Realised project street lighting:
Municipality of Gdansk – SOWA Piecewska, Pomerania

Project background and objectives
The project SOWA Piecewska consisted of refurbishing the public lighting along the street Piecewska in Gdansk (Illuminated area: 19,130 m²). Due to new investments in this district of the city and the installation of a new tram line, an upgrade of the public lighting system was needed. Initially it was planned to simply exchange the sodium lamps with sodium lamps of lower capacity. However, ultimately, this solution was replaced with LED lamps due to innovation and higher energy savings of LED technology.

Project description
The main objective of the project was to upgrade the technical state and energy efficiency of the street lighting system. The City of Gdańsk obtained a subsidy for this project. The project included the replacement of the sodium lamps with LEDs and the modernisation of the infrastructure. The co-financing by the Regional Fund for Environmental Protection covered 45 % of the investment. The contract was signed in early 2015. The new lighting was operational in September 2015.

Eligible costs included:
- purchase and installation of the lighting points,
- purchase and installation of the energy management equipment,
- necessary documentation (including electrical audit).

Facts
- Population: 460,427 inhabitants Gdansk
- Type of streets: residential area
- Electricity cost savings: 2,288 €/year
- Reduction electricity consumption: 16,000 kWh/year
- CO₂ reduction: 47 %
- Investment costs: 11,102 € (total investment)
- Financial support: NFOS (National Fund for Environmental Protection)
- Subsidies: 4,996 € (WFOS)
- Monitoring of the environmental effects: for 5 years

Further information:
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Results
The lighting along the Piecewska street was modernised to energy efficient LED technology. 44 lighting points, with a previous capacity of 102 W per luminaire, were refurbished. Safety has been improved and energy savings have reached 47%.

Support by the facilitation service
The facilitation service supported the municipality throughout the assessment of the energy and costs savings and CO\textsubscript{2} reduction.

This case study was developed in the context of the EU-Project Streetlight-EPC which is supported by the Intelligent Energy Europe Programme. The sole responsibility for the content lies with the authors. It does not represent the opinion of the European Communities. The European Commission is not responsible for any use that may be made of the information contained therein.

[Table of Streetlight data of the project]

<table>
<thead>
<tr>
<th>Streetlight data of the project</th>
<th>Before renovation</th>
<th>After renovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total installed electric capacity</td>
<td>8.5 kW</td>
<td>4.5 kW</td>
</tr>
<tr>
<td>Total number of lamps</td>
<td>102</td>
<td>71</td>
</tr>
<tr>
<td>Number of lighting points (luminaires)</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Annual electricity consumption</td>
<td>34,000 kWh</td>
<td>18,000 kWh</td>
</tr>
<tr>
<td>Annual electricity costs</td>
<td>4,862 Euro</td>
<td>2,574 Euro</td>
</tr>
<tr>
<td>Annual maintenance costs*</td>
<td>1,250 Euro</td>
<td>1,250 Euro</td>
</tr>
</tbody>
</table>

* maintenance costs are calculated for the whole City of Gdańsk as average per lamp, therefore the maintenance costs are the same before and after renovation