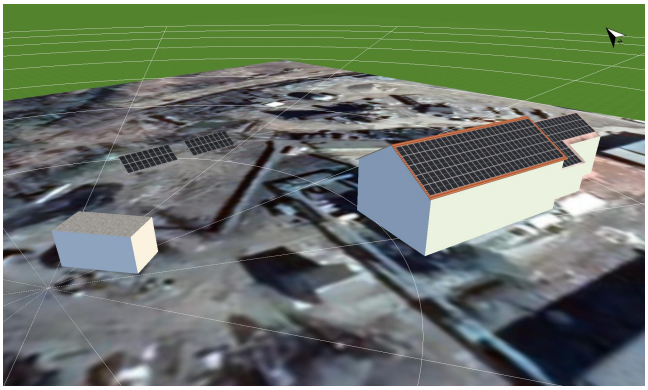
Project Name: LIMBAŽU SILTUMS SIA

05.04.2024

Your PV system

Address of Installation

Mazā noliktavu iela 13, Limbaži



Project Overview

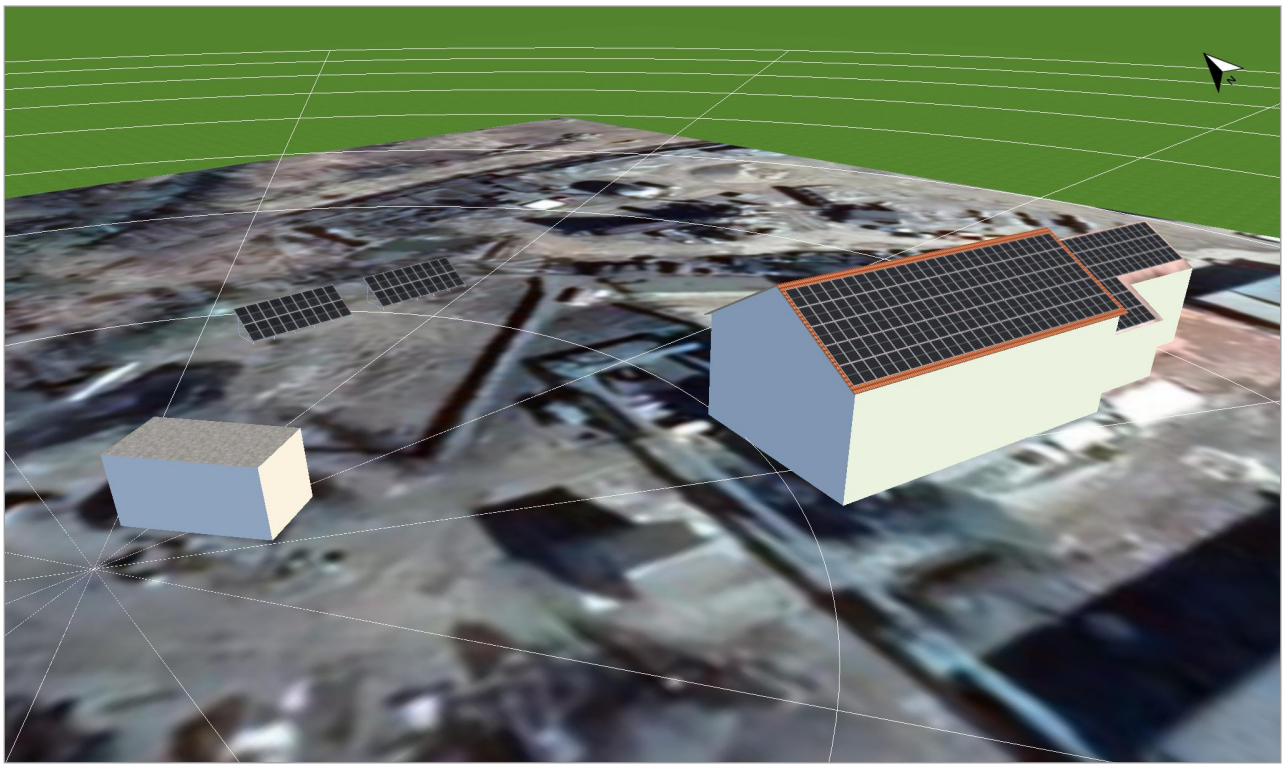


Figure: Overview Image, 3D Design

PV System

3D, Grid-connected PV System

Climate Data	Ainazi, LVA (2001 - 2020)	
Values source	Meteonorm 8.2	
PV Generator Output	118,98	kWp
PV Generator Surface	558,5	m²
Number of PV Modules	243	
Number of Inverters	3	

