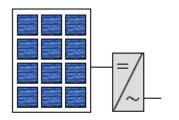
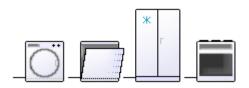
Projet 50a: Photovoltaics



Photovoltaics: Photovoltaic module

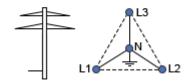
Number of modules: 10

Total nominal power generator field: 1.8 kW Orientation (E=+90°, S=0°, W=-90°): 0 ° Tilt angle (hor.=0°, vert.=90°): 45 °



Number of electricity consumption profiles: 0

Total consumption of the profiles: 0 kWh



Electric Grid: Three-phase (230V/400V, 50 Hz, WYE)

Local grid voltage: 400 V

Feed-in power limitation: no

Location of the system

Ramfjordbotn

Longitude: 19.402° Latitude: 69.519° Elevation: 779 m

This report has been created by:

Luc Meier Stadthausstrasse 125 8400 Winterthur



Overview photovoltaics (annual values)

Total gross area	14 m²
Energy production DC [Qpvf]	1,339.6 kWh
Energy production AC [Qinv]	1,203.3 kWh
Total nominal power generator field	1.8 kW
Performance ratio	79 %
Specific annual yield	668.5 kWh/kWp/a
Phase imbalance	1.3 kVA
Reactive energy [Qinvr]	0 kvarh
Apparent energy [Qinva]	1,203.3 kVAh
CO2 savings	645.4 kg

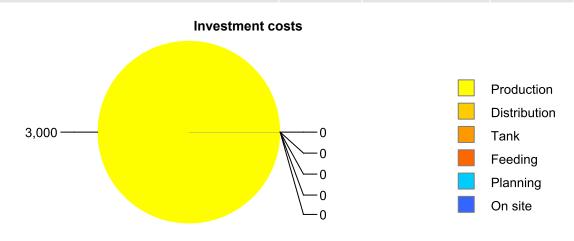


Conditions

Time period under observation	30.00 a
Internal rate of return	0.00 %/a
Energy price increase	
Electricity	0.00 %/a
Price change technology	0.00 %/a
Inflation	2.00 %/a
Degradation PV	0.50 %/a

System costs

Production	100.00%	3000.00 CHF
Total		3000.00 CHF



Operation and maintenance

Costs	
Maintenance costs	0.00
Hook-up fees	0.00

Miscellaneous

Credit	
Interest rate on debt	0.00 %
Debt amount	0.00 CHF
Debt maturity	0.00 a
Receipts from thermal energy	
Sales of thermal energy	0.00 CHF
Energy price increase	3.00 %

Net present value

Net present value		2129.16 CHF
NPV sensitivity analysis of effective interest rate		
Upper value	1.00%	1493.45 CHF

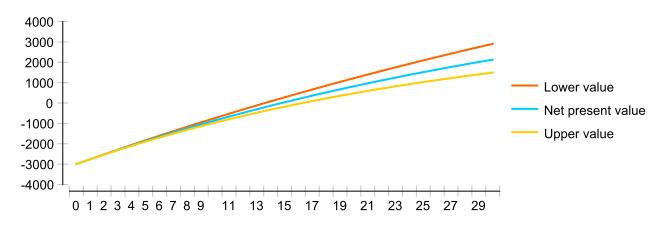
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Net present value

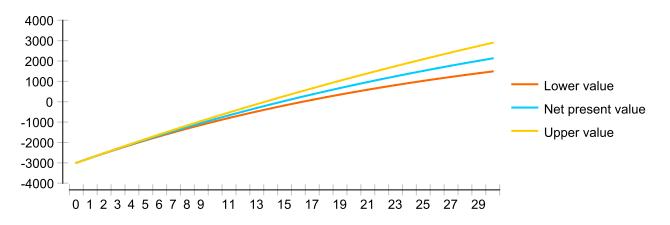
NPV sensitivity analysis of effective interest rate		
Lower value	-1.00%	2905.68 CHF

NPV sensitivity analysis of effective interest rate



NPV sensitivity analysis of energy price increase		
Upper value	1.00%	2897.18 CHF
Lower value	-1.00%	1487.64 CHF

