



## Energy concept summary

**Title of the energy concept:** Photovoltaic system of 31,36kW - PRODUCTION OF ELECTRICITY ENERGY FROM RENEWABLE SOURCE

Topic area choice and topic marking in blue:

- ( ) **Building** e.g. Insulation, change of windows, Low-energy-buildings
- ( ) **Electrical energy** e.g. Light, Compressed air, Electrical drives, Cooling machines, Load management
- ( ) **Heat** e.g. Heating, Process heat, Heat recovery, Air conditioning, Combined heat & power
- (x) **Renewable energy** e.g. **Solar technology**, Wood-fired plants, Biogas, Geothermal energy
- ( ) **Management** e.g. Energy buying, Contracting, Emission trade, Energy data management systems



 <b>MOBES QUALITY</b>		<p>Company: Public Transport Company - JSP Skopje          Branch and NACE-Code(s):          Products/Services: Public transport          No of employees: around 1200          Name of energy concept producer: Iliev Stojan, Mobes kvalitet DOOEL, Skopje          Participant in EUREM No.:</p>
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**Energy concept description:**

Obtaining sustainable or green energy while reducing greenhouse gas emissions is a global objective. But to achieve this goal, first it needs to act locally and to raise environmental awareness of all citizens, and thus the whole society. And commitment to this goal is joining the Public Transport Company JSP Skopje with interest for the performance of a system that generates electricity from renewable sources.

The specific task in this design is designing two photovoltaic systems for the production of energy in this case from the sun.

The two systems are planned to be carried out on a metal substructure affixed to the two different buildings at two different locations. The same buildings can be set  $31,36 \text{ kW} - 128 \text{ Modules} \times 245\text{W} = 31,36\text{kW}$

<p>Јавно Сообраќајно Претпријатие објект во Автокоманда</p> 	<p>Јавно Сообраќајно Претпријатие објект во Горче Петров</p> 
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### Results:

<p>Energy saving potential [kWh/a]:  <b>First building: 42 400kWh/h energy produced per year</b>  <b>Second building: 40 100kWh/h energy produced per year</b></p> <p>Energy source: <b>sun</b></p> <p>Cost reduction potential [Euro/year]:  <b>First building: 2 948 Euros/ year</b>  <b>Second building: 2 788 2 948 Euros/ year</b></p> <p>CO<sub>2</sub>- saving potential [t/a]:  <b>First building: 41 382 kgCO<sub>2</sub>/year</b>  <b>Second building: 39 137 kgCO<sub>2</sub>/year</b></p>	<p>Investment costs [Euro]: <b>38 000 + 36 000 = 74 000</b></p> <p>Pay-back time [Years]:  <b>First building: 100% own payment – 10, 58 years</b>  <b>Second building: 100% own payment – 10, 149 years</b></p> <p><b>First building: 60% loan with 5,5% interest rate, 40% own payment (return the loan for 7 years) - 11,58 years</b></p> <p><b>Second building: 60% loan with 5,5% interest rate, 40% own payment (return the loan for 7 years) - 11,75 years</b></p> <p>Chance of implementation:  <input type="checkbox"/> high   <input checked="" type="checkbox"/> middle   <input type="checkbox"/> low or date of implementation</p>
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