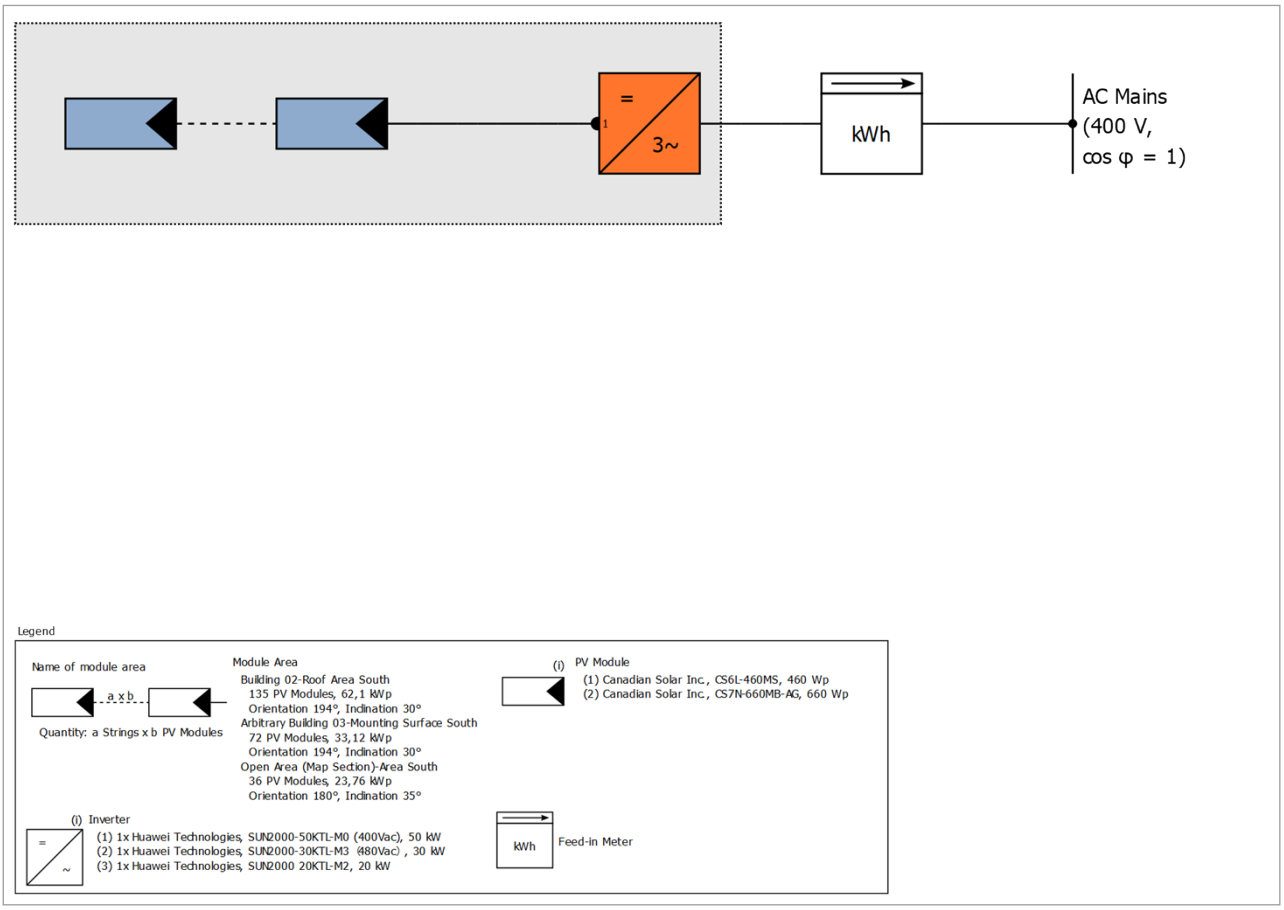


Figure: Schematic diagram

Production Forecast

Production Forecast		
PV Generator Output	118,98	kWp
Spec. Annual Yield	1 076,06	kWh/kWp
Performance Ratio (PR)	91,54	%
Yield Reduction due to Shading	2,6	%
Grid Export	128 108	kWh/Year
Grid Export in the first year (incl. module degradation)	128 108	kWh/Year
Standby Consumption (Inverter)	80	kWh/Year
CO_2 Emissions avoided	38 665	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

