

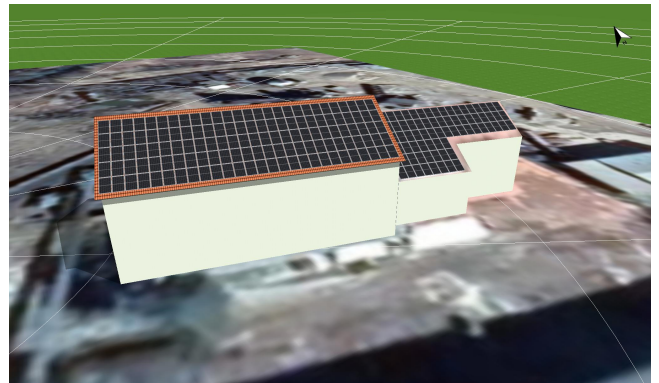
Project Name: LIMBAŽU SILTUMS SIA

05.04.2024

Your PV system

Address of Installation

Mazā noliktavu iela 13, Limbaži



Project Overview

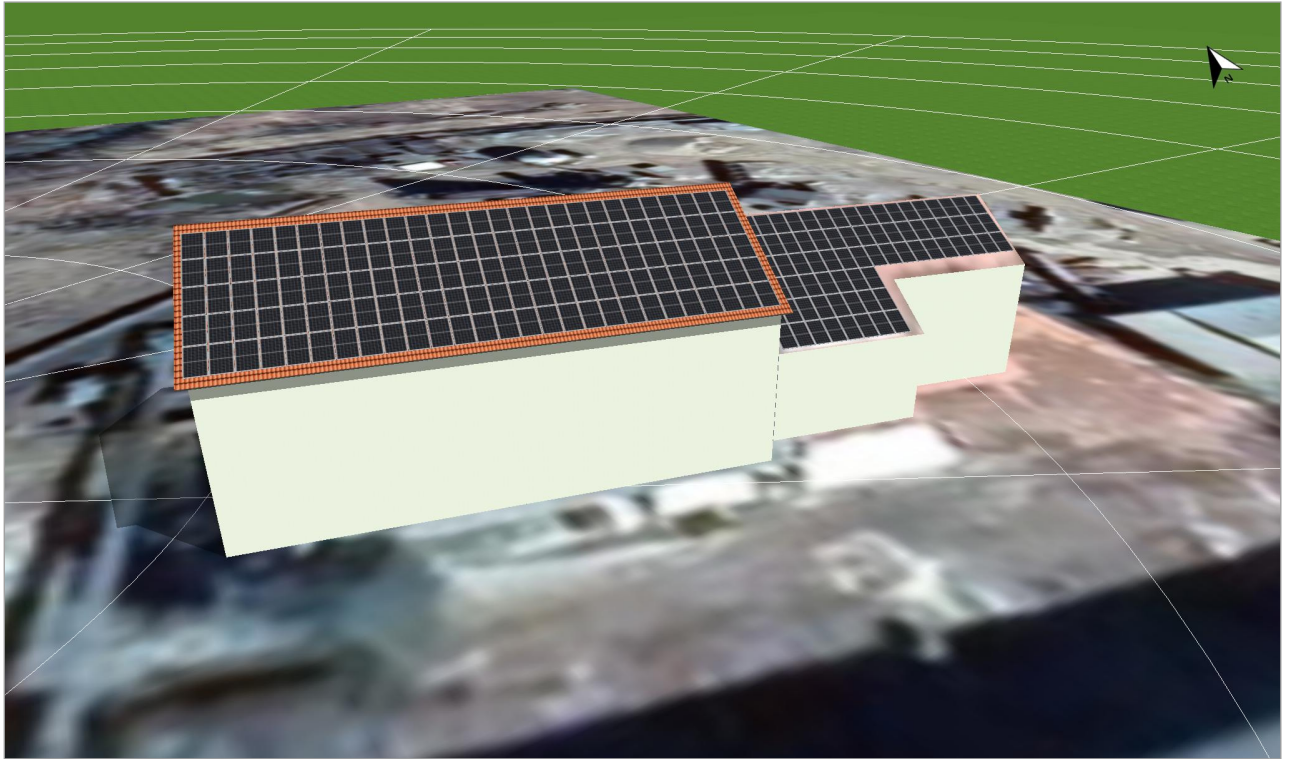


Figure: Overview Image, 3D Design

PV System

3D, Grid-connected PV System

Climate Data	Ainazi, LVA (2001 - 2020)
Values source	Meteonorm 8.2
PV Generator Output	62,1 kWp
PV Generator Surface	291,3 m ²
Number of PV Modules	135
Number of Inverters	1

