

Sep 09 2021

**Reference Number:** SPUK75571

David Gladstone

**System Version:** V1

1 CHALCOT CRESCENT

LONDON

NW18YE

Dear **David**,

We have now completed your survey and further to discussions with the surveyor, we would like to confirm your revised contract for a complete installation.

Your provisional installation date: To be confirmed

A few things to note:

- Your kit may be delivered up to 48 hours before your installation.
- We will install a scaffold on the property to ensure we can install the system safely. This will be before your installation date.
- We will reach out to you 24 hours before the installation date to confirm our engineers' attendance on the agreed date.
- We will carry out the installation on the date agreed with you. Someone will need to be home for the duration of the time, as our team cannot stay on your property without someone there.
- To set up remote monitoring for your installation, our team will need your Wi-Fi access password. If you do not have this available on the installation day, you may have to wait to access the monitoring of your new system.
- We will then be in touch to ensure you are happy with everything that has been installed. This is the best time to discuss any questions you may have about the system or concerns you may have before we issue your invoice.
- We will remove your scaffolding. This may be up for 10 days after the installation to allow our inspection teams to access the work.
- You will be sent your handover pack electronically 10 days after we receive your payment. We do not send this out in paper format due to our environmental policies, however, under special circumstances we may be able to help with this.
- We will send the District Network Operator notification to guarantee your installation connection, after the installation is complete.
- Please be aware this can take up to 45 days to receive this notification, this does not delay us in completing your installation as it is just for notification purposes.
- All notifications and completion paperwork will be sent to you once the installation is complete and your final balance is paid.
- If you have requested the installation of an EV charger, this will be installed after your Solar Contract has been fulfilled. The balance of your order will then become payable; minus the EV charger, only once the EV charger has been installed will the EV Charger cost be payable.

Your Original Package		
Description	Original Selection	Original Cost
Solar Panel Installation	12 Panel	£4609
Panel Type	LR4-60 360W Module	Included
Inverter Type	Fox Ess	Included
Optional Storage Selected	No	None
Storage Type	None	£0
	None	Included
Emergency Power Supply	No	£0
Roof Type	Slate	£240
Number of Arrays	1	£0
Separate Building	No	£0
Scaffolding Type	Up to 2 Storeys 1 Side (Less than 9M Wide)	£0
Scaffolding Extra	One Additional Elevation of Scaffolding	£250
Scaffolding Extra	1 Additional Side of House Or Greater than 9 M Wide	£400
Scaffolding Extra	None	£0
Scaffolding Extra	None	£0
Bird Protection	No	£0
Optimisers	No	£0
Power Diverter	Yes	£450
EV Charger	Yes	£995
Wifi Booster	No	£0
Original Total Installation Cost Inc VAT		£6944

Your Revised Package		
Description	Revised Selection	Revised Cost
Solar Panel Installation	9 Panel	£3796
Panel Type	Q-Cell 375W	Included
Inverter Type	SolarEdge	Included
Optional Storage Selected	No	None
Storage Type	None	£0
	None	Included
Emergency Power Supply	No	£0
Roof Type	Concrete	£0
Number of Arrays	3	£200
Separate Building	No	£0
Scaffolding Type	Up to 2 Storeys 1 Side (Less than 9M Wide)	£0
Scaffolding Extra	One Additional Elevation of Scaffolding	£250
Scaffolding Extra	None	£0
Scaffolding Extra	None	£0
Scaffolding Extra	None	£0
Bird Protection	No	£0
Optimisers	No	£0
Power Diverter	No	£0
EV Charger	No	£0
Extra Cable - Per m	No	£0
Wifi Booster	No	£0
Revised Total Installation Cost Inc VAT		£4246

## Comments

## Panel variation

Further to our conversation we would like to confirm that you are happy to go ahead with the changes to the originally offered modules.

Per the terms of our contract clause 2.8.4, in the event of availability issues with the selected panels, we may offer an equivalent or better alternative.

	Original Panels	New Panels
Make and Type	LR4-60 360w Modules	Q-PEAK Duo BLK ML-G9 375w
Watt Peak	360w	375w
Warranty	12	12
Power Output Warranty	25 years	25 years

At Green Energy Together we take the equipment we procure, and the methods used to manufacture the equipment very seriously and we want to provide you with reassurance in the sustainability of our supply chain.

Due to recent developments in the media surrounding the manufacturing of some materials required to produce Solar Panels we have felt it appropriate to review the module which we had previously agreed to provide for Solar Together.

We have been working hard with our supply chain partners, to identify a product that meets the Solar Together product requirements and can confirm no relationship with the allegations being faced in the Xinjiang province of China.

The module we will be supplying you is the [Q-Cell Q.Peak DUO BLK ML-G9 375W](#) Module which is widely regarded as one of the best manufacturers in the Solar Industry.

We, and Solar Together, condemn any use of forced labour in the solar supply chain and while these allegations are being investigated, we have sought to provide a quality alternative that also provides you with a higher output and a longer warranty.

The supply of this new module will increase the system output of your solar array so is to your benefit. Although clause 2.8.4 of your agreement would allow us to increase the agreed price of the system in light of this increase in power output, we will waive this cost.

## Products datasheets:

**Panels:** [Q.PEAK Duo BLK ML-G9 375w](#)

**Inverter:** [FoxESS Single-Phase Hybrid Inverter](#)

[F Series Dual MPPT Inverter](#)

[FoxESS Hybrid](#)

[Solar Edge Optimised option](#)

[HYD 3k-6k Single-Phase Integrated Inverter](#)

**Battery:** [FoxESS HV2600 Battery Module](#)

[Sofar Amasstore battery GTX2000](#)

[Sofar Amasstore battery GTX3000](#)

[Sofar Amasstore battery GTX5000](#)

**Optimized Option:** [Solar Edge Panel Power Optimisers](#)

**Power Controller:** [Solar i-Boost](#)

**Optional Extra:** [Enviroguard Panel Bird Exclusion](#)

[BrosTrend AC1200 WiFi Booster](#)

[Renusol Mounting System](#)

[EVIE Smart Home Charging](#)





**Green Energy Together**  
Unit 8 Peerglow Centre  
Marsh Lane, Ware SG12 9QL

Mr David Gladstone  
1 CHALCOT CRESCENT  
LONDON  
NW1 8YE

**Contact person:**  
Gbenga Julius  
E-Mail: solar.together@get.uk.com

**Project Name:** SPUK75571  
**Offer no.:** SPUK75571

08/09/2021

## Your PV system from Green Energy Together

### Address of Installation

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1 CHALCOT CRESCENT  
LONDON  
NW1 8YE

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**Project Description:**  
Solar PV

# Project Overview

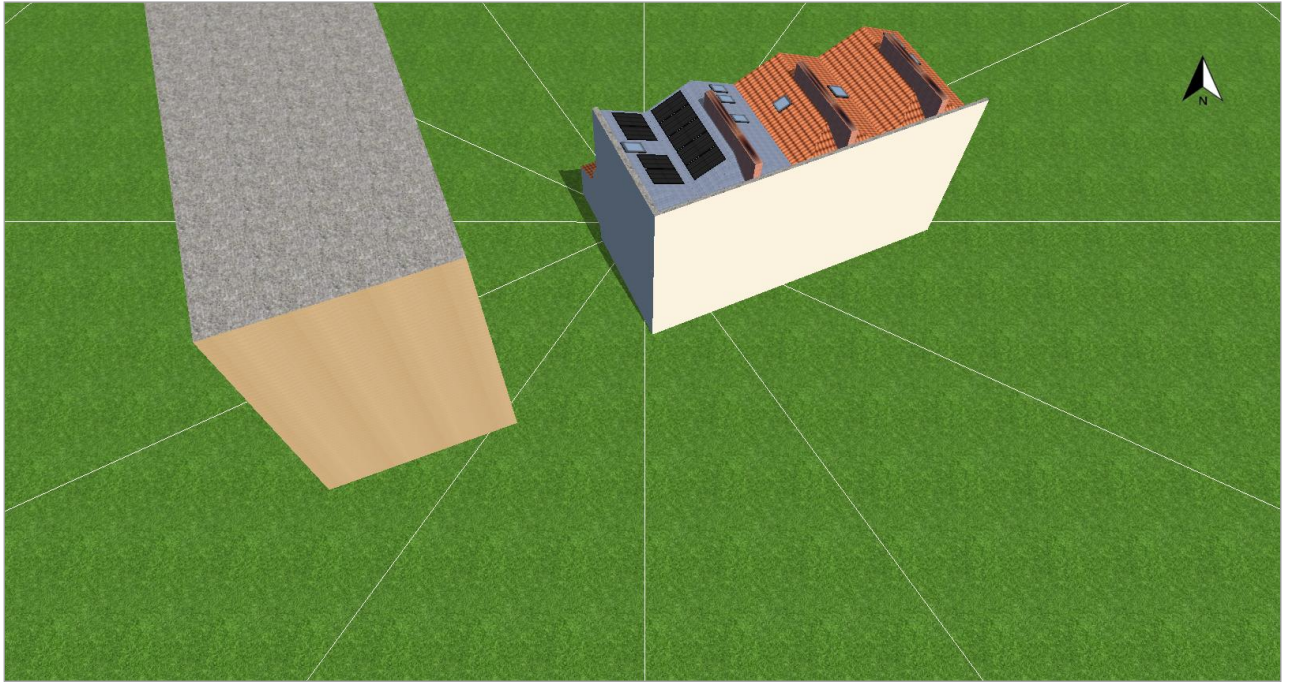


Figure: Overview Image, 3D Design

## PV System

### 3D, Grid-connected PV System with Electrical Appliances

Climate Data	LONDON CITY AIRPORT, GBR (1991 - 2010)
PV Generator Output	3.38 kWp
PV Generator Surface	17.1 m <sup>2</sup>
Number of PV Modules	9
Number of Inverters	1