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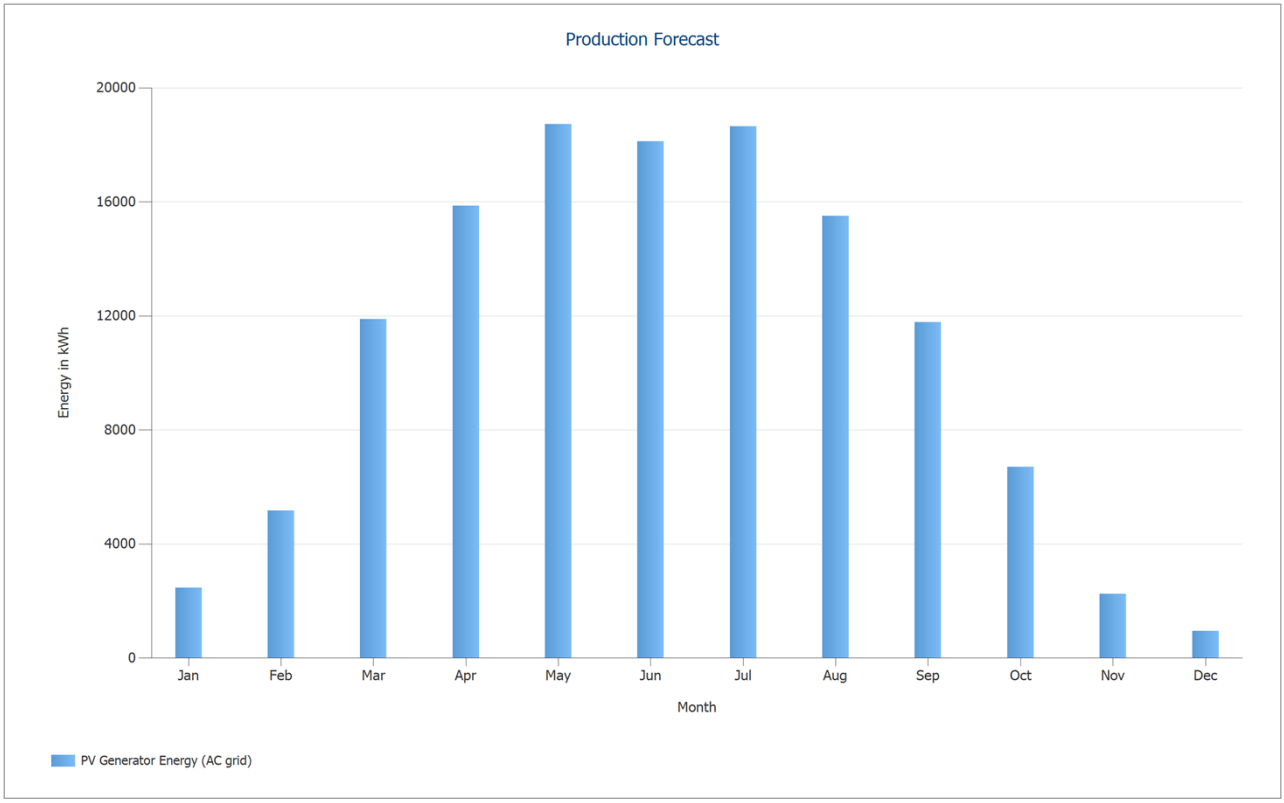

Figure: Production Forecast

PV System Energy Balance

PV System Energy Balance

Global radiation - horizontal	**1 011,28**	**kWh/m²**	
Deviation from standard spectrum	-10,11	kWh/m²	-1,00 %
Ground Reflection (Albedo)	14,35	kWh/m²	1,43 %
Orientation and inclination of the module surface	162,07	kWh/m²	15,96 %
Module-independent shading	-3,75	kWh/m²	-0,32 %
Reflection on the Module Surface	-7,91	kWh/m²	-0,67 %
Global Radiation at the Module	**1 165,93**	**kWh/m²**	
	1 165,93	kWh/m²	
	x 558,535	m²	
	= 651 212,42	kWh	
Global PV Radiation	**651 212,42**	**kWh**	
Soiling	0,00	kWh	0,00 %
STC Conversion (Rated Efficiency of Module 21,33 %)	-512 297,28	kWh	-78,67 %
Rated PV Energy	**138 915,14**	**kWh**	
Module-specific Partial Shading	-2 780,89	kWh	-2,00 %
Low-light performance	-742,07	kWh	-0,55 %
Deviation from the nominal module temperature	-833,87	kWh	-0,62 %
Diodes	-58,18	kWh	-0,04 %
Mismatch (Manufacturer Information)	-2 690,00	kWh	-2,00 %
Mismatch (Configuration/Shading)	-236,27	kWh	-0,18 %
PV Energy (DC) without inverter clipping	**131 573,85**	**kWh**	
Failing to reach the DC start output	-6,02	kWh	0,00 %
Clipping on account of the MPP Voltage Range	-21,82	kWh	-0,02 %
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	-475,72	kWh	-0,36 %
MPP Matching	-79,58	kWh	-0,06 %
PV energy (DC)	**130 990,71**	**kWh**	
Energy at the Inverter Input	**130 990,71**	**kWh**	
Input voltage deviates from rated voltage	-417,96	kWh	-0,32 %
DC/AC Conversion	-2 463,98	kWh	-1,89 %
Standby Consumption (Inverter)	-79,73	kWh	-0,06 %
Total Cable Losses	0,00	kWh	0,00 %
PV energy (AC) minus standby use	**128 029,04**	**kWh**	
PV Generator Energy (AC grid)	**128 108,78**	**kWh**	