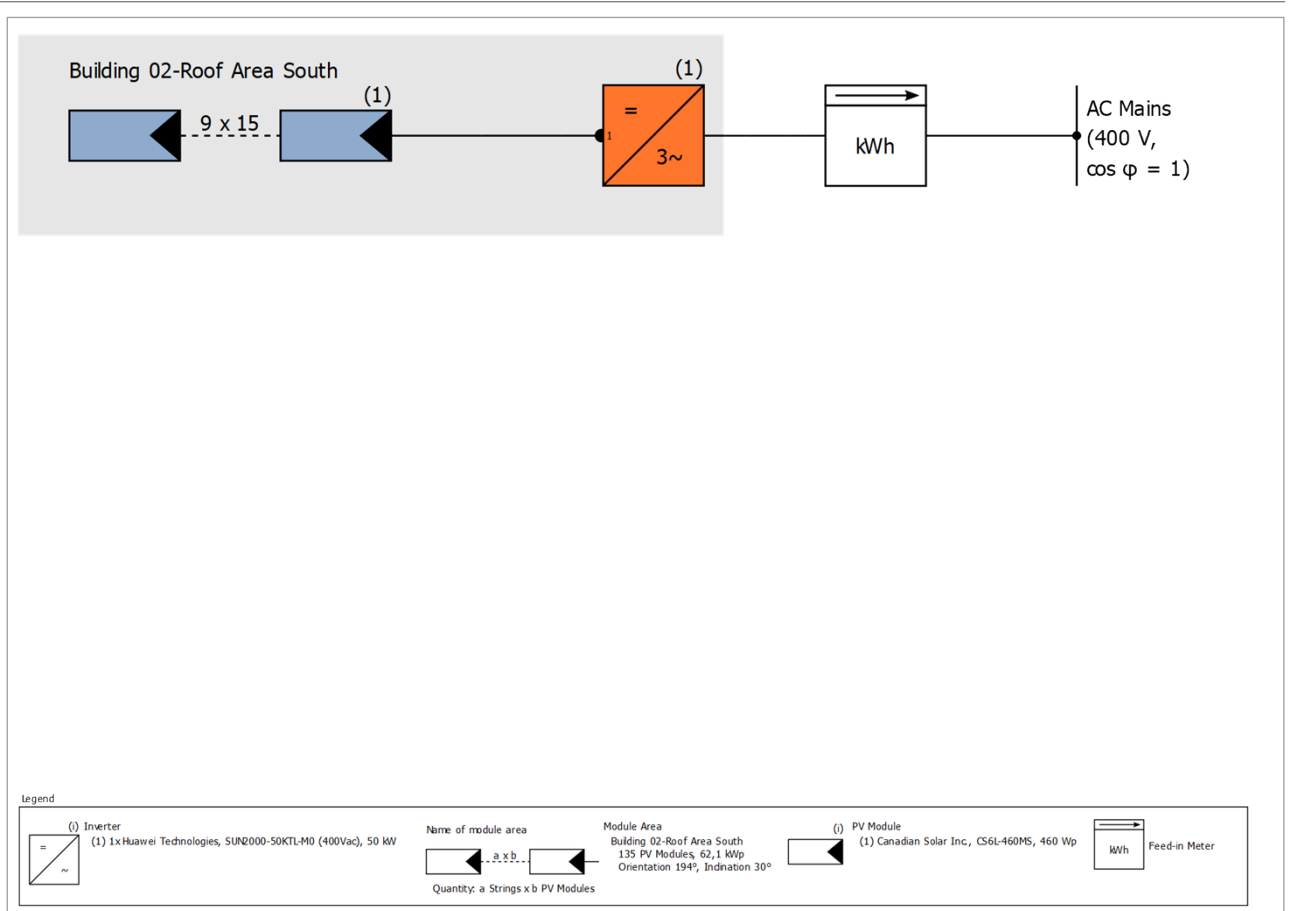


Figure: Schematic diagram

Production Forecast

Production Forecast

PV Generator Output	62,10 kWp
Spec. Annual Yield	1 100,79 kWh/kWp
Performance Ratio (PR)	93,55 %
Yield Reduction due to Shading	0,1 %
Grid Export	68 387 kWh/Year
Grid Export in the first year (incl. module degradation)	68 387 kWh/Year
Standby Consumption (Inverter)	27 kWh/Year
CO ₂ Emissions avoided	20 645 kg / year

