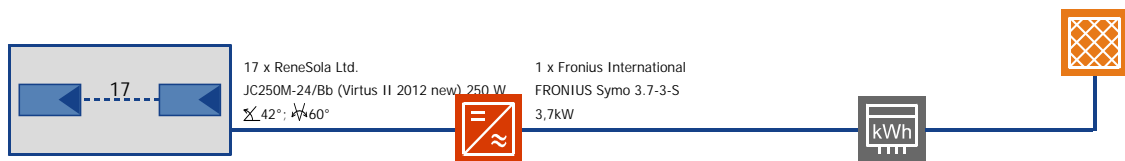


Project Name: Solar System Design
 Variant Reference: System Variant

2014-09-18



Location:	Kleszczów
Climate Data Record:	Kleszczów (1986-2005)
PV Output:	4,25 kWp
Gross/Active PV Surface Area:	27,66 / 27,61 m ²

PV Array Irradiation:	29 506 kWh
Energy Produced by PV Array (AC):	3 661,2 kWh
Grid Feed-in:	3 661,2 kWh
Yield Reduction Due to Shading:	6,8 %

System Efficiency:	12,3 %
Performance Ratio:	80,1 %
Inverter Efficiency:	94,3 %
PV Array Efficiency:	13,1 %
Specific Annual Yield:	856,0 kWh/kWp
CO2 Emissions Avoided:	3 223 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.

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System in Grid Connected Operation

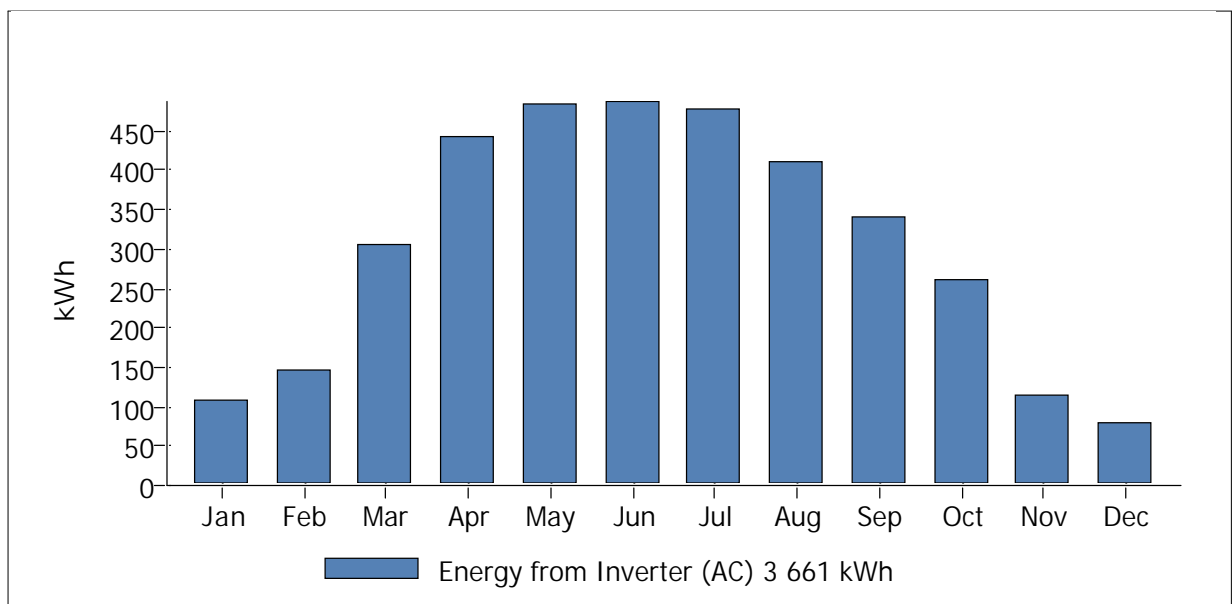
Location:	Kleszczów	PV Output:	4,25 kWp
Climate Data Record:	Kleszczów	Gross/Active PV Surface Area:	27,7 m2 / 27,6 m2
Number of Arrays:	1		