Plans and parts list

Overview plan

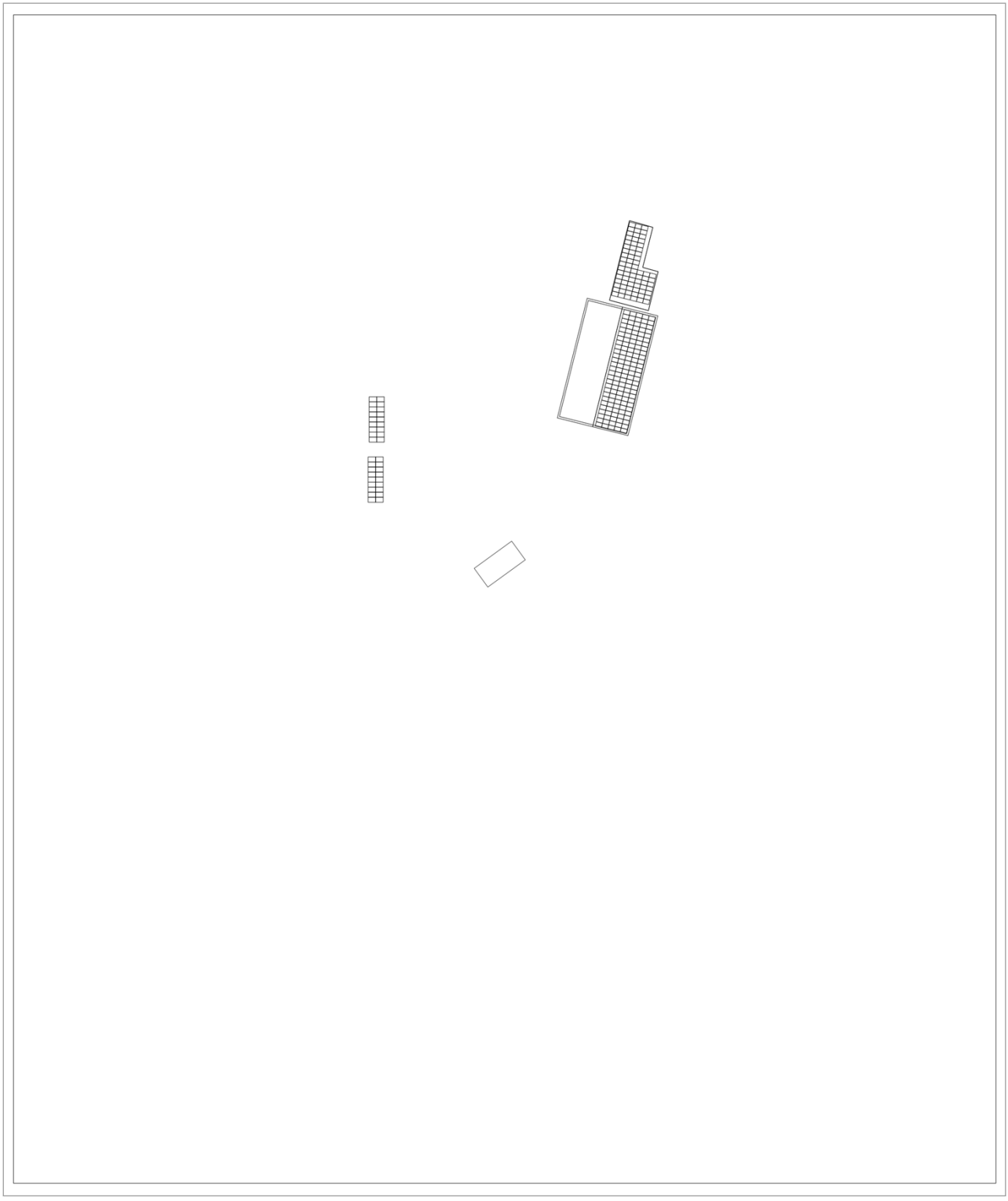

Figure: Overview plan

Parts list

Parts list

#	Type	Item number	Manufacturer	Name	Quantity	Unit
1	PV Module		Canadian Solar Inc.	CS6L-460MS	207	Piece
2	PV Module		Canadian Solar Inc.	CS7N-660MB-AG	36	Piece
3	Inverter		Huawei Technologies	SUN2000-50KTL-M0 (400Vac)	1	Piece
4	Inverter		Huawei Technologies	SUN2000-30KTL-M3 （480Vac）	1	Piece
5	Inverter		Huawei Technologies	SUN2000 20KTL-M2	1	Piece
6	Components			Feed-in Meter	1	Piece