The results have been calculated with a mathematical model calculation from Valentin Software GmbH (PV*SOL algorithms). The actual yields from the solar power system may differ as a result of weather variations, the efficiency of the modules and inverter, and other factors.

Simulation Results

Results Total System

PV System

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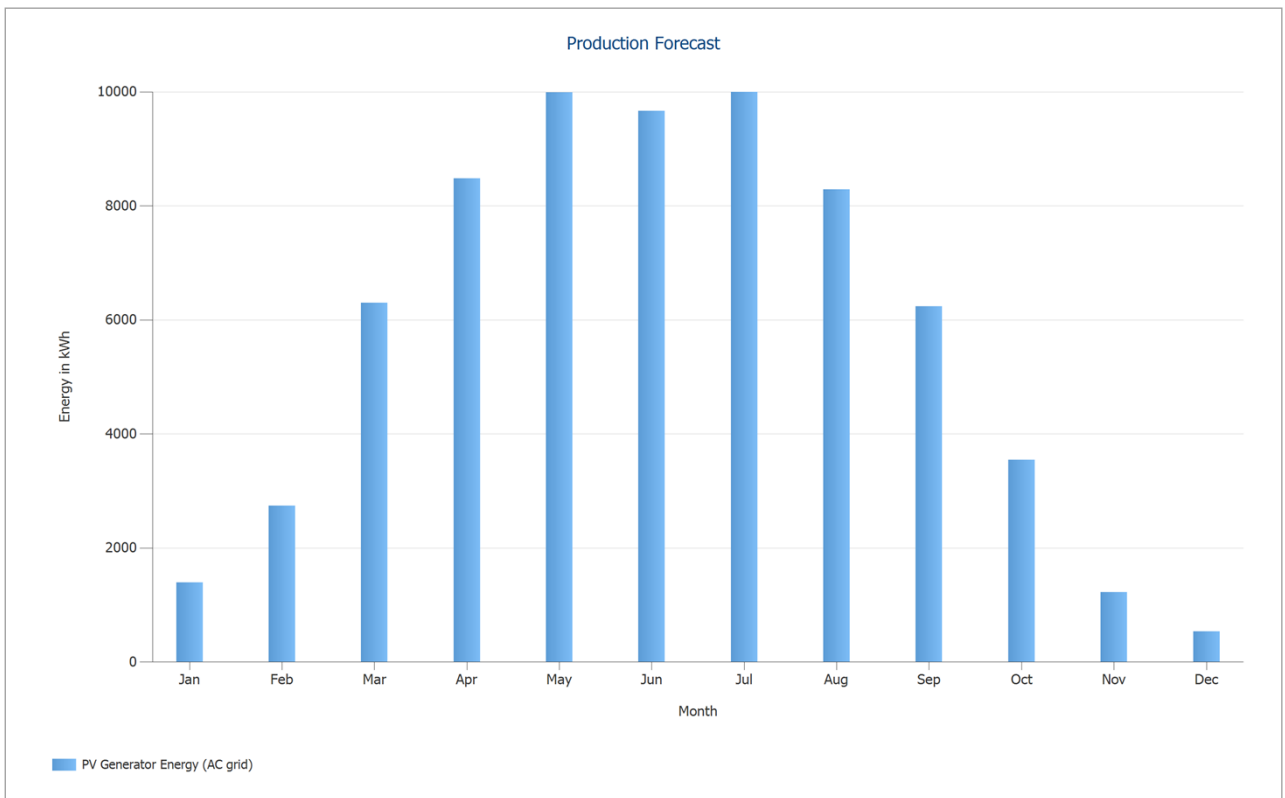


