Freight Electric Vehicles in Urban Europe

Matthew Noon
FREVUE Coordinator
Introduction

Proposed activity

• **8 locations across Europe**: Amsterdam, Lisbon, London, Madrid, Milan, Oslo, Rotterdam and Stockholm

• **120+ electric freight vehicles**

• **€14.2 million total investment (FP7)**

• **Freight applications** include a wide range of:
  ▪ Goods deliveries
  ▪ Innovative logistics systems and ICT
  ▪ Test of different vehicle types
  ▪ Diverse climate conditions
FREVUE demonstrator cities

Amsterdam

Lisbon

London

Madrid

Milan

Oslo

Rotterdam

Stockholm
Amsterdam/Rotterdam

Proposed activity

- All electric parcel distribution centres – no ICE
- Trialling large 18t and 12t vehicles
- Consolidation activity in smaller retail market

Progress and issues

- 5 vehicles have been delivered
- Vehicle supply issue: few suppliers and higher cost than originally planned
Lisbon

Proposed activity

• Electric light goods vehicles for:
  ➢ Municipal servicing
  ➢ Postal services

• ‘Smart’ on-street loading bays

• New regulations for loading and unloading

Progress

• Procurement of vehicles complete - 15 EFVs
• Data collection parameters being finalised
London

Proposed activity

- Enhance consolidation centres through EV operation
- Expand beneficiary pool from consolidation centres
- Address energy grid constraints
- Optimise existing EV logistics operations

Progress and issues

- 16 UPS vehicles currently being retrofitted
- Arup have identified two logistic companies – further 5 EFVs
- Issues with grid capacity (UPS) delaying deployment
Madrid

Proposed activity

• Consolidation centre servicing food/drink, post and retail clients
• Light commercial through to heavy goods vehicles
• Dynamic fleet management integrated with public parking/charging facilities

Progress

• Consolidation centre established at Legazpi Market
• 4 EFVs have been procured and are in operation
Proposed activity

• Implementation of freight consolidation centre
• EFV linking depots to consolidation centre and end customer
• Route and delivery regime optimised to reflect daily conditions

Progress and issues

• Conducted surveys on traffic flows in Area C
• Identified that a consolidation centre of 700 m² is required – to be built Summer 2014
• Delay in vehicle procurement
Oslo

Proposed Activity
• Large potential market for EV logistics
• Extreme climatic conditions
• Evaluate vehicle range and effectiveness in logistic operations
• Manage charging requirements in 24 hour operational environment

Progress and issues
• 4 EFVs procured - difference in vehicle size than was originally planned
• Delayed decision on fast-charging infrastructure
Stockholm

Proposed activity

Royal Seaport Area
- Consolidation centre during construction and when completed
- Zero/ Low Emission Vehicles
- Fast and standard EV charging facilities
- ICT integration
- Policy & Regulation

Progress and issues

- Consolidation centre in place - pre-study on operational requirements for ALL goods commenced
- 1 EFV procured - limited availability on larger vehicles
- First fast-charger installed
## Vehicles

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight (km)</th>
<th>Range (km)</th>
<th>Battery Size (kWh)</th>
<th>Cargo Volume (m3)</th>
<th>Cargo Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peugeot Partner</td>
<td>1,200</td>
<td>150</td>
<td>22.5</td>
<td>8</td>
<td>750</td>
</tr>
<tr>
<td>Renault Kangoo Maxi</td>
<td>1,589</td>
<td>120</td>
<td>22</td>
<td>3.5</td>
<td>650</td>
</tr>
<tr>
<td>Mercedes Vito E-Cell</td>
<td>2,200</td>
<td>130</td>
<td>36</td>
<td>3.5</td>
<td>850</td>
</tr>
<tr>
<td>Iveco Ecodaily</td>
<td>3,300</td>
<td>130</td>
<td>21</td>
<td>8</td>
<td>2,100</td>
</tr>
<tr>
<td>Custom UPS</td>
<td>7,490</td>
<td>75</td>
<td>61</td>
<td>23</td>
<td>3,450</td>
</tr>
<tr>
<td>Smith Newton</td>
<td>10,000</td>
<td>120</td>
<td>80</td>
<td>28</td>
<td>2,500</td>
</tr>
<tr>
<td>EMOSS DAF (conversion)</td>
<td>19,000</td>
<td>200</td>
<td>160</td>
<td>--</td>
<td>9,000</td>
</tr>
</tbody>
</table>
Outstanding challenges

• Vehicle supply
  – particularly in medium goods category and above (> 3.5t)

• Financing
  – higher costs

• Electricity supply
  – increasing constraints on grid capacity
Summary

- Operating successfully
  - No range issues
  - Overnight charging
  - Driver and customer supported
  - Reduction in vehicle mileage and emissions

- Wider industry still hesitant
  - supply and warranty/maintenance issues

- Significant opportunity for growth
For further information please contact:

Matthew Noon
FREVUE Coordinator
Cross River Partnership

mnoon@lambeth.gov.uk

www.frevue.eu