Array 1: System 1

Output:	4,25 kW	Ground Reflection:	20,0 %
Gross/Active Solar Surface Area:	27,7 m2 / 27,6 m2	Output Losses due to... deviation from AM 1.5:	1,0 %
PV Module Manufacturer:	17 x ReneSola Ltd.	deviation from Manufacturer's Specification:	2,0 %
Model:	JC250M-24/Bb (Virtus II 2012 new)	in Diodes:	0,5 %
Nominal Output:	250 W	due to Soiling:	0,0 %
Power Rating Deviation:	0 %	Inverter:	1 x
Efficiency (STC):	15,4 %	Manufacturer:	Fronius International
No. of Modules in Series:	17	Model:	FRONIUS Symo 3.7-3-S
MPP Voltage (STC):	512 V	Output:	3,70 kW
Orientation:	60,0 °	European Efficiency:	96,7 %
Inclination:	42,0 °	No. of MPP Trackers:	1
Mount:	with Ventilation	MPP Tracking:	250 V To 800 V
Shade:	Yes		

Simulation Results for Total System

Irradiation onto Horizontal:	29 716 kWh	Own Use:	23,2 kWh
PV Array Irradiation:	29 506 kWh	Energy Produced by PV Array:	3 857 kWh
Irradiation minus Reflection:	28 221 kWh	System Efficiency:	12,3 %
Irradiation without Shade:	30 313 kWh	Performance Ratio:	80,1 %
Energy from Inverter (AC):	3 661 kWh	Final Yield:	2,3 h/d
Consumption Requirement:	0 kWh	Specific Annual Yield:	856 kWh/kWp
Energy from Grid:	23 kWh	Array Efficiency:	13,1 %



Please enter under Options-> Settings



Project Name: Solar System Design
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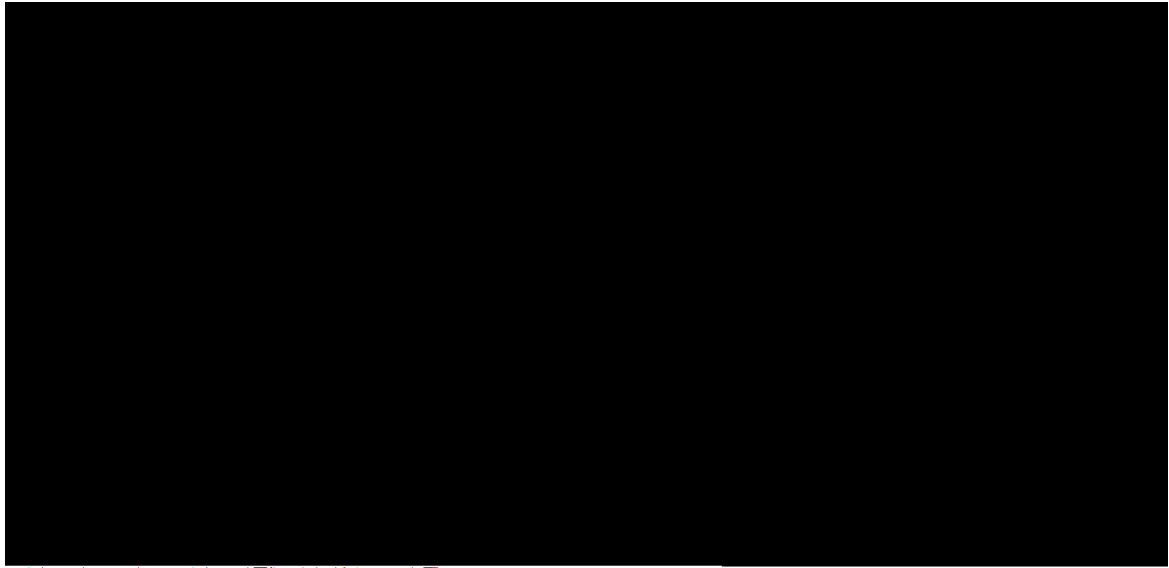
Please enter under Options-> Settings