Figure: Production Forecast

PV System Energy Balance

PV System Energy Balance

Global radiation - horizontal	1 011,28 kWh/m²	
Deviation from standard spectrum	-10,11 kWh/m ²	-1,00 %
Ground Reflection (Albedo)	13,41 kWh/m ²	1,34 %
Orientation and inclination of the module surface	160,16 kWh/m ²	15,79 %
Module-independent shading	0,00 kWh/m ²	0,00 %
Reflection on the Module Surface	-7,12 kWh/m ²	-0,61 %
Global Radiation at the Module	1 167,63 kWh/m²	
	1 167,63 kWh/m ²	
	x 291,33 m ²	
	= 340 166,20 kWh	
Global PV Radiation	340 166,20 kWh	
Soiling	0,00 kWh	0,00 %
STC Conversion (Rated Efficiency of Module 21,35 %)	-267 537,79 kWh	-78,65 %
Rated PV Energy	72 628,41 kWh	
Module-specific Partial Shading	-57,41 kWh	-0,08 %
Low-light performance	-456,86 kWh	-0,63 %
Deviation from the nominal module temperature	-613,58 kWh	-0,85 %
Diodes	-10,94 kWh	-0,02 %
Mismatch (Manufacturer Information)	-1 429,79 kWh	-2,00 %
Mismatch (Configuration/Shading)	-0,02 kWh	0,00 %
PV Energy (DC) without inverter clipping	70 059,80 kWh	
Failing to reach the DC start output	-6,02 kWh	-0,01 %
Clipping on account of the MPP Voltage Range	0,00 kWh	0,00 %
Clipping on account of the max. DC Current	0,00 kWh	0,00 %
Clipping on account of the max. DC Power	0,00 kWh	0,00 %
Clipping on account of the max. AC Power/cos phi	-351,71 kWh	-0,50 %
MPP Matching	-63,28 kWh	-0,09 %
PV energy (DC)	69 638,80 kWh	
Energy at the Inverter Input	69 638,80 kWh	
Input voltage deviates from rated voltage	-78,37 kWh	-0,11 %
DC/AC Conversion	-1 173,85 kWh	-1,69 %
Standby Consumption (Inverter)	-27,22 kWh	-0,04 %
Total Cable Losses	0,00 kWh	0,00 %
PV energy (AC) minus standby use	68 359,36 kWh	
PV Generator Energy (AC grid)	68 386,58 kWh	

