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Promotion & Dissemination Projects

Electric **C**ity **Tra**nsport – Ele.C.Tra

D.6.6 Non-pilot City Plan for Malta

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Work Package 6	POST-OPERAM
Task:	Non-pilot city plan fulfilment
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This document includes the main aspects regarding development of Non-pilot City Plan (D.6.6) for all non-pilot cities

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1. ACTIVITY PLAN FOR INTRODUCING THE *SCOOTER SHARING* SYSTEM OF ELECTRIC VEHICLES IN THE CITY OF ZAGREB

1.1. *Activities that can be implemented and the number of planned light electric vehicles*

It was calculated how Yogo a lithium ion battery-operated scooter can cover 30 kilometres with one unit of electricity which in Malta costs 13.5 cents worth of electricity. This is the cheapest option when compared to €1.12 for a 50cc scooter and €2.80 for a diesel 1600cc engine. In spite of the financial advantage, short distances in Malta, flat terrain, mild weather and traffic congestion, scooters are not so popular. Yet things are about to change.

The Maltese Ministry for Transport and Infrastructure and the Green Transport Committee have devised an action plan for transport to reduce the carbon foot print of the transport network while reducing the traffic congestion especially during the rush hours. This innovative mode of transport is based on electric mobility and ride sharing schemes. Professor Maria Attard (2015) found how the financial encumbrance in reaching the environmental goals while improving the quality of life would reach €315 million for year 2020 and €320 million for 2030.

The major obstacles remains the fact that very short distances travelled for daily commuting. Fiscal incentives and subsidies certainly help. As a matter of fact the financial advantage of an electric vehicles is proportional to the distance travelled. In spite of this, technological advancements could make electric mobility more cost effective for relatively short distance travel.

Following a detailed study of the Maltese transport network, the Ministry and the Green Transport

Committee concluded how policy measures in Malta may contribute towards a significant impact on road transport. Based on this statement, policy recommendations shall provide an indicative list of policies aimed at influencing road transport. These include:

• The application of intelligent transport services in aim of adopting a more efficient modes of transport

• The adaption of the Maltese infrastructure so as to support and catalyse the use of lighter modes of transport such as walking and cycling

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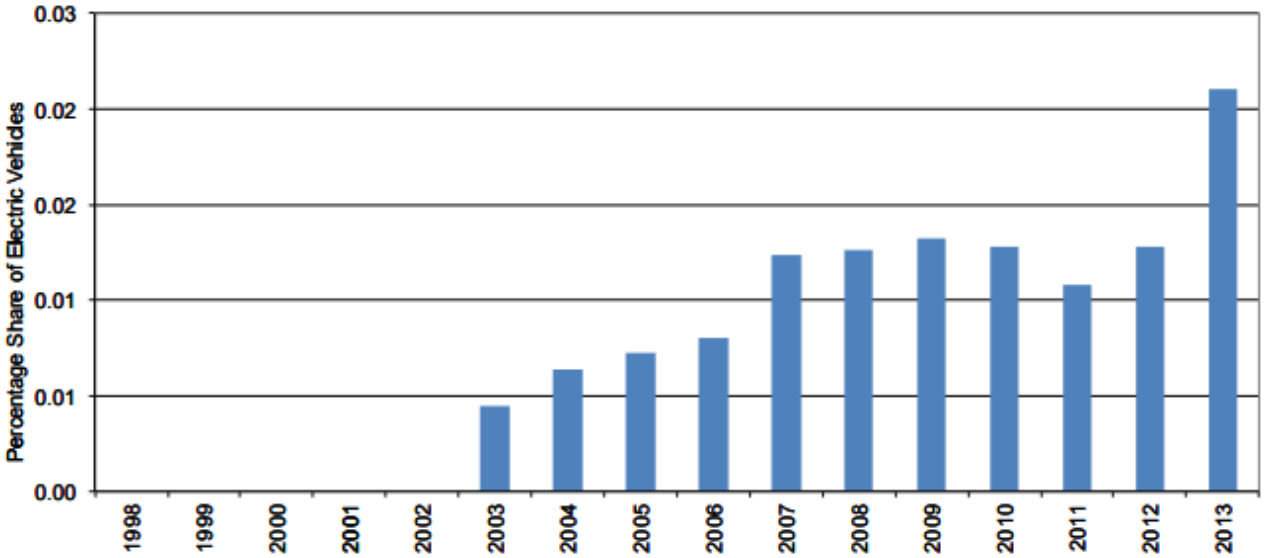

Percentage electric vehicles in the private vehicle fleet in Malta.

Source: NSO (2014b).