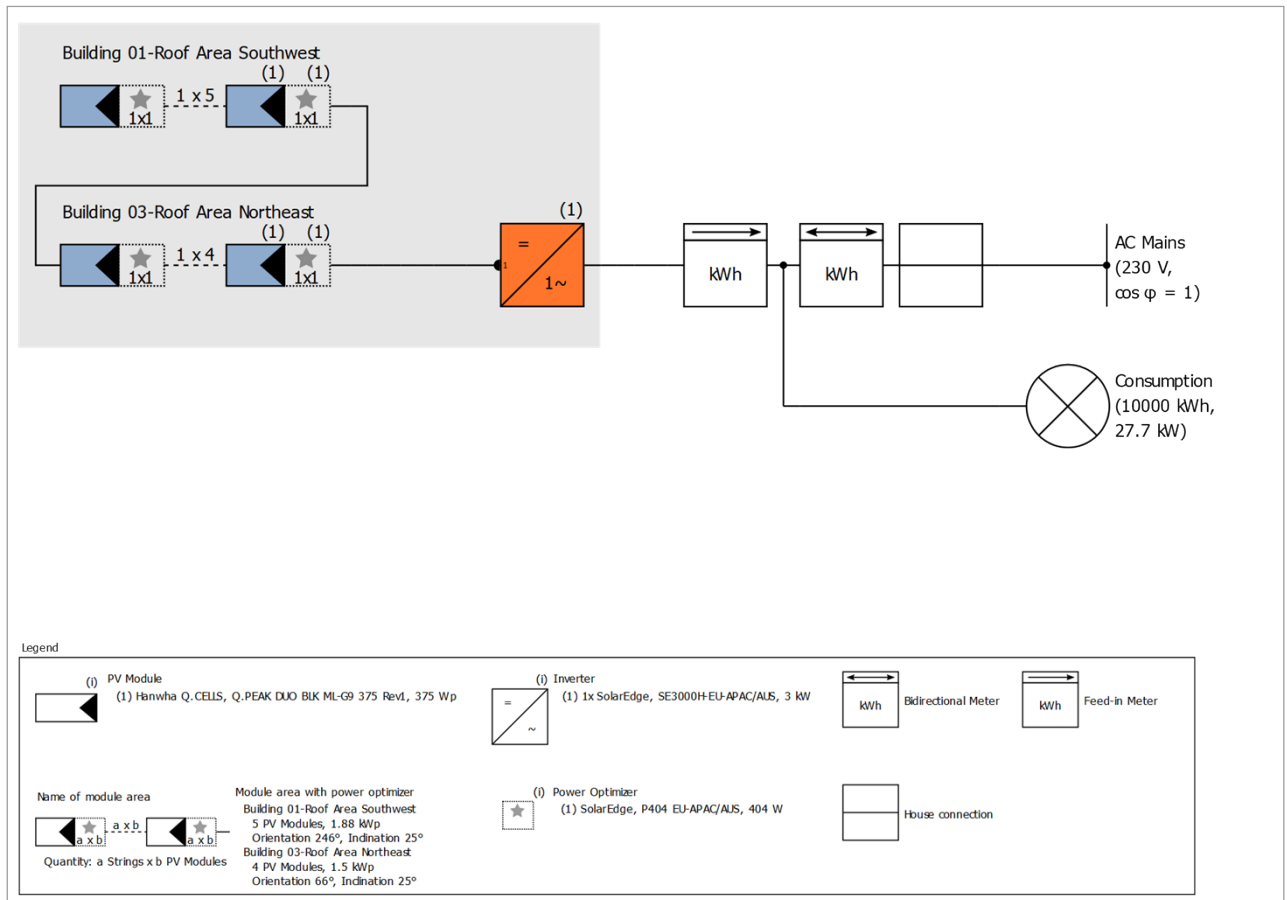


Figure: Schematic diagram

## The yield

### The yield

PV Generator Energy (AC grid)	2,421 kWh
Direct Own Use	1,724 kWh
Grid Feed-in	697 kWh
Down-regulation at Feed-in Point	0 kWh
Own Power Consumption	71.1 %
Solar Fraction	17.2 %
Spec. Annual Yield	714.20 kWh/kWp
Performance Ratio (PR)	80.1 %
Yield Reduction due to Shading	18.7 %/Year
CO <sub>2</sub> Emissions avoided	1,446 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.

# Set-up of the System

## Overview

### System Data

Type of System	3D, Grid-connected PV System with Electrical Appliances
Start of Operation	08/09/2021

### Climate Data

Location	LONDON CITY AIRPORT, GBR (1991 - 2010)
Resolution of the data	1 h
Simulation models used:	
- Diffuse Irradiation onto Horizontal Plane	Hofmann
- Irradiance onto tilted surface	Perez

### Consumption

Total Consumption	10000 kWh
Household, load profile with low summer proportion	10000 kWh
Load Peak	27.7 kW



## Module Areas

### 1. Module Area - Building 01-Roof Area Southwest

#### PV Generator, 1. Module Area - Building 01-Roof Area Southwest

Name	Building 01-Roof Area Southwest
PV Modules	5 x Q.PEAK DUO BLK ML-G9 375 Rev1 (v1)
Manufacturer	Hanwha Q.CELLS
Inclination	25 °
Orientation	Southwest 246 °
Installation Type	Roof parallel
PV Generator Surface	9.5 m <sup>2</sup>



Figure: 1. Module Area - Building 01-Roof Area Southwest

## 2. Module Area - Building 03-Roof Area Northeast

### PV Generator, 2. Module Area - Building 03-Roof Area Northeast

Name	Building 03-Roof Area Northeast
PV Modules	4 x Q.PEAK DUO BLK ML-G9 375 Rev1 (v1)
Manufacturer	Hanwha Q.CELLS
Inclination	25 °
Orientation	Northeast 66 °
Installation Type	Roof parallel
PV Generator Surface	7.6 m <sup>2</sup>