Plans and parts list

Overview plan

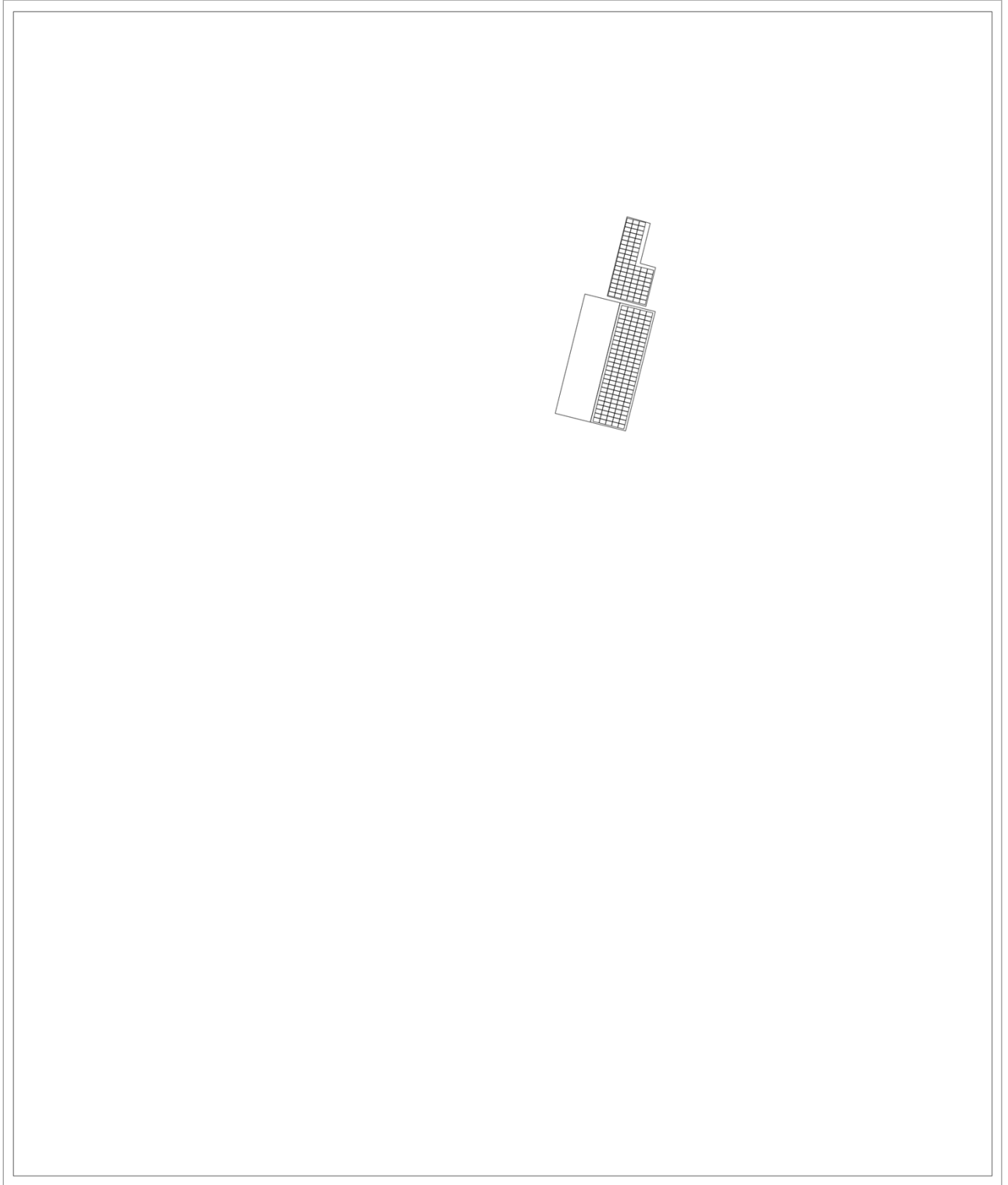


Figure: Overview plan

Parts list

Parts list

#	Type	Item number	Manufacturer	Name	Quantity	Unit
1	PV Module		Canadian Solar Inc.	CS6L-460MS	135	Piece
2	Inverter		Huawei Technologies	SUN2000-50KTL-M0 (400Vac)	1	Piece
3	Components			Feed-in Meter	1	Piece