Following these lines, the Ministry for Transport and Infrastructure have come up with a financial motivation to incentive the purchase and use of electric scooters, electric quadricycles and electric cars. This scheme is valid for the purchasing of new vehicles and there are also additional incentives for the scrappage of older cars. Moreover, the vehicle should be licensed for private use.

Scrappage schemes and vehicle grants*

- A €7,000 grant on the purchase of new electric vehicles and €4,000 if no vehicle is scrapped.
- €2,000 on a new electric quadri-cycle.
- €2,000 on hybrid passenger vehicles with emissions between 50 and 65g/km.
- €3,000 on plug-in hybrid electric cars with emissions between one and 50g/km.
- €900 on vehicles with emissions not exceeding 100g/km.
- €700 on vehicles with emissions between 101g/km and 130g/km.

*Vehicle must be at least 10 years old.

To qualify for this scheme, an electric quadri-cycle should be either new or if used, not more than 12 months from date of first registration and not more than 10,000 Km on the odometer.

Any electric vehicle registered under this scheme can be used solely for private use. An eligible person shall only be entitled for one grant under mentioned scheme. If the individual is registering an electric vehicle with the above-mentioned specifications one may apply for a grant of € 4000. On the other hand those individuals who register an electric vehicle and de-register another motor vehicle which is at least 10 years old from the year of manufacture may apply for a grant of € 5000.

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Individuals registering an electric quad-ricycle may apply for a grant of € 1500.

There is no road license fee for any kind of electric vehicles while first time registration tax is cheaper than vehicles which are powered by internal combustion engines as a results of no emissions of any harmful flue gases.

In 2014 there were an estimate of 18,000 licensed private motorbikes contrasted with 257,451 private cars in Malta.

As part of the budget for Malta for 2016, Prime Minister of Malta Dr Joseph Muscat described how the government is encourage the use of electric scooters and small engine motorcycles by allowing licence B holders to ride these bikes. Dr Muscat said how this action makes part of the government's agenda towards reducing the congestion of the Maltese roads while reducing the carbon footprint of the transport network.

The Times of Malta documented how this move left many toying with the idea of buying a motorino to beat the traffic. The concession of driving small engine scooters or electric scooters with the driving license B will be possible as from the first of January 2016. Subsequently, it will be accompanied by an awareness campaign for improving the safety on Maltese roads. The Government of Malta commented how already major European cities cherish the use of small motorbikes for travel. For example in Italy these are the preferred mode of transport among people of all ages.

In an interview of the Time of Malta with Mr Gordon Micallef of Gordon's Moto Centre, he described how the incentive to swap to two wheels was the only way to cut traffic.

Conversely, one should imagine if we had to replace all the motorcycles in Genova with cars - the city would find itself in a never ending transport grid lock.

Mr Micallef went on to discuss how targeting scooters is the only solution to address traffic while ensuring safety.

The law which will be in force as from the first of January 2016 says that motorists will be able to ride certain low-powered motorcycles, following 7 hours of practical training and 3 hours of theoretical tuition. The motoring training school will then issue a certificate of conformity and Transport Malta will update the licence. Moreover, drivers cannot carry a pillion rider.

Transport Malta described how the motorcycle's cylinder capacity must not exceed 125cc while the power rating must be equal to or below 11KW. Moreover, the power-weight ratio for electric motorcycles must not exceed 0.15kW per kilogramme while the power of motor tricycles cannot exceed 15kW.

As part of the Government's vision to improve the Maltese Mobility, the Ministry for Transport and infrastructure has published a policy with the aim of enhancing the introduction of

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electric vehicles in Malta. This policy is documented in the Malta National Electromobility Action Plan (MNEAP) under the section about the setup of the Malta National Electromobility Platform (MNEP).

Vehicle group	Petrol	Diesel	Electric	Hybrid	LPG	Gas	Paraffin	Combined	Unknown	Total
Agricultural	21	1,850	-	-	-	-	-	-	3	**1,874**
Coach and private bus	4	368	-	-	-	-	-	-	-	**372**
Minibus	9	1,156	-	-	-	-	-	-	-	**1,165**
Route bus	-	414	-	6	-	-	-	-	-	**420**
Motorcycle	19,694	12	67	1	-	1	6	-	-	**19,781**
Passenger vehicle	187,956	83,847	105	391	2	1	10	656	-	**272,968**
Goods-carrying vehicle	1,286	42,336	14	-	-	-	-	18	4	**43,658**
Special purpose vehicle	57	3,062	48	-	18	13	-	4	-	**3,202**
Road tractor	1	1,099	-	-	-	-	-	3	-	**1,103**
Total	**209,028**	**134,144**	**234**	**398**	**20**	**15**	**16**	**681**	**7**	**344,543**

Note: Data as at end of reference period.