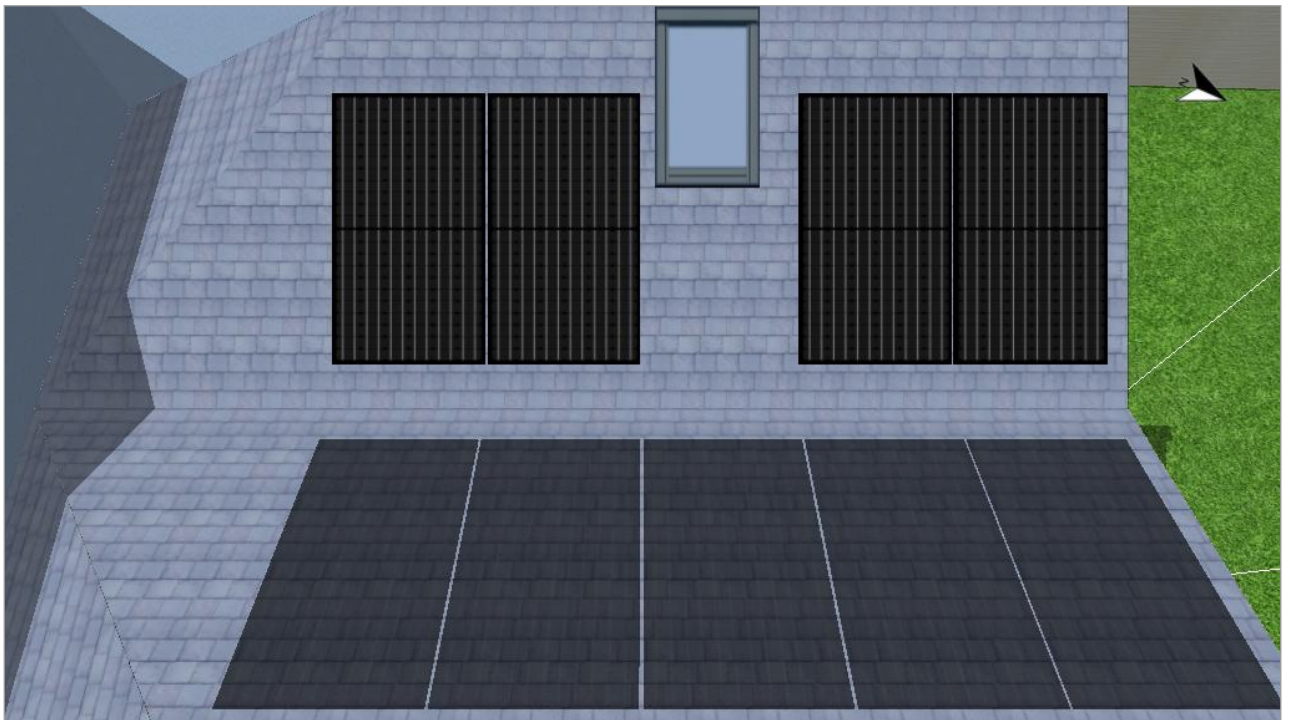


Figure: 2. Module Area - Building 03-Roof Area Northeast

## Horizon Line, 3D Design

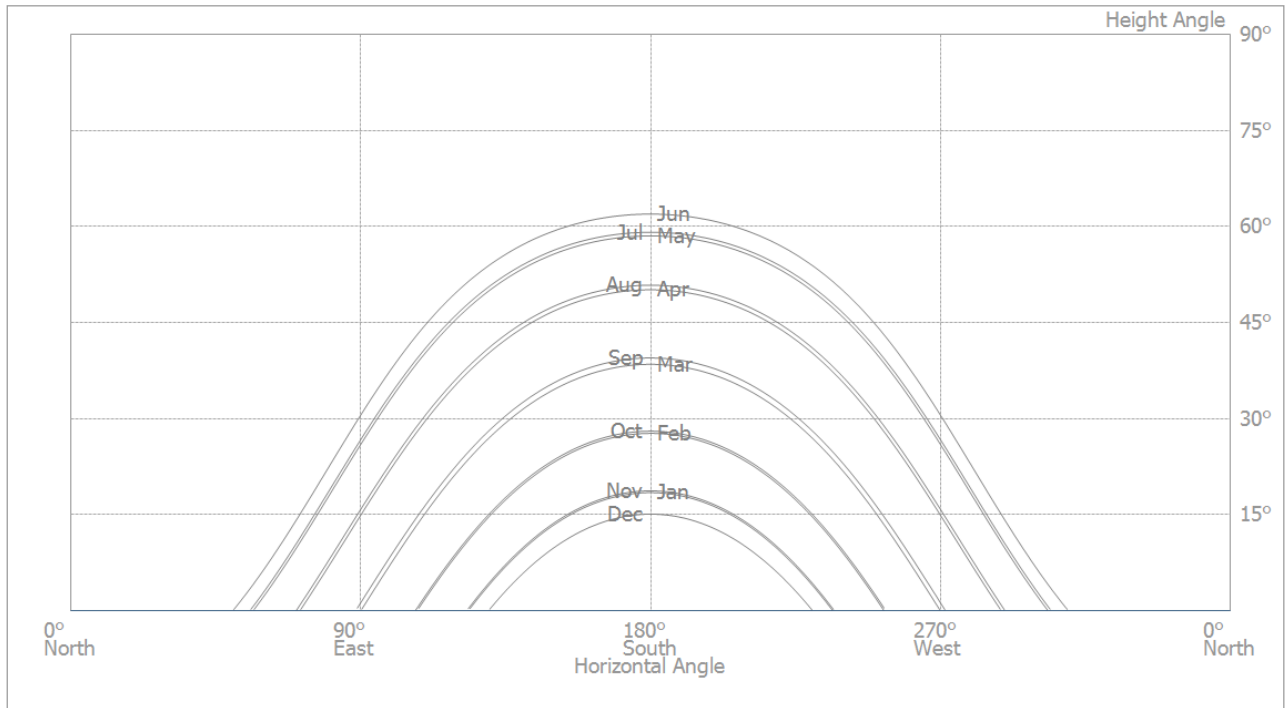


Figure: Horizon (3D Design)

## Inverter configuration

### Configuration 1

Module Areas	Building 01-Roof Area Southwest + Building 03-Roof Area Northeast
Inverter 1	
Model	SE3000H-EU-APAC/AUS (v1)
Manufacturer	SolarEdge
Quantity	1
Sizing Factor	112.5 %
Configuration	MPP 1: 1 x 5 ☆ [1 x 1] + 1 x 4 ☆ [1 x 1]
Power Optimizer 1	
Model	P404 EU-APAC/AUS (v2)
Manufacturer	SolarEdge
Quantity	9

## AC Mains

### AC Mains

Number of Phases	1
Mains Voltage (1-phase)	230 V
Displacement Power Factor (cos phi)	+/- 1

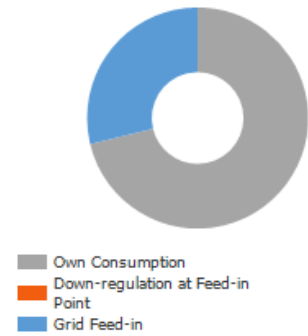
# Simulation Results

## Results Total System

### PV System

PV Generator Output	3.4 kWp
Spec. Annual Yield	714.20 kWh/kWp
Performance Ratio (PR)	80.1 %
Yield Reduction due to Shading	18.7 %/Year
PV Generator Energy (AC grid)	2,421 kWh/Year
Own Consumption	1,724 kWh/Year
Down-regulation at Feed-in Point	0 kWh/Year
Grid Feed-in	697 kWh/Year
Own Power Consumption	71.1 %
CO <sub>2</sub> Emissions avoided	1,446 kg / year

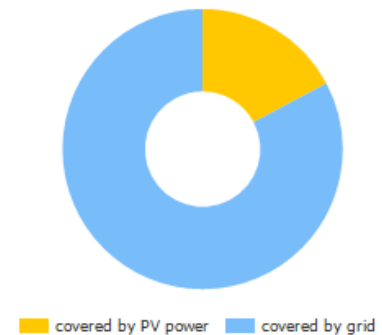
PV Generator Energy (AC grid)



### Appliances

Appliances	10,000 kWh/Year
Standby Consumption (Inverter)	11 kWh/Year
Total Consumption	10,011 kWh/Year
covered by PV power	1,724 kWh/Year
covered by grid	8,287 kWh/Year
Solar Fraction	17.2 %

Total Consumption

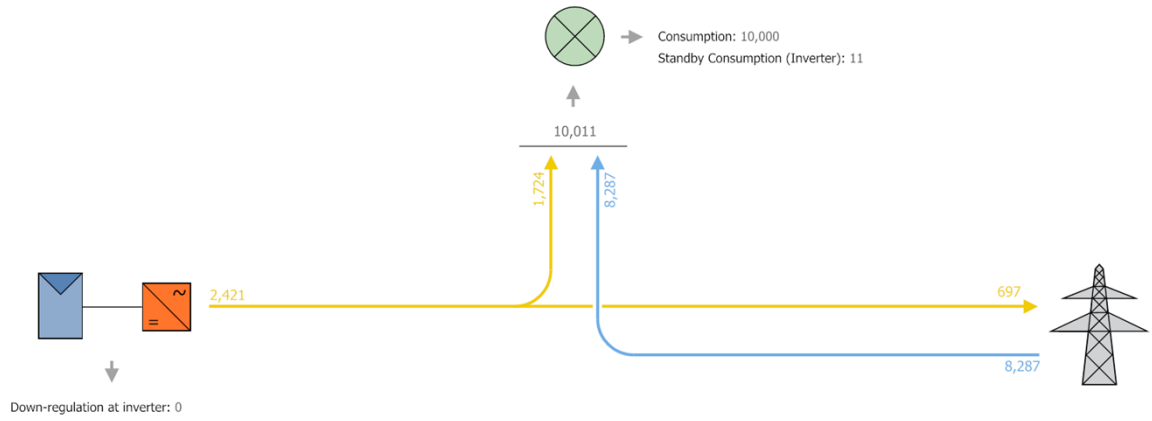


### Level of Self-sufficiency

Total Consumption	10,011 kWh/Year
covered by grid	8,287 kWh/Year
Level of Self-sufficiency	17.2 %

### Energy Flow Graph

Project: SPUK75571



All values in kWh  
Small deviations in the totals can occur due to rounding  
created with PV\*SOL.

