

PRO-E-BIKE

Promoting electrical bikes and scooters for delivery of goods and passenger transport in urban areas



Assessment of environmental impact, economic and societal competitiveness

WP 6/ Task 6.3.
SUMMARY of D.6.4.

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D6.4. Summary - English

The Sustainability Impact Assessment has been documented in the **deliverable D.6.4. “Assessment of environmental impact, economic and societal competitiveness”**. This report has included the environmental, economic and social assessment of the use of electrical bicycles and scooters for delivery of goods and services in urban areas. A summary of the main conclusions is presented here.

E-bikes have been introduced for different services such as post, parcel, food delivery or other services such as home care. In total 80 E-bikes from 40 companies in 7 different countries and 20 different cities all over Europe have been tested including different models such as:

- Small e-bikes with baskets or saddlebags
- Bullit e-bikes
- e-cargo tricycle with high capacity (load and volume)
- e-scooters
- Group-e-bikes / e-cargobikes for children

A summary of the pilot actions is presented in the following table:

Table 1. Summary of pilots

Country	N ^{er} of companies	N ^{er} of vehicles	e-bikes continuing	% e-bikes continuing
Spain	3	3	3	100%
Netherlands	5	10	10	100%
Sweden	5	19	19	100%
Italy	4	8	7	87%
Croatia	9	21	18	86%
Slovenia	8	11	4	36%
Portugal	6	8	4	50%
Total	40	80	65	81%

As presented in the previous table, a significant number of the e-bikes introduced with the pilots -65 out of 80, which represents the 81%- will continue after the testing period (at least for several months). It means that more than 2 out of 3 pilot companies are satisfied with the e-bikes and continue using the e-bikes after the testing period.

Therefore, PRO-E-BIKE scenarios have confirmed the feasibility of the substitution of different type of vehicles such as vans, cars or standard motorbikes as well as the difference among the rental prices depending on the country and the type of e-bike which has led to different trial periods at each pilot company.

In terms of the characteristics of the cities and routes, PRO-E-BIKE scenarios confirm the e-bike performance on locations with different infrastructures and features: from cities with an established network of bike paths to cities with inexistent lanes for bikes. The same happens with the local regulations established, having incorporated e-bikes not only in cities promoting the use of bikes by means of policies favouring their use but also in cities with no legislations on this area.

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Finally, it is important to confirm that among the impacts noticed after the introduction of e-bikes, the pilot companies mainly highlight the following aspects:

- Improved company image
- Reduced emissions and energy consumption
- Improved Corporate Social Responsibility
- Reduced costs
- Increased efficiency and productivity of urban logistics (for passenger and freight transport)
- Capability to provide new services in new areas: more work opportunities for small companies and more flexibility and affordability for customers

These positive impacts are mainly the same impacts that companies expected before the introduction of the e-bikes. However, there have been some drawbacks of the use of e-bikes that companies have highlighted. Among these disadvantages of e-bikes can be mentioned:

- Lower range and capacity
- Concerns about reliability, maintenance and technical malfunctions
- Winter time: weather conditions affect the use of E-bikes
- Municipalities hesitant to cooperate
- Need of training for driving and maintenance
- Lack of refrigeration (for fresh food delivery)
- Urban Consolidation Centres often necessary