Project Name: Solar System Design
Variant Reference: System Variant

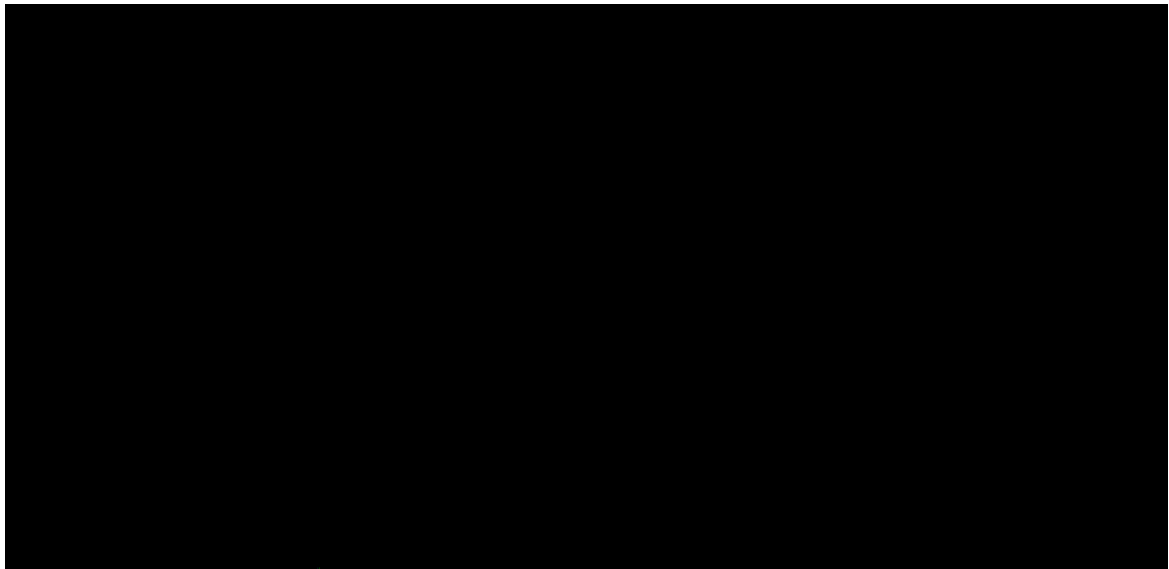
2014-09-18

System Visualization Screenshots

Environment



Screenshot1



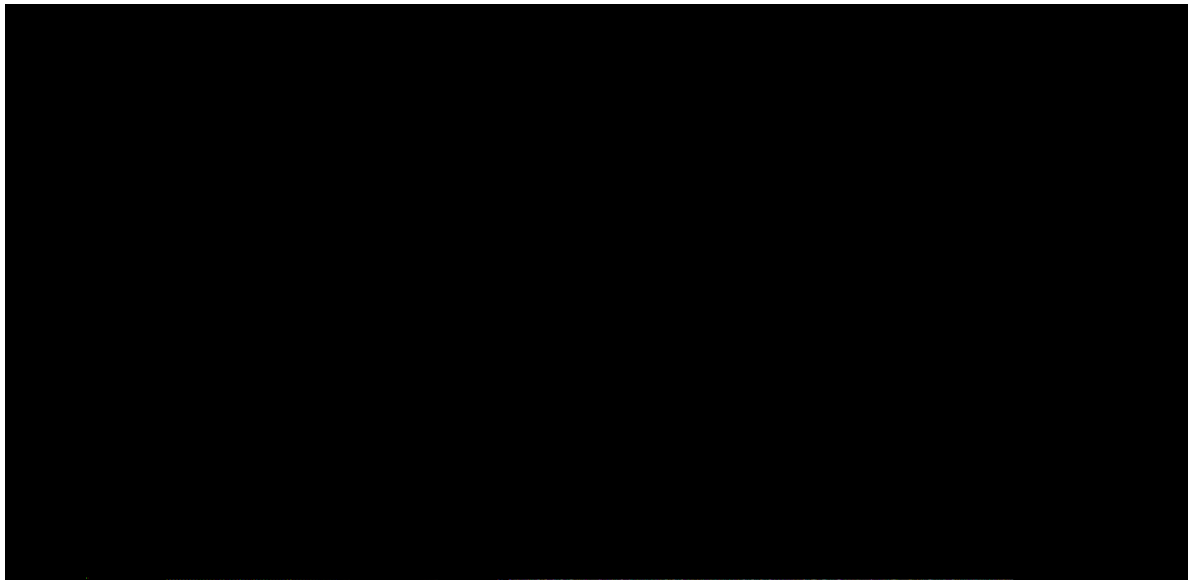
Screenshot2

Please enter under Options-> Settings

Project Name: Solar System Design
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Module Coverage



