

## Good Practices Description Form

1. Identification	
Title	<i>Building a photovoltaic power plant generating electricity for all public consumers</i>
RE-GREEN conceptual model dimension:	<ul style="list-style-type: none"> <li>○ Green Buildings</li> <li>● Green Urban Systems</li> <li>○ Green Governance</li> </ul>
	<p>Are there any connections between the selected dimension and the others? Please describe them.</p> <p>There is a connection with Green Governance dimension. Building a photovoltaic power plant was included as a measure in Sustainable Energy Action Plan, developed by the municipality in the framework of its engagement in Covenant of Mayors to reduce CO<sub>2</sub> emissions with 20% till 2020</p>
Area of interest:	Green infrastructure – energy production
Location of implementation	Mizil (Romania)
Good practice implementation status:	<ul style="list-style-type: none"> <li>○ Project</li> <li>● On going</li> <li>○ Concluded</li> </ul>
Good practice dates (start, conclusion,..):	<p>Start: the 17<sup>th</sup> of July 2012</p> <p>Conclusion: the 16<sup>th</sup> of June 2014</p>
Good practice developer:	Mizil Municipality
Partners involved:	-
2. Good Practice criteria	
Relevance	<p>Expenses related to electricity consumption represent an important share from the budget of any local public authority. Implementing this kind of project, if natural condition permits the development of a PV plant, any authority could save money re-directing them to other use.</p> <p>On the other hand, a photovoltaic power plant is a facility using a renewable resource – the sun – with no impact on the</p>

	environment and with a low price for energy.
Transferability	<p>This case of good practice can be transferred to other public authorities that can save the budget and protect environment using renewable sources for electricity production. For now, In Romania, this photovoltaic power plant will be the first one developed by a local public authority, so, this example can be replicated.</p> <p>On the other hand, this project is the only one in Romania using single-axes trackers, making the plant more expensive but also more efficient, due to an increased solar energy attracted by the moving structures with solar panels. Thus, this case can be also transfer to private investments in the area of electricity generation by photovoltaic power plants.</p>
<b>3. Description</b>	
Context	<p>Starting from Romanian Energy Strategy for 2007-2020, City of Mizil identified in the framework of its own Strategy for Sustainable Development the opportunity to be among the first local authorities that will implement a project for producing electricity from solar energy conversion to cover the electricity needs of the city.</p> <p>In plus, the City identified also the possibility to finance this project from European funds.</p>
Objectives	<p>Building of a photovoltaic power plant of 2660 MWh/year, using solar energy and using the generated electricity for covering the whole electricity consumption of the building in the ownership or administration of the local public authority. Thus the expenses with electricity supported from the local budget will be saved and CO<sub>2</sub> emissions will decrease with 1192 tons/year</p>
Activities	<p>Main activities for implementing the project for building this photovoltaic power plant are:</p> <ul style="list-style-type: none"> <li>- Preparation of a feasibility study and of a grant application;</li> <li>- Applying for funding of the project through Operational Program for Increasing Economic Competitiveness;</li> </ul>

	<ul style="list-style-type: none"> <li>- Evaluation of the application and transmission of financing decision;</li> <li>- Signature of grant contract;</li> <li>- Making public procurements and running contracts for project implementation: preparation of technical project, plant building, connection of the power plant to national power grid, services for building supervision, technical assistance of the engineering team, publicity for the project and project audit.</li> <li>- Project reception by the municipality from the contractors.</li> </ul>
Beneficiaries	<p>Mizil Municipality</p> <p>Mizil citizens</p> <p>Public institutions whose energy consumption will be covered by the municipality</p>
Financial sources and amount	<p>European funds (European Regional Development Funds) – 86.24%</p> <p>National budget – 11.76%</p> <p>Local budget – 2%</p> <p>Project value: around 10,000,000 EURO</p>
Public participation mechanisms	-
Outcomes	<ul style="list-style-type: none"> <li>- <i>Installed power of the plant: 1.735 MWp;</i></li> <li>- <i>Electricity produced by the power plant: 2,660 MWh/year;</i></li> <li>- <i>Reduction of CO<sub>2</sub> emissions: 1,192 tons/year.</i></li> </ul>
<b>4. What quantitative indicators do you have to support this good practice? Please identify them.</b>	
<ul style="list-style-type: none"> <li>- <b>Installed power of the plant: 1.735 MWp;</b></li> <li>- <b>Electricity produced by the plant: 2,660 MWh/year;</b></li> </ul>	

<ul style="list-style-type: none"> <li>- <b>Costs with electricity in the local budget: 0 EURO;</b></li> <li>- <b>Reduction of CO<sub>2</sub> emissions with 1192 tons/years.</b></li> </ul>
<p><b>5. Main factors of success</b></p>
<ul style="list-style-type: none"> <li>- <i>Power plant is well and correct designed, according to city needs for electricity, the used technology and renewable sources capacity;</i></li> <li>- <i>The power plant is built strictly according to technical project and legislation in force;</i></li> <li>- <i>Signature of an insurance contract guaranteeing the electricity production, due to the risk of non achieving the production as a result of not favourable weather conditions.</i></li> </ul>
<p><b>6. Impacts on the region (environment, economic and social)</b></p>
<p><b>Environmental impact</b></p> <ul style="list-style-type: none"> <li>- The photovoltaic power plant has no impact on the environment during the operation. Use of solar energy release no CO<sub>2</sub>, SO<sub>2</sub>, or NO<sub>2</sub> gases and don't contribute to global warming. Photovoltaic systems make no noise and cause no pollution in operation.</li> <li>- Solar energy is clean and silent.</li> </ul> <p><b>Economic impact</b></p> <ul style="list-style-type: none"> <li>- Solar energy is freely available.</li> <li>- Costs for building the power plant are very high, especially because the municipality has chosen to have a plant with a single-axis trackers, more expensive than the fixed PV. The project is financed in the framework of Operational Program for Increasing Economic Competitiveness. But the municipality has to make the expenses and then, to ask for the disbursement of the grants. Thus, a big pressure on the local budget is made by the project during its implementation, with additional costs rising from the bank loan for cash-flow facilitation. Then, the disbursement of the grant takes longer time than was estimated, till 6 months.</li> <li>- Once the project will be finished, the municipality will introduce the energy produced in the national power grid and will compensate all expenses generated by the public buildings (municipality, public services buildings, schools, hospital, public lighting, etc.) with the revenue generated by the energy introduced in the grid. Thus, the cost of the electricity will be zero EURO.</li> <li>- Money that municipality is spending now for electricity will be saved and redirected towards other needs of the city.</li> </ul> <p><b>Social impact</b></p>

- The risk of using PV panels is very low.
- The local of the plant is outside the city, at a certain distance from the residential areas. That's why accidental fires that could release fumes into atmosphere and the nearby community are not creating a big concern.
- In order to control the risk of potential damage that could occur from the leaching of materials from broken PV modules with heavy metals, the personnel that will operate the facility will be trained.
- The operating period for the panels is over 30 years; that's why, for the moment, the decommissioning is not considered as having a social impact.

#### 7. Good practice contact details

Name of the company, institution, organization	<i>Mizil Municipality, Project Management Department</i>
Address	14 Unirii blvd., MIZIL (Romania)
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Website	<a href="http://www.primaria-mizil.ro">www.primaria-mizil.ro</a>
Who did you contact to fill in the form?	Petronela Sturz – Project Manager

#### 8. Additional information (reports, technical documents, etc)

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#### 9. Pictures