Table 1: Stock of licensed vehicles by category and type of fuel used: Q3/2015

This action plan devises a number of measures so as to promote the use of electric vehicles in Malta while facilitating market penetration of the latest technologies available on the International markets.

Also, the Government has is in the process of installing and maintaining the infrastructure to enable the electrification of the road network in Malta. These actions complement the Maltese European Targets to have 500 charging points by year 2020 to enable a fleet of 5,000 electric vehicles by the same year.

The Maltese Government is avant-garde in the light of the continuous technological advancements being made by the car manufacturers and battery suppliers. Subsequently, the Government has adopted a staged methodology in order to adapt to the latest technological advancements taking place in this sector.

As part of this vision, the car charging points in Malta can be utilised by medium and fast charging cars in order to ensure the convenience, geographical coverage and the compatibility of charging points. This is most relevant to those citizens who do not have their own place where to charge their electric vehicle.

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The Market Position of Electric Vehicles

As a result of air pollution and GHG emissions and fluctuations in the price of crude oil are valid reasons for the adoption of electric vehicles as a move towards the global auto industry going forward. The setbacks of this move are the high costs, limited driving ranges, time required to charge a car (when compared to filling a car with petrol or diesel), lack of charging infrastructure and the technical and financial issues related with batteries. These are the main drawbacks which need to be tackled by car manufacturers.

In this light, any kind of incentive is more than welcome. Sometimes, the conventional incentives may not necessarily be the best. The effectiveness of incentives work are relative to the economic, social and landscape factors featuring in the corresponding societies. In this scenario, the Maltese landscape is featured by a number of slopes which makes it more demanding on the electric vehicle.

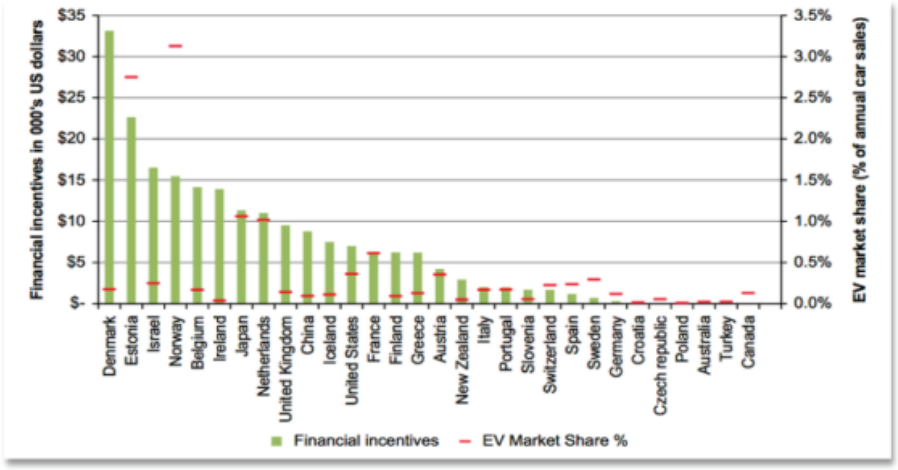
In this light electric car incentives should be designed which specifically address the needs and situations of the corresponding country. Moreover, within countries it is not straight forward on how results can be compared.

In the figure below, one can understand how the financial incentives (green vertical bars) are strongly correlated with the adoption of electric vehicles. The red horizontal bars show the distribution of the success amongst different countries.

It is interesting to note how Denmark offers huge financial incentive while featuring a poor electric vehicle uptake where the EV market share is well below 0.5%. On the other hand Norway is renowned for being the leader within the worldwide context of the EV market share while placing only fourth in terms of financial incentives.

It is interesting to mention how in the case of Norway more than 3% of annual car sales going to EV's while 25% of new car sales have gone to electric vehicles.

Figure 30. Financial incentives by country and corresponding EV market share for 2012



Source: Sierzchula et al (2014)

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Promotion of Elect Vehicles

Since the electrification of vehicles, the drawbacks of electric vehicles are outweighing the gains for the end consumer. In spite of the fact the electric cars are continuously in the limelight, they have not yet gained enough share in any of the major car markets — North America, Western Europe or China. These regions sum up *to 57* percent of the global auto market.

The decreasing price of crude oil and the increase in energy demand impends the momentum gained during those years when the price of crude oil was more than 100 Dollars per barrel. In the light that the current price of crude oil is $66 per barrel, the financial attributes of electric vehicles have deteriorated in just a few months.