Figure: Energy Flow Graph

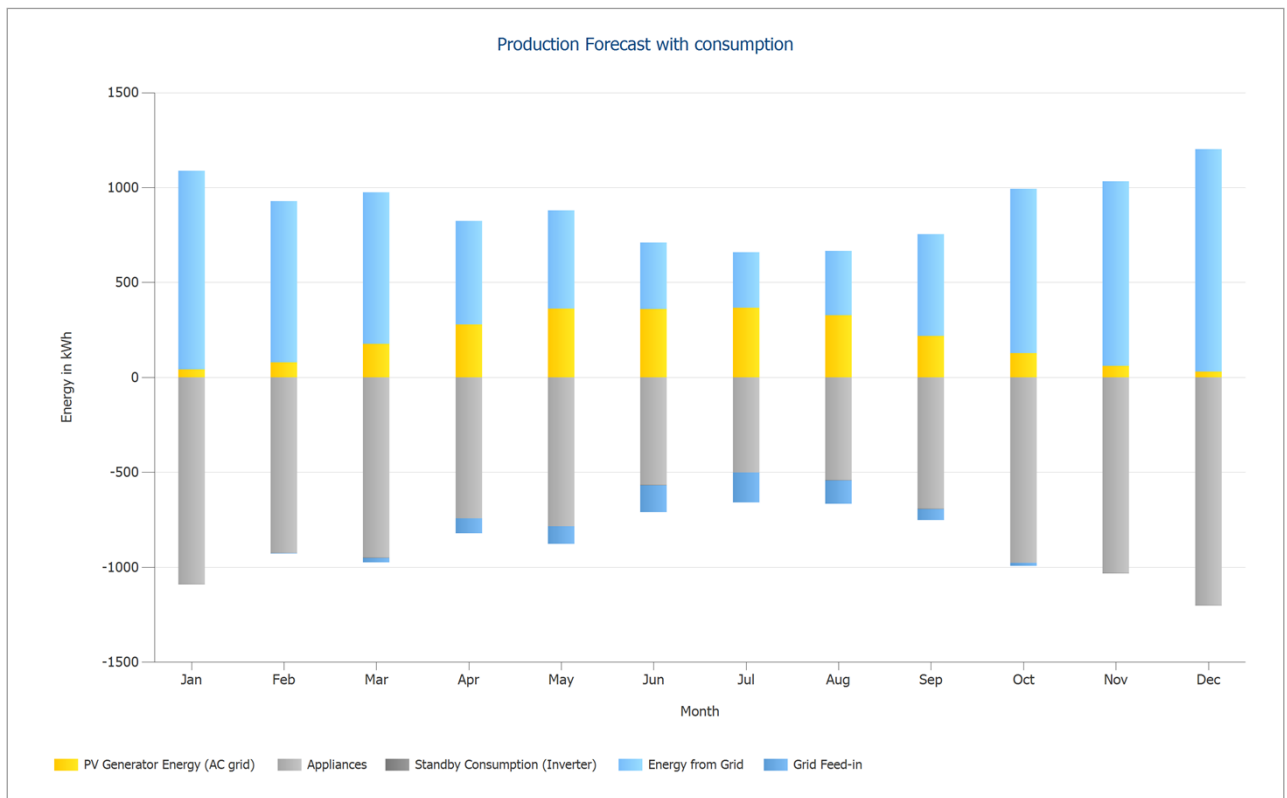


Figure: Production Forecast with consumption

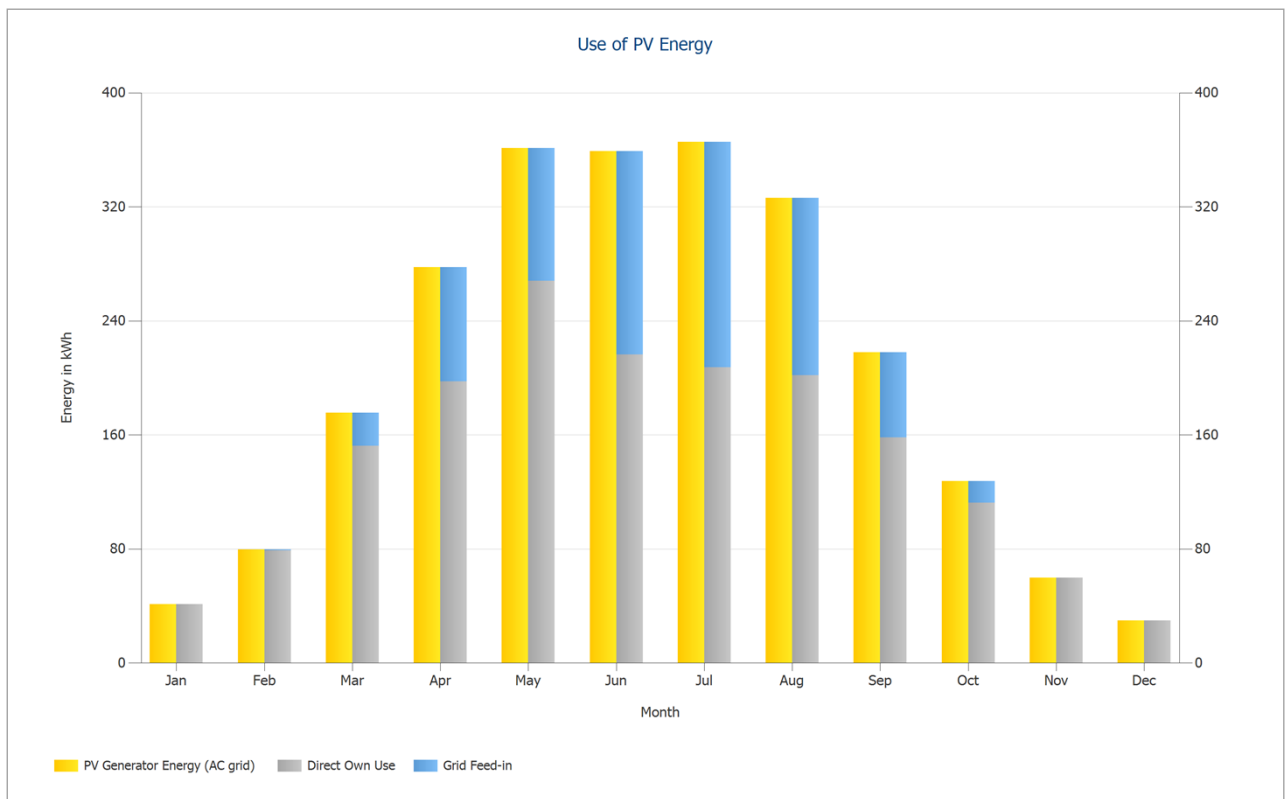


Figure: Use of PV Energy

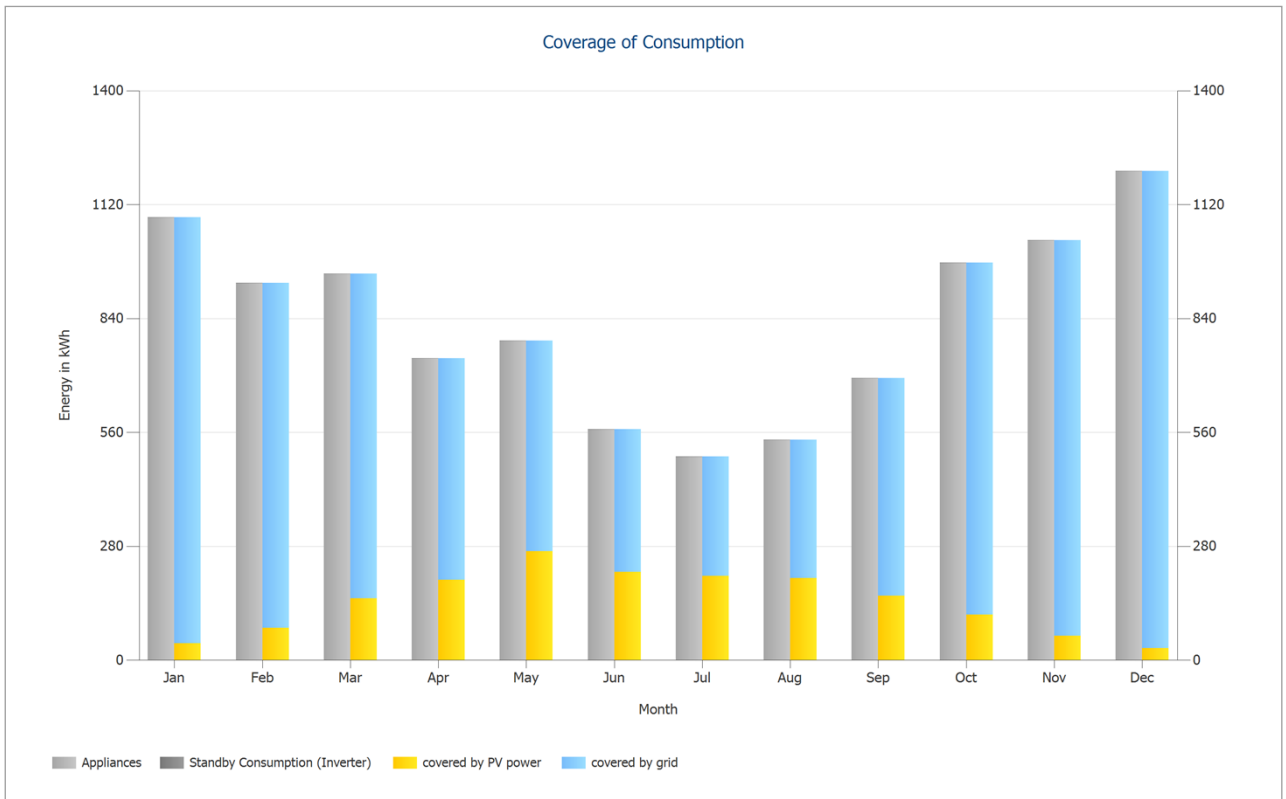


Figure: Coverage of Consumption

# Plans and parts list

## Circuit Diagram

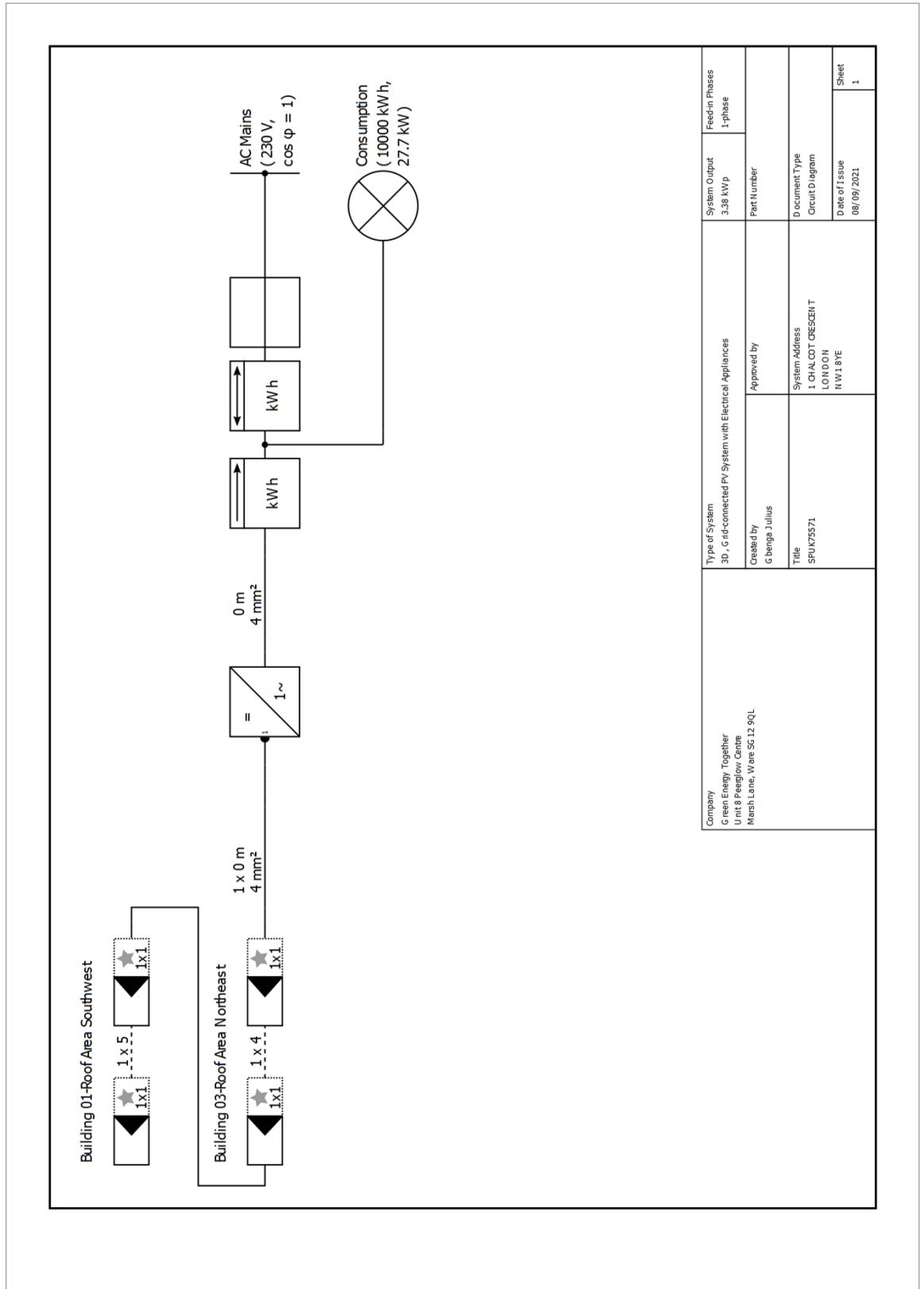


Figure: Circuit Diagram



