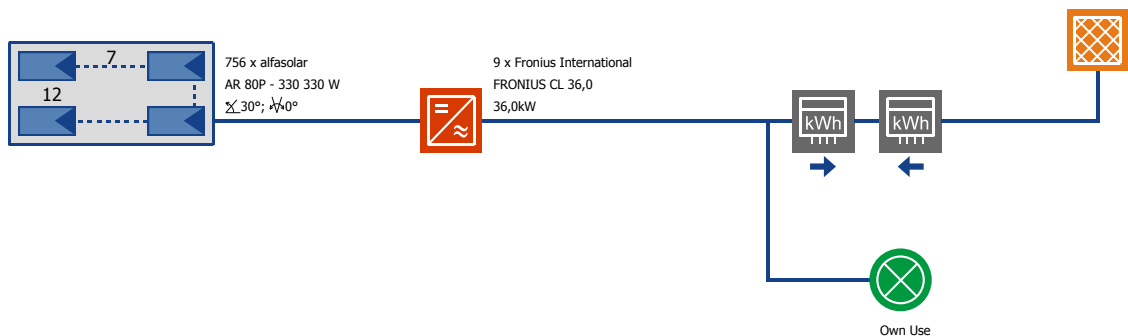


# Solarna elektrana 250 Kw



Location:	Ivanić Grad
Climate Data Record:	Ivanić Grad (1986-2017)
PV Output:	249,48 kWp
Gross/Active PV Surface Area:	1.598,77 / 1.600,33 m <sup>2</sup>

PV Array Irradiation:	2.758.796 kWh
Energy Produced by PV Array (AC):	347.309 kWh
Energy to Grid:	347.309,4 kWh
Direct Use of PV Energy:	0 kWh
Energy from Grid:	907,8 kWh

System Efficiency:	12,6 %
Performance Ratio:	80,5 %
Inverter Efficiency:	94,3 %
PV Array Efficiency:	13,3 %
Specific Annual Yield:	1.388 kWh/kWp
CO2 Emissions Avoided:	307.159 kg/a

The results are determined by a mathematical model calculation. The actual yields of the photovoltaic system can deviate from these values due to fluctuations in the weather, the efficiency of modules and inverters, and other factors. The System Diagram above does not represent and cannot replace a full technical drawing of the solar system.

### System in Grid Connected Operation

Location: Ivanić grad  
 Climate Data Record: Ivanić grad

PV Output: 249,48 kWp  
 Gross/Active PV Surface Area: 1.598,8 m<sup>2</sup> / 1.600,3 m<sup>2</sup>

Number of Arrays: 1

### Array 1: Array Name

Output: 249,48 kW  
 Gross/Active Solar Surface Area: 1598,8 m<sup>2</sup> / 1600,3 m<sup>2</sup>

Ground Reflection: 20,0 %  
 Output Losses due to...

**PV Module**  
 Manufacturer: 756 x alfasolar

deviation from AM 1.5: 1,0 %  
 deviation from Manufacturer's Specification: 2,0 %

Model: AR 80P - 330  
 Nominal Output: 330 W  
 Power Rating Deviation: 0 %  
 Efficiency (STC): 15,6 %

in Diodes: 0,5 %  
 due to Pollution: 0,0 %

**Inverter**  
 Manufacturer: Fronius International  
 Model: FRONIUS CL 36,0  
 Output: 36,00 kW  
 European Efficiency: 95,3 %  
 No. of MPP Trackers: 1  
 MPP Tracking: 230 V To 500 V

No. of Modules in Series: 7  
 MPP Voltage (STC): 283 V  
 Orientation: 0,0 °  
 Inclination: 30,0 °  
 Mount: with Ventilation  
 Shade: No

### Individual Appliances Total Consumption: 0 kWh

Individual Appliance 1

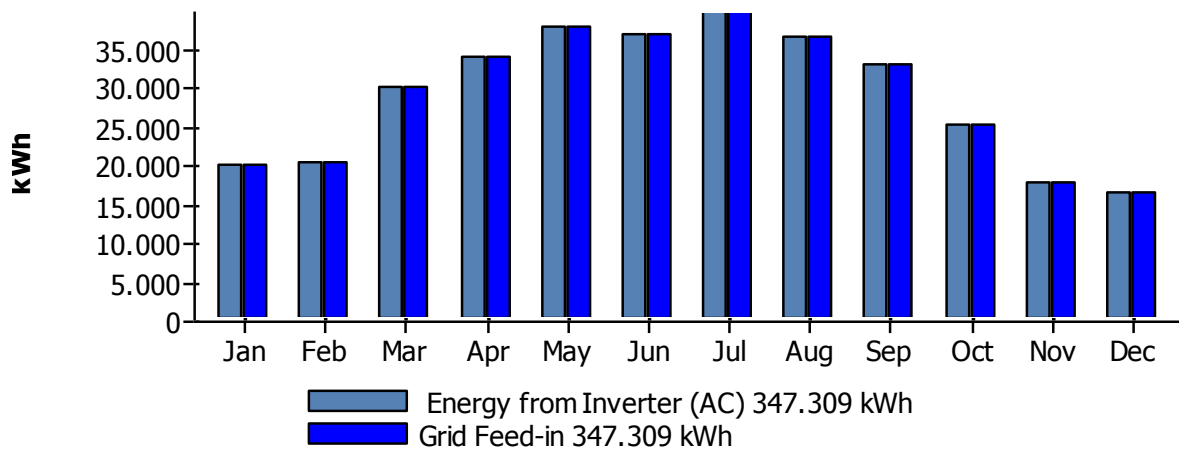
Model: User-Independent Appl. 0 kWh

### Simulation Results for Total System

Irradiation onto Horizontal: 2.408.958 kWh  
 PV Array Irradiation: 2.758.796 kWh  
 Irradiation minus Reflection: 2.665.332 kWh  
 Energy from Inverter (AC): 347.309 kWh  
 Energy to Grid: 347.309 kWh  
 Consumption Requirement: 0 kWh  
 Direct Use of PV Energy: 0 kWh  
 Energy from Grid: 908 kWh

Own Use: 907,8 kWh  
 Energy Produced by PV Array: 367.458 kWh  
 Solar Fraction: 0,0 %  
 System Efficiency: 12,6 %  
 Performance Ratio: 80,5 %  
 Final Yield: 3,8 h/d  
 Specific Annual Yield: 1.388 kWh/kWp  
 Array Efficiency: 13,3 %

**Solar Energy Consumption as Percentage of Total Consumption**



## Economic Efficiency Calculation

### System Data

PV Output: 249,48 kWp  
 System Operating Start: 1.4.2017.

### Electricity Feed-in

Grid Concept:	Own Use
For the First 20 Years:	0,1407 kn/kWh
Thereafter:	0,0000 kn/kWh
Savings due to Own Use:	0,0000 kn/kWh

### Basic Economic Efficiency Parameters

Assessment Period:	20 Years
Interest on Capital:	3,00 %
All entries without sales tax	

### Income and expenditure

Investments:	349.272,00 kn
Operating Costs:	2.444,90 kn/a
Feed-in Payment Received in First Year:	48.743,65 kn/a

### Results According to Net Present Value Method

<b>Net Present Value:</b>	<b>353.340,62 kn</b>
<b>Payback Period:</b>	<b>8,7 Years</b>
<b>Yield:</b>	<b>11,5 %</b>
<b>Electricity Production Costs:</b>	<b>0,07 kn/kWh</b>

