 169 EVs out of 283,138 licensed passenger cars by start 2017
- Additional information campaign required
  - Installed charging stations remained invisible for half the respondents; top-ranking concern: "availability of charging points"
  - Existing incentive schemes largely unknown; while cost-related concerns high
- Driving range anxiety absent (insular structures)
- Local environmental benefits of EVs well known
- Holders of tertiary education overrepresented in survey; large share of respondents already interested in EVs.

### Thank you!

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