## Dimensioning Plan

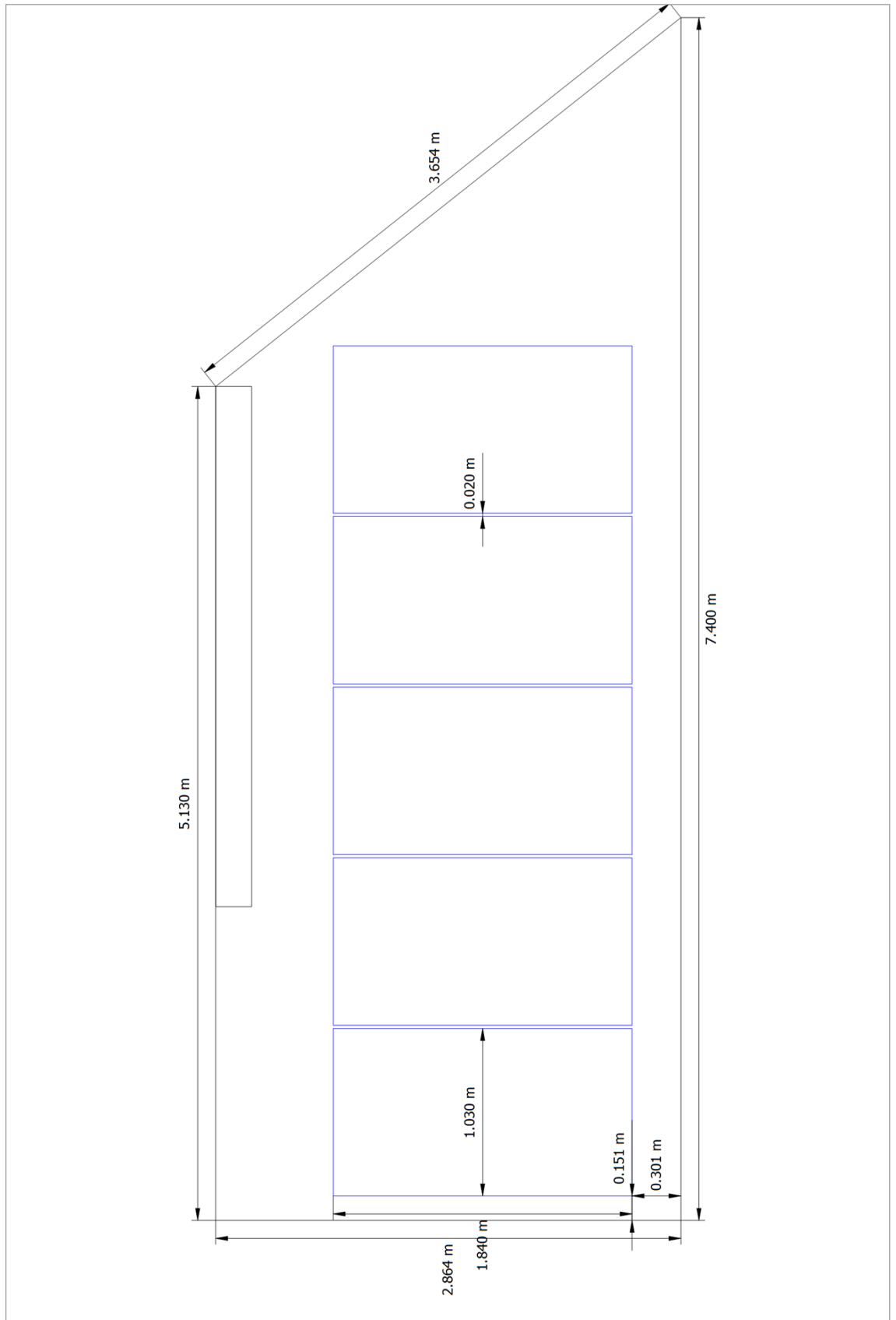


Figure: Building 01-Roof Area Southwest

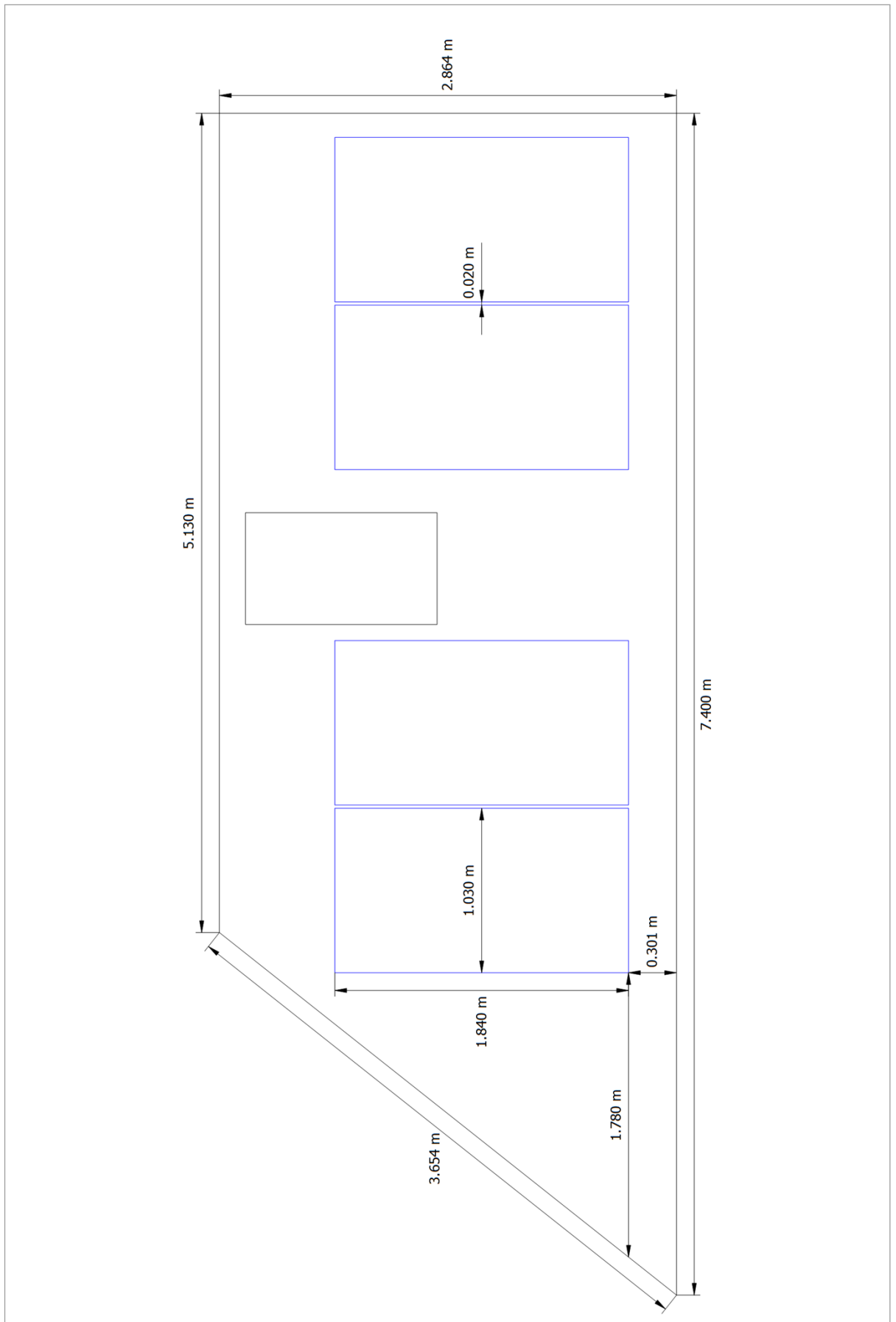


Figure: Building 03-Roof Area Northeast

# String Plan

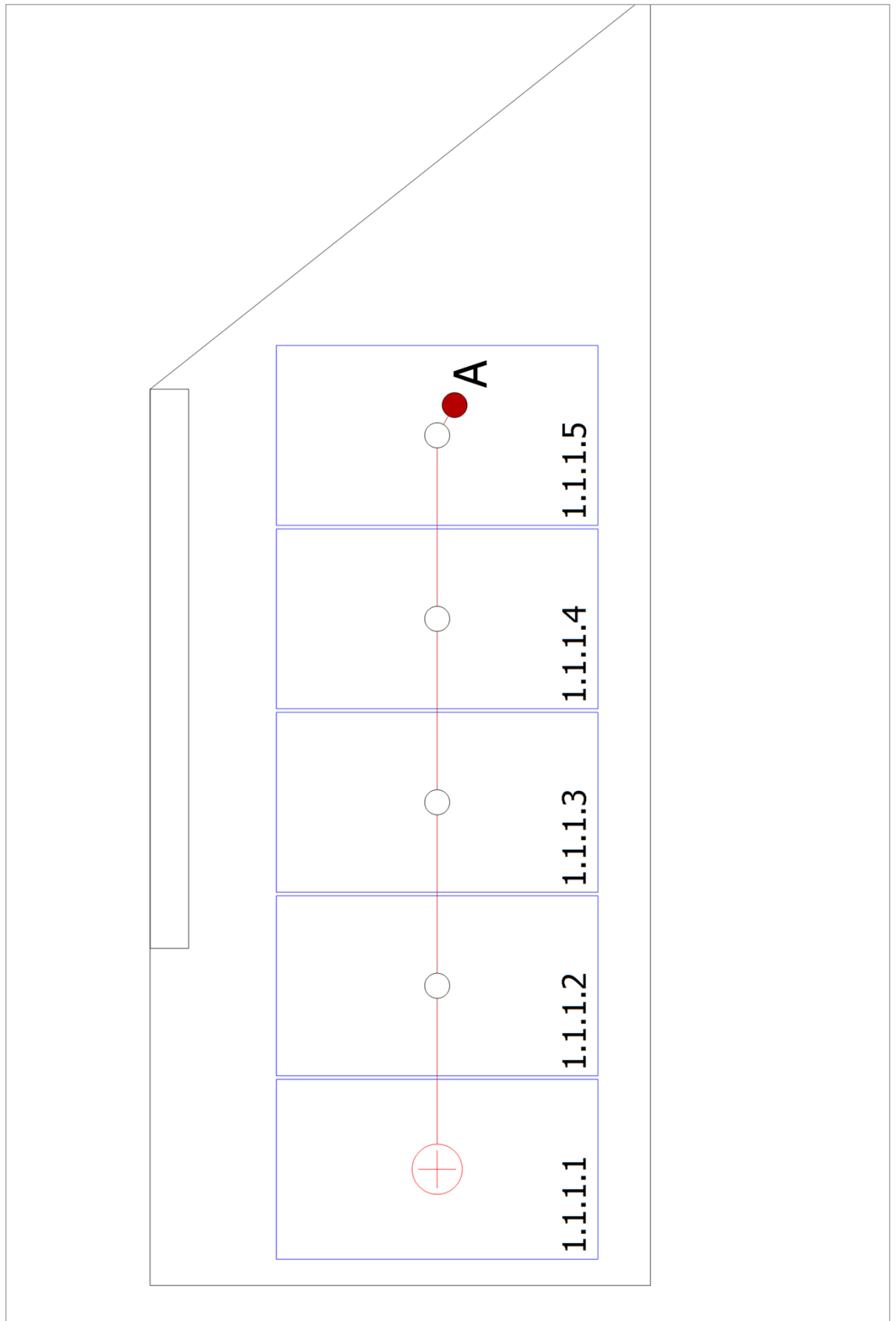


Figure: Building 01-Roof Area Southwest

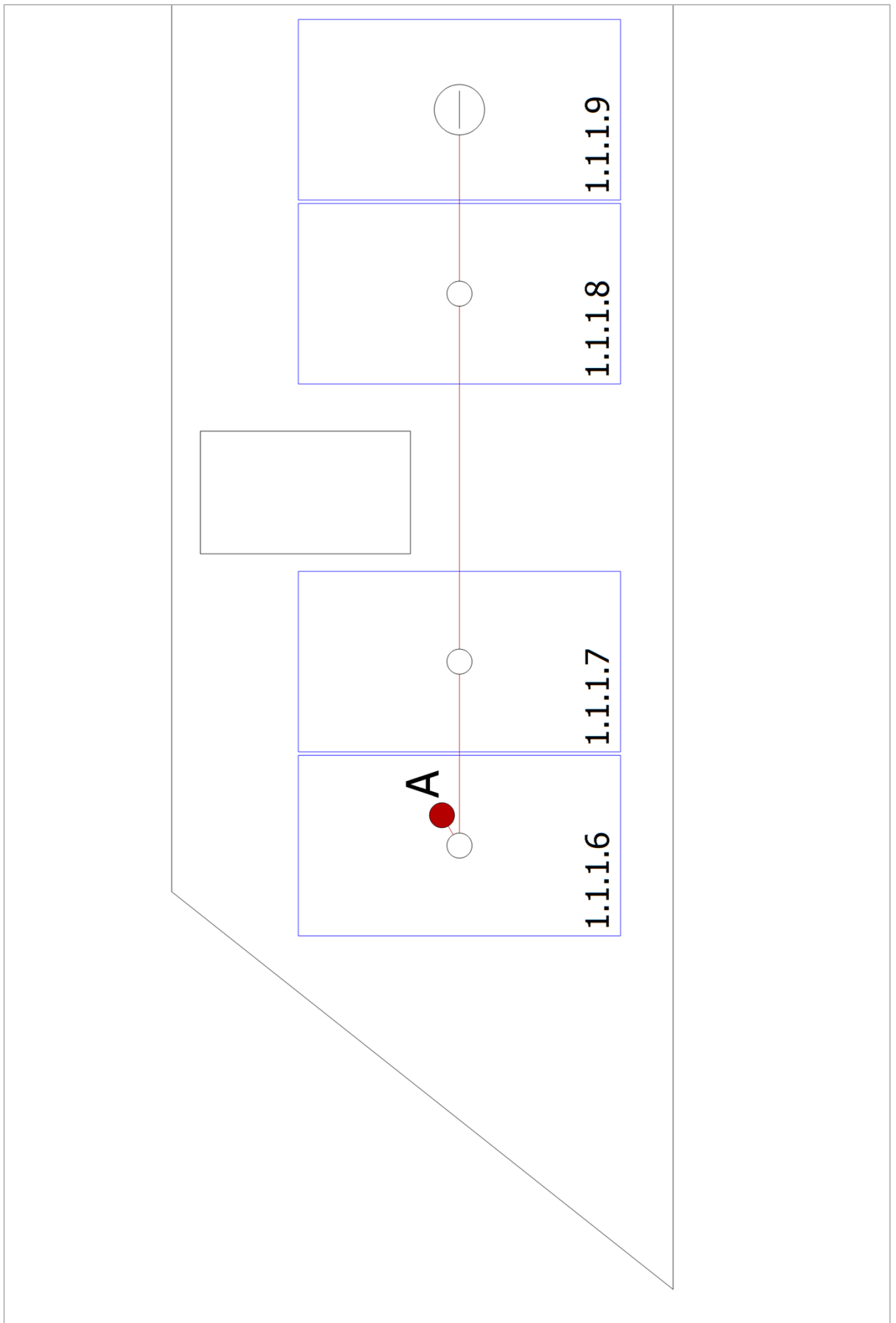


Figure: Building 03-Roof Area Northeast

## Parts list

### Parts list

#	Type	Item number	Manufacturer	Name	Quantity	Unit
1	PV Module		Hanwha Q.CELLS	Q.PEAK DUO BLK ML- G9 375 Rev1	9	Piece
2	Inverter		SolarEdge	SE3000H-EU- APAC/AUS	1	Piece
3	Power Optimizer		SolarEdge	P404 EU-APAC/AUS	9	Piece
4	Components			Feed-in Meter	1	Piece
5	Components			Bidirectional Meter	1	Piece
6	Components			House connection	1	Piece

