Investigating gaps in electromobility: The case of Region of Attica

Foteini Orfanou
Panagiotis Papantoniou, Eleni Vlahogianni, George Yannis
Introduction

- Smart and sustainable cities and gaining increasing attention worldwide

- Electric and alternative fuels
  - Key solutions towards greener transportation systems
  - Significant benefits

- Satisfactory progress in Greece during the last years
  - Still low penetration rate
Scope of Work

- Promotion of electromobility and alternative fuels in Attica Region
  - Detection of obstacles
  - First Step → analysis of current situation

- GAP Analysis for Attica Region
  - Progress achieved
  - Deficiencies identification
  - Fields to be further improved

- Comparative Gap Analysis
  - Time period: 2018 - 2021
The eMOPOLI project

- Full project title
  - Electro MObility as driver to support POLicy Instruments for sustainable mobility

- Project Partners
  - 9 regions from 8 European countries

- Duration of the project
  - 54 months (June 2018 – November 2022)

- Framework Program
  - Program Interreg Europe

- Project Objectives:
  - Diffusion of electro-mobility for a greener, safer and more efficient traffic in European Regions
Methodology

1. Thematic Areas Definition
2. Experts
3. Survey distribution
4. Data collection and analysis
Thematic Areas

Business
- Charging stations
- Electric Vehicle Fleet
- Alternative Fuels Fleet
- Technology
- Campaigns

Governance
- Legislation
- Enforcement
- Education
- Incentives
- Campaigns

RIS3
- Research
- Innovation
- Synergies
- Strategic Plan
Experts

- Members with deep knowledge and experience in the field of electromobility

- Working in:
  - Industry
  - National/Regional/Local public authorities
  - Academia/Research
  - Business Association
  - Infrastructure – Public Service
  - General body
Results

**Governance**

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislation</td>
<td>2.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Enforcement</td>
<td>1.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Education</td>
<td>2.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Incentives</td>
<td>2.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Campaigns</td>
<td>2.7</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**RIS3**

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>3.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Innovation</td>
<td>1.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Synergies</td>
<td>2.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Strategic Plan</td>
<td>1.7</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**Business**

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charging Infrastructure</td>
<td>2.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Electric Vehicle Fleet</td>
<td>1.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Alternative Fuel Fleet</td>
<td>3.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Technology</td>
<td>3.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Campaigns</td>
<td>2.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>
News (1/5)

- First Greek Law for the promotion of electromobility (2020)
  - Environmental tax enforcement for the imported old, second hand vehicles with high emission levels
  - Tax incentives for promoting electromobility (e.g. for businesses producing electric vehicles or products related to electric vehicles)
  - Spatial planning regulations for the development of publicly accessible charging stations (at least 1 station per 1000 residents)
  - Urban planning regulations and other requirements for the installation of charging stations
  - Grants for the purchase or leasing of electric vehicles (passenger cars, vans, motorcycles/tricycles, bicycle)
News (2/5)

- Strategic Plan of Region of Attica
  - In one of the metropolitan parks:
    - the first fast chargers have been installed
    - A fully electric vehicle is used for the park needs
  - Network of publicly accessible charging stations in the main road network of Attica and in key locations will be created
  - It is planned that the drivers and employees of Region of Attica will be trained in eco and safe driving
  - A new department for electromobility issues will be created
News (3/5)

➢ Green Daktylios in the city of Athens
  ➢ Since January 2021, electric and hybrid vehicles (CO2 emissions lower than 140g/km) and conventional vehicles (emissions lower than 175g/km) are allowed to enter the Inner Ring any day.
  ➢ Since October 2021 only electric vehicles have no restrictions

➢ 2nd Eco – Fest
  ➢ Organized by the
    ➢ Hellenic Association for Energy Economics
    ➢ the Prefecture of Attica
  ➢ Raise public awareness on the concept of green and smart cities
  ➢ Test-drive electric vehicles, motorcycles and bikes
  ➢ Innovative electric "formulas" developed from Greek universities.
News (4/5)

- Pilot routes of 4 demo electric busses
  - Purchase of electric busses is planned
- Special Traffic regulations in the city of Athens for electric vehicles
  - Free park for electric vehicles
- 4 Ecomobility Conferences (2018-2021)
  - Organized by Hellenic Association for Energy Economics
  - Attendees could be informed about electromobility-alternative fuels- green mobility
  - Stakeholders from various institutions

- “Green deal”
  - Between ministries of Infrastructure and Transport and Environment and Climate Change and 18 institutions
  - Defines the obligations towards the fastest implementation of the national strategic plan for transition to electricity
News (5/5)

- Mobility 2021 (first time in Greece)
  - Raise public awareness
  - Test drive of electric vehicles

- Electric “English taxis” of LEVC

- Public Power Corporation (DEI)
  - Around 400 charging stations in more than 60 areas in 30 prefectures in Greece during the last 5 months
  - 10,000 stations to be installed the next 5 years
  - Fast charging stations to be installed along the road network connecting the city of Athens with Thessaloniki
  - 14 charging points in Athens International airport
  - Application DEIblue
    - search for the closest available stations
    - suggest locations the next charging station
Conclusions

- GAP Analysis revealed areas:
  - Progress achieved
  - Need to be improved

- GAP Analysis indicated
  - Important steps for promoting electromobility in Greece and in Region of Attica within the period 2017-2021

- More campaigns/dissemination events necessary for raising public awareness

- More charging stations need to be installed to reduce range anxiety

- Results of GAP Analysis → basis for setting targeted and concrete actions
Next Steps

- Phase 2 of the eMOPOLI project has started
- Implementation of the Regional Action Plan of Region of Attica

**Priority Axis 1: Equipment/Vehicles**
- Renewal of the vehicle fleet of the Region of Attica with electric vehicles
- Feasibility and Financial Studies for the scenario selected

**Priority Axis 2: Infrastructure**
- Installation of charging stations in 4 key locations
- Feasibility and Financial Studies for the scenario selected

**Priority Axis 3: Promotion**
- Organization of seminars/ exhibitions/ conferences for raising public awareness
Investigating gaps in electromobility: The case of Region of Attica

Foteini Orfanou
Panagiotis Papantoniou, Eleni Vlahogianni, George Yannis

National Technical University of Athens
Department of Transportation Planning and Engineering

Research Activities: 12 - 15 October, 2021, Democritus University of Thrace