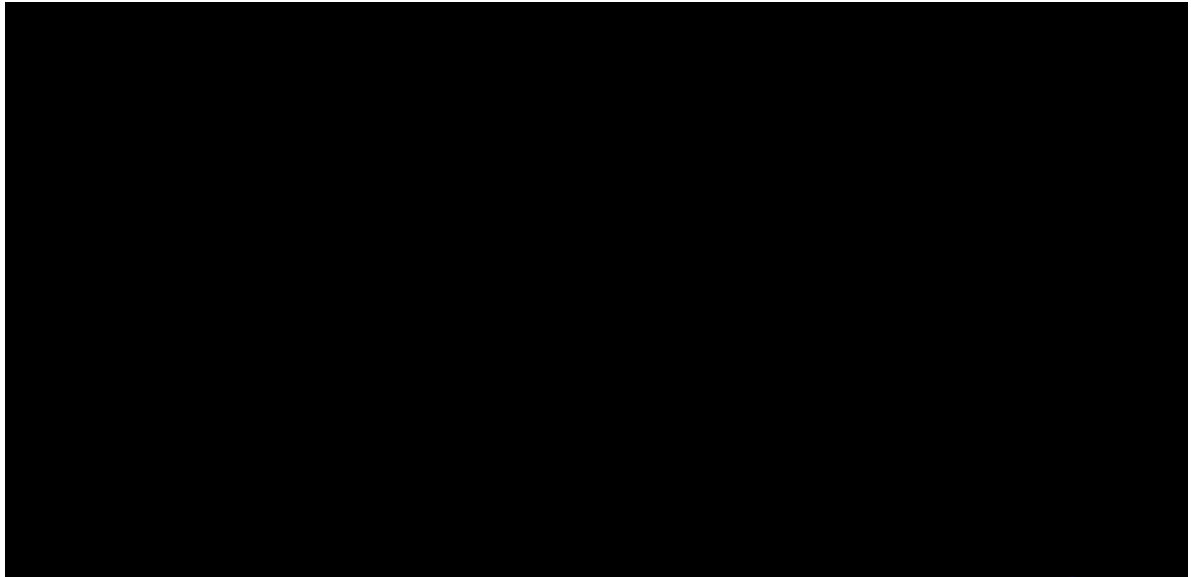
Screenshot3

Please enter under Options-> Settings

Project Name: Solar System Design
Variant Reference: System Variant

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Module Configuration



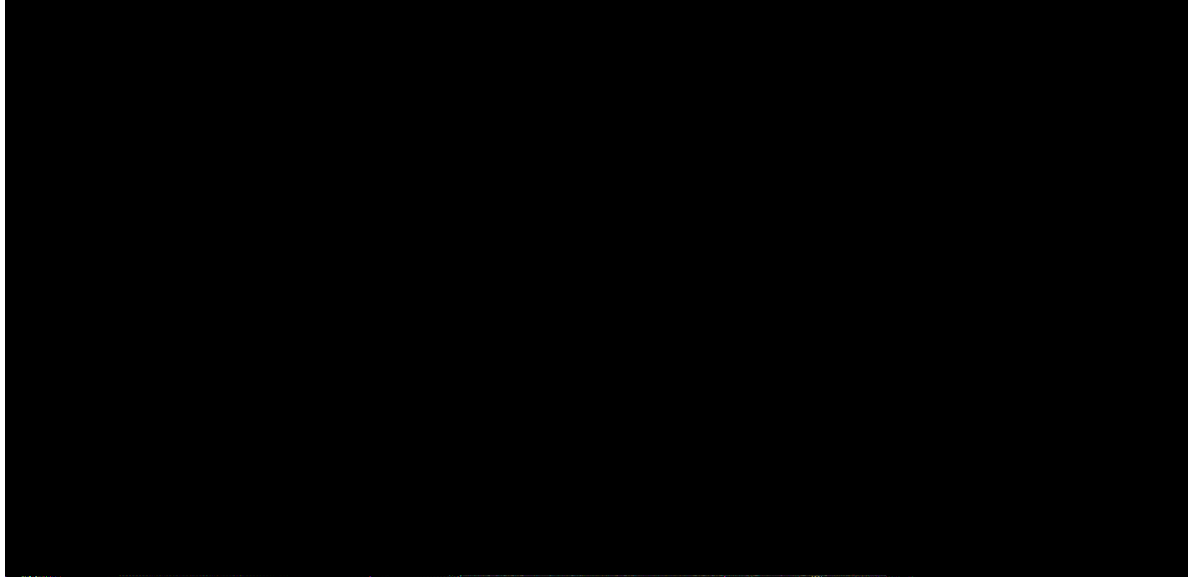