In this light the promotion of electric vehicles has to resolve to better advertising and publicity. In this context one asks himself the question “Why do sales volume and brand advertising budgets move in lockstep?” When dealing with marketing campaigns, it is very popular to apply the case rate system. This system related a product’s advertising budget to its turnover by assigning a number of advertising cents to each item being sold. This type of practice requires economies of scales in advertising.

The economies of scale of advertising can indicate a company whether the brand’s budget is right to improve its sales and maximise the profit.

Product development can be broadly viewed as close relation between the budget spent in advertising a brand and the profit earned. Marketing companies usually limit their projections to the long-term benefits of the additional sales which advertising can generate.

Due to the fact that advertising is an extra expense, any increase of the budget cuts off the profit. This can be regarded as a short-term effect when looking at the expense of advertising in the primary stages of a product’s life cycle.

In this manner one has to be aware of the fact that advertising can have a geared effect on a company’s profit given that the brand’s net earnings ratio is smaller than its advertising to sales ratio. Therefore a rise or drop in advertising will exert a greater proportional effect on profit.

At this stage of this report, the readers may look for an alternative to overspend or underspend. As a matter of fact, while better marketing systems are developed the answer to this question is “nothing”.

EV’s proved themselves as having better efficiency, cost effectiveness and environmental sustainability. However, they cost much more than conventional ICE powered competitors. This draws a challenge on how to increase the EV’s market share without compromising on quality.

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These facts cannot stand alone. In order for EV's to populate the transport market these factors need to be put under the limelight. In this manner, the visibility of the quality of this type of mode of transport can help in the development of the vehicles or scooters throughout their life cycle.

Over time the end user and potential customers will get used and bored of the same advertising and manifestos. On the grounds of this threat, the companies which are producing and selling need to come up with a number of tactics in order to maintain their market position in industry. By employing the stratagem described below, one can maintain and expand the market dividend by augmenting the company's uniqueness and indispensability.

1. Customization of services or products

Electric vehicles may still be viewed as a cutting edge technology and that the end user may incur into switching costs. These may compromise the customer's willingness to continue to deal with you to engage into purchasing an electric vehicle.

In order to overcome these challenges the management must empower a learning relationship with the end user or potential customer. This may develop into a learning curve which shows how price-oriented customers are not even interested in developing such a relationship. The technique to overcome this obstacle lies in ensuring that the high-end services can only be duplicated by the competitors with a greater effort. This effort will maintain your customers.

2. Perpetual and cost-efficient innovation

When bringing innovation to an electric vehicles, the product in question can stay ahead of the competition and the customer too. Innovation is a process which must be carried out periodically similarly to a manifesto in order to have something new to sell with every action. In this way it may incur perpetual costs throughout the life cycle of the product. This must also employ an organizational mission which focuses on having a nimbler product, creative and cost-efficient simultaneously. At the end of the day the most value item which is being delivered to the customer is innovation and not the product itself.

At this stage it is very important for who is selling or offering to lease an electric vehicle that customers are willing to be subjected to innovation and to try it themselves as a first-hand experience. In turn this will be disseminate, observed and analysed by the competition. So perpetual innovation is about keeping the momentum in industry enough to be in control of your costs in order to proceed to the very tough buyers.

3. Personal relationships within the customer organization

As a matter of fact a business on its own has no brains and is not capable of making any decisions. It's only the management who can make decisions, and people are both rational and emotional by nature. The people working in the organization need to be capable of developing relationships with

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the potential customer and his organization. In practical terms this requires employees who can develop relationships with the customer's. This may imply migrating up the organization chart, so that a company can have a relationship with more senior people.

4. Appeals directly to end users

A brand needs to become unique in order to become popular amongst the customers. A case in point would be the 'Intel Inside' campaign which was designed to become a pull-through for Intel in the early nineties. Another example is Mattel's manifesto 'Toys-R-Us' as the exclusive arrangement for their products whilst making itself crucial for the tough customer.

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1.2. *Conclusion*

The methodologies mentioned in this report can be viewed as added services which put pressure on the customer to go select the product in question. In the case of electric scooters, the company who is promoting them should its product in order to identify and compile the persuasive reasons for the end users to demand for the services of the products. This methodology is an influential negotiating tool when it comes to maintaining the market position of the electric scooters and the price.

The way this tool operates requires a tailor made strategy according to the country. For example the situation in Norway works with incentives which are higher than Danish incentives even though the general story is the same. Norway's incentives have helped to spur huge EV adoption, while Danish incentives have had very little effect.

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