# Screenshots, 3D Design Environment

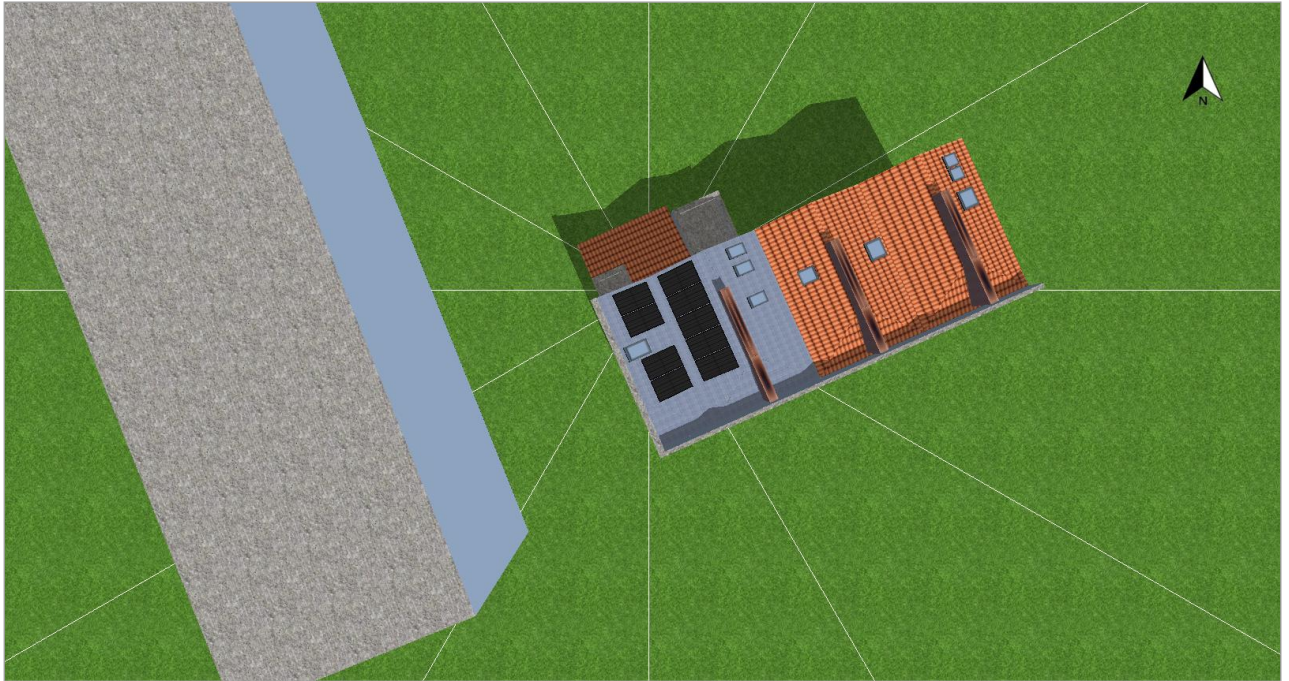


Figure: Screenshot01

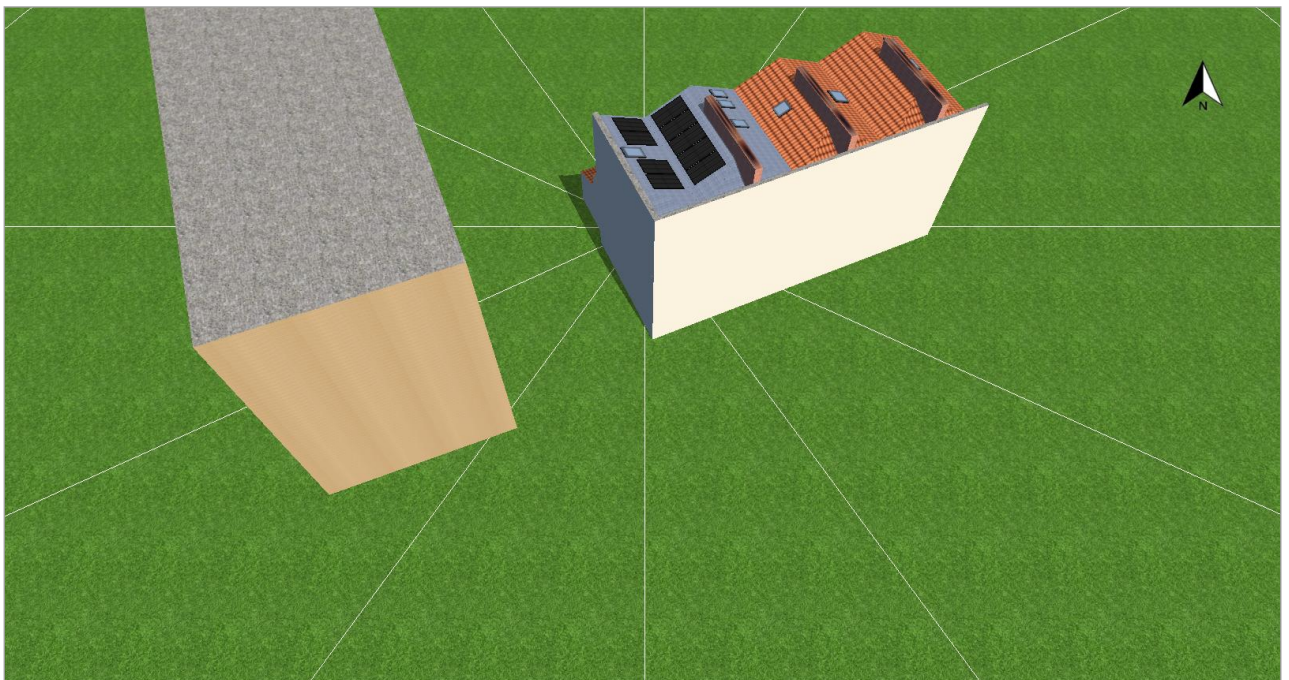


Figure: Screenshot02