Screenshot5

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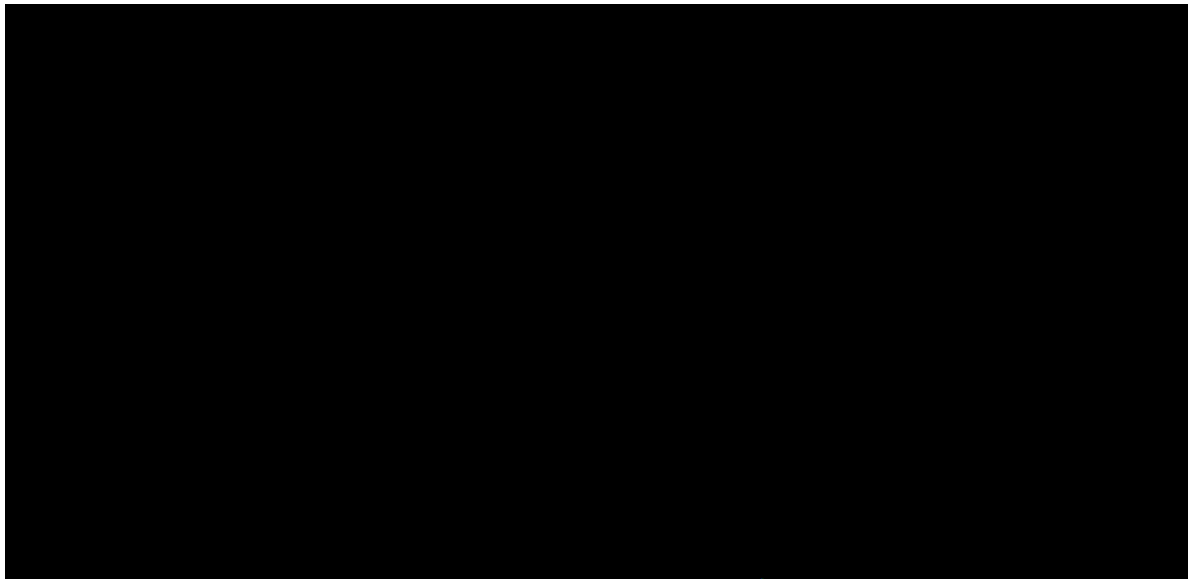
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Frequency Distribution



Screenshot4



Screenshot6

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Cable Plan

