

DYNAMIC FM - PRINTWORKS MANCHESTER

Withy Grove 27, Manchester, M4 2BS, United Kingdom | 30 May 2025



SYSTEM OVERVIEW



489 PV modules



2 Inverters



250 Optimizers

SIMULATION RESULTS



Installed DC Power

220.05 kWp



Max Achieved AC Power

156.60 kW

Annual Solar Energy
Production

170.23 MWh



Annual CO2 Emission Saved

32.92 t

Annual Equivalent Trees
Planted

1,512



Max Achieved DC Power

190.50 kW



DC/AC Oversizing

122 %



Max Active AC Power

156.60 kW



Performance Ratio

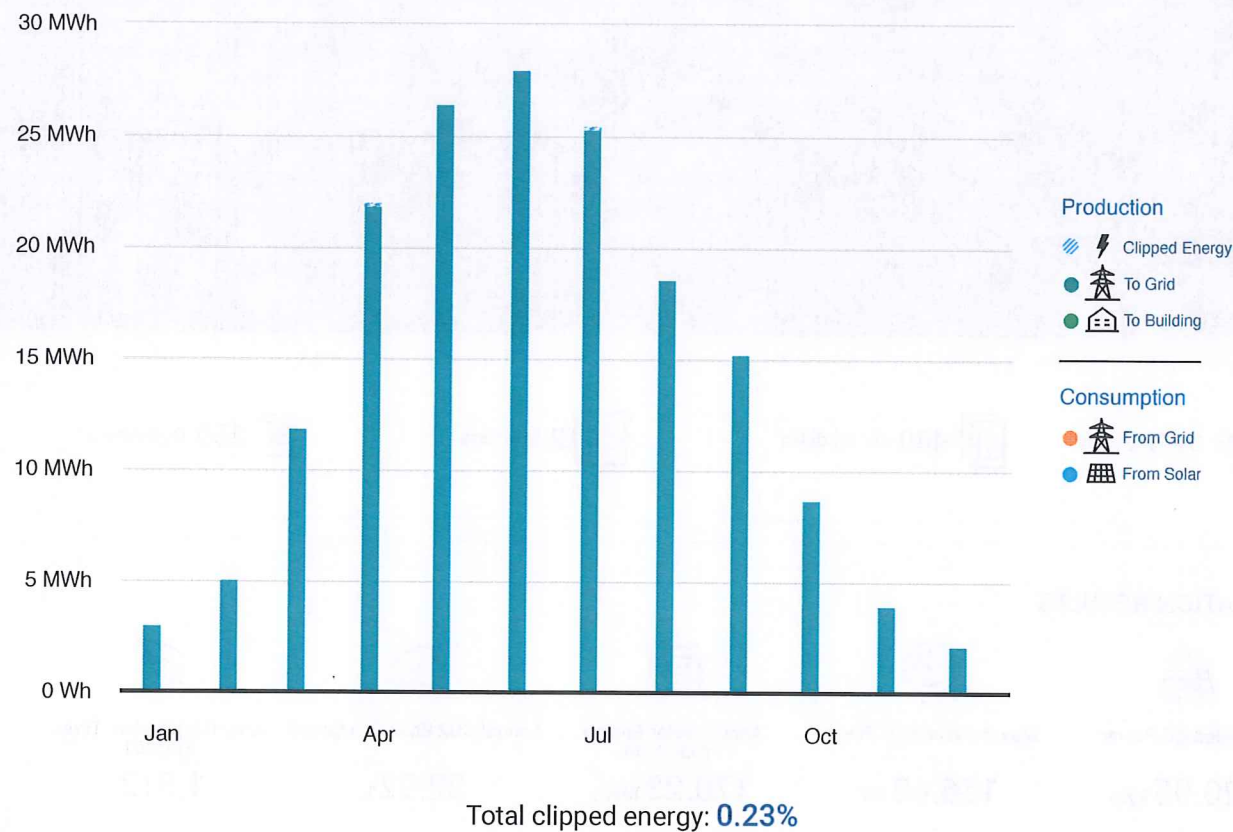
88 %



Annual Specific Production

774 kWh/kWp

ESTIMATED MONTHLY ENERGY



PV MODULES

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
4	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	1.8 kWp			206°	10°
4	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	1.8 kWp			206°	10°
5	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	2.3 kWp			206°	10°

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PV MODULES (CONTINUED)

# Module	Model	Peak power	Racking type	Orientation	Azimuth	Tilt
63	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	28.4 kWp			116°	10°
63	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	28.4 kWp			296°	10°
152	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	68.4 kWp			116°	10°
13	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	5.9 kWp			206°	10°
22	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	9.9 kWp			206°	10°
1	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	0.5 kWp			206°	10°
2	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	0.9 kWp			26°	11°
152	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	68.4 kWp			296°	10°
4	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	1.8 kWp			26°	11°
1	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	0.5 kWp			26°	11°
1	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	0.5 kWp			206°	10°
2	Hengdian Group DMEGC Magnetic Co. Ltd., DM450M10RT-B54HBT (user-defined)	0.9 kWp			206°	10°
Total: 489		220.1 kWp				

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BILL OF MATERIALS (BOM) (CONTINUED)

Items	Part Number	Quantity
 SE90K Synergy Manager		1
 SE66.6K Synergy Manager		1
 S1000		250
 DM450M10RT-B54HBT		489

ELECTRICAL DESIGN

Inverters & Storage
Cabling

Strings per inverter Optimizers per string

PV modules per
string1 x SE90K Synergy Manager  Center Unit119.67kW | 133%
Oversizing

1 x string	 17 x S1000 (2:1)	 34
1 x string	 17 x S1000 (2:1), 1 x S1000 (1:1)	 35
1 x string	 18 x S1000 (2:1)	 36

 Left Unit

1 x string	 17 x S1000 (2:1)	 34
1 x string	 18 x S1000 (2:1)	 36
1 x string	 15 x S1000 (2:1), 1 x S1000 (1:1)	 31

 Right Unit

1 x string	 18 x S1000 (2:1), 1 x S1000 (1:1)	 37
2 x strings	 16 x S1000 (2:1), 1 x S1000 (1:1)	 33

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ELECTRICAL DESIGN (CONTINUED)

Inverters & Storage
Cabling

Strings per inverter Optimizers per string

PV modules per
string

1 x SE66.6K Synergy Manager Center Unit

70.83kW | 106% Oversizing

3 x strings



14 x S1000 (2:1), 1 x S1000 (1:1)

29

Left Unit

1 x string



15 x S1000 (2:1), 1 x S1000 (1:1)

31

1 x string



16 x S1000 (2:1), 1 x S1000 (1:1)

33

1 x string



14 x S1000 (2:1), 1 x S1000 (1:1)

29

SYSTEM LOSS DIAGRAM



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SIMULATION PARAMETERS



LOCATION & GRID

Time zone	BST (London)
Weather station	Manchester (15 km away)
Station altitude	67 m
Station data source	Meteonorm 7.1
Grid	400V L-L, 230V L-N



LOSS FACTORS

Near shading	Enabled
Albedo	0.20
Bi-Facial Albedo	0.30
Soiling/Snow	0%
Incidence angle modifier (IAM), ASHRAE b0 param.	0.05
Thermal loss factor U _c (const) Flush mount	20
Thermal loss factor U _c (const) Tilted	29
LID loss factor	0%
System unavailability	0%