## Configuration

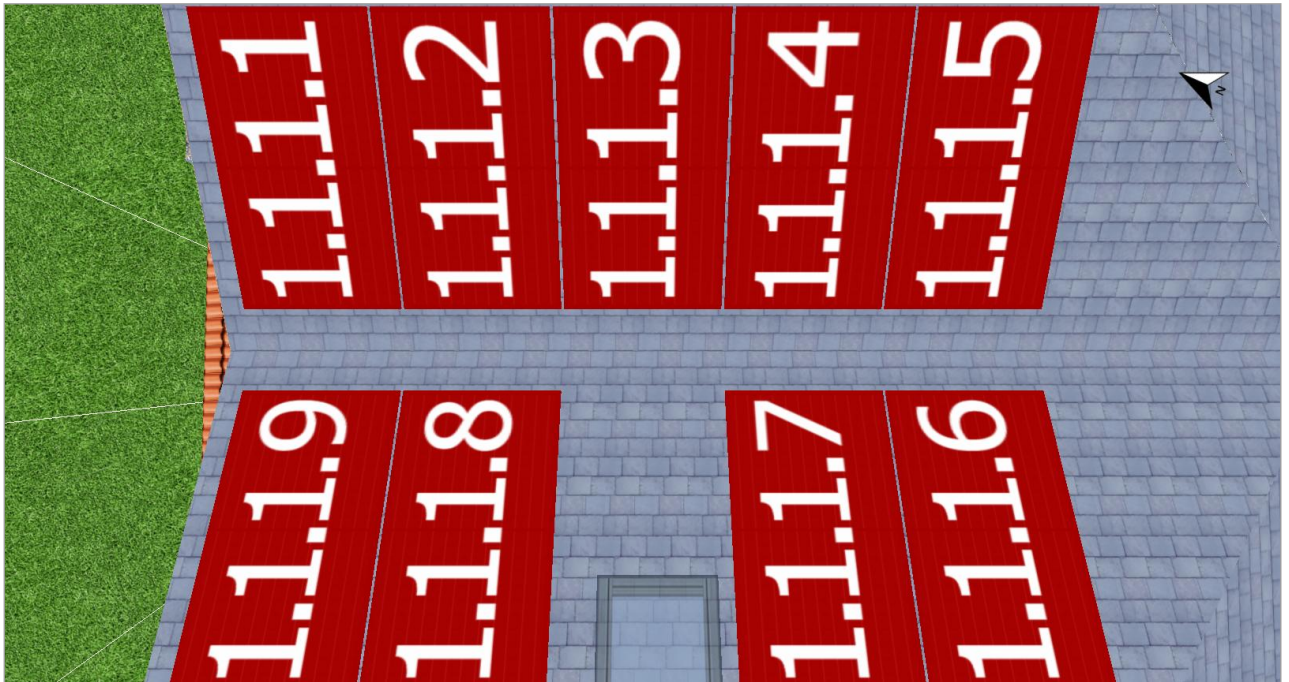


Figure: Screenshot05

## Shading

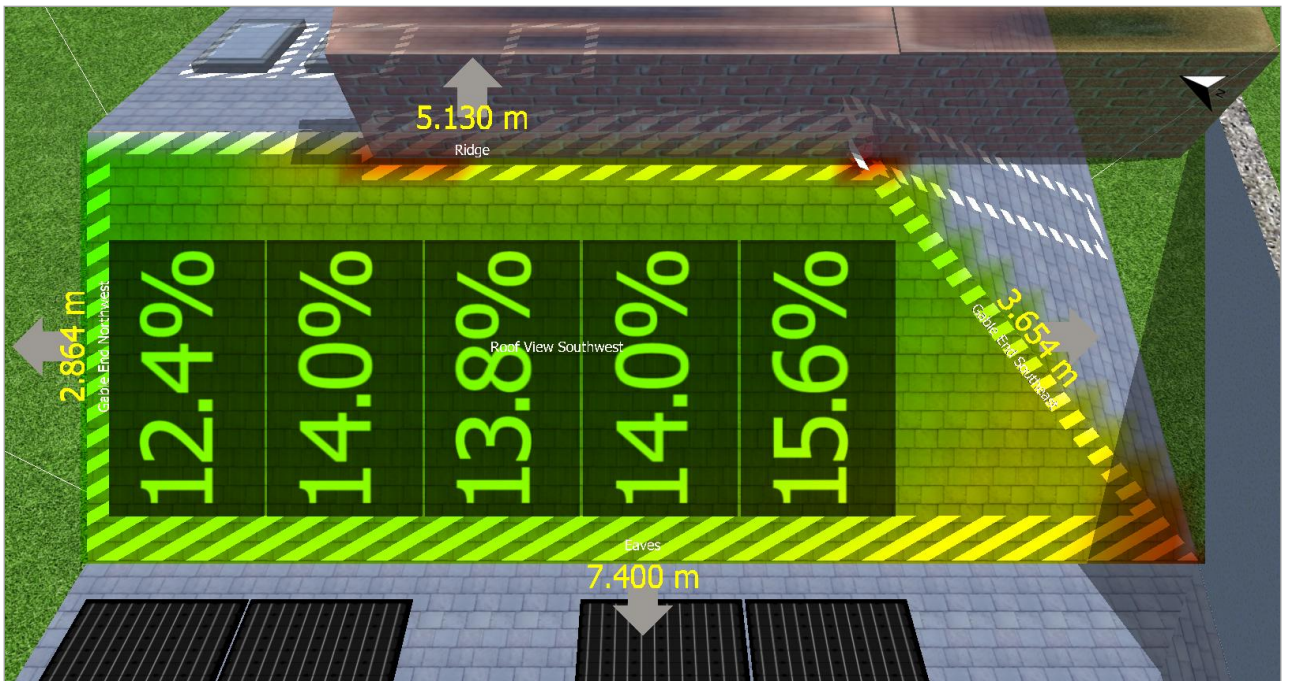


Figure: Screenshot03

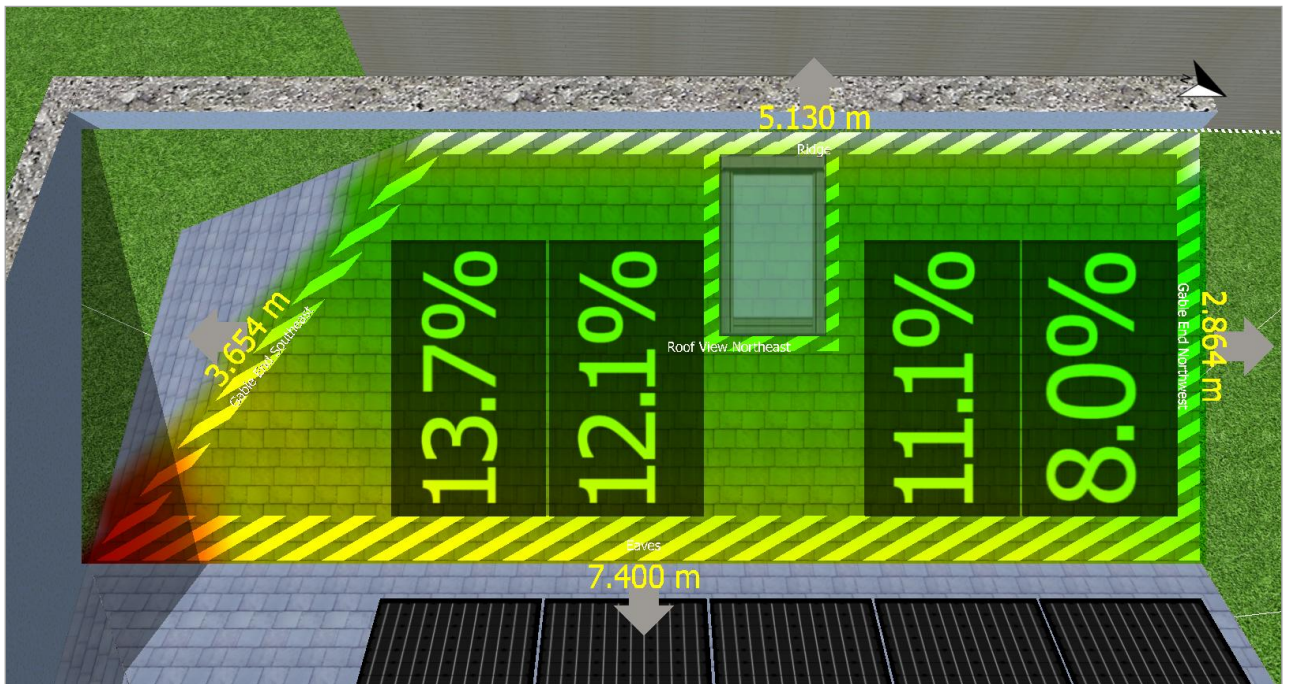


Figure: Screenshot04