NPV sensitivity analysis of energy price increase



Payback period

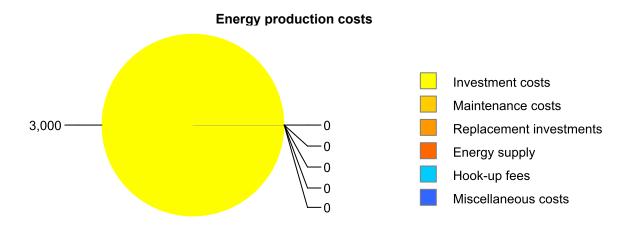
Payback period	15.00 a
•	

Total gains and costs

Absolute profit	3820.02 CHF
Energy production costs	0.09 CHF/kWh
Receipts from the sale of energy	5129.16 CHF
Costs of fuel and district heat	0.00 CHF
Electricity costs	0.00 CHF



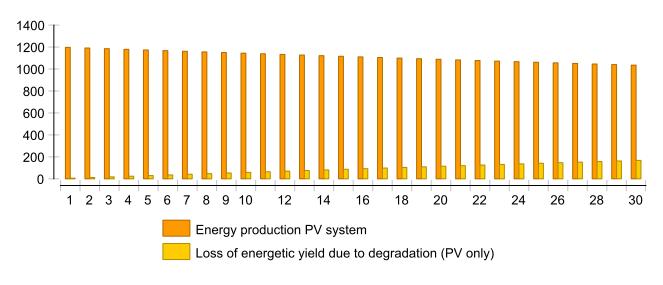
Total gains and costs



Annuity

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Annuity	70.97 CHF/a
Annuity factor	0.03 %
Internal rate of return	
Internal rate of return	0.05 %
Replacement investments	
Replacement rate	0.00
Replacement investments	0.00 CHF
Degradation PV	
Loss of energetic yield due to degradation (PV only)	2667.02 kWh
Loss of financial yield due to degradation (PV only)	368.49 CHF

Energy production PV system

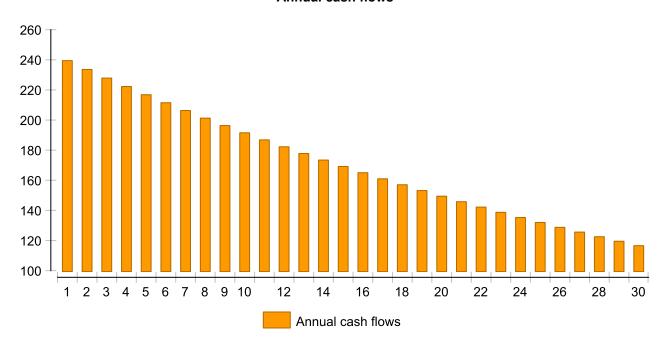


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Annual cash flows

Annual cash flows 0.00 CHF

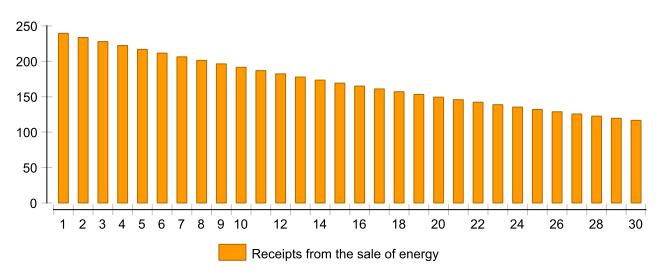
Annual cash flows



Receipts from the sale of energy

5129.16 CHF

Receipts from the sale of energy



Costs of fuel and district heat	0.00 CHF
Electricity costs	0.00 CHF
Replacement investments	0.00 CHF

Glossary

investment in the time period under observation. The reference date is the date of commissioning. A sensitivity analysis on the effective interest rate and the upward change in energy prices is automatically attached to this value. Additionally, the upper and lower extreme valus are also shown. For

further information, please see the user documentation (F11).

Internal rate of return

Payback period Length of time required for the investment to be amortized through

revenues, also known a payback period. For further information, please see

the user documentation (F11).

