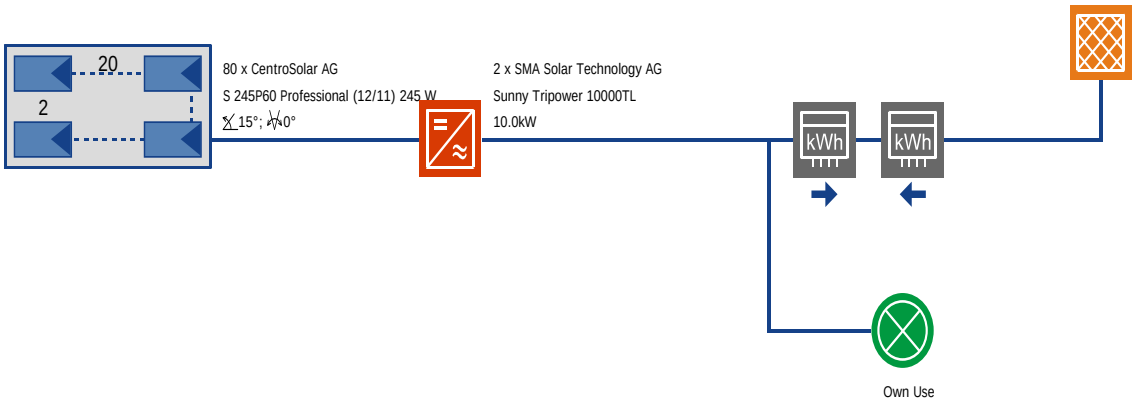
Project Name:	Cherry court	3/7/2012
Variant Reference:	831/833	
Designer:	N Carroll	



Location:	Manchester-Ringway	
Climate Data Record:	Manchester-Ringway (1981-2000)	
PV Output:	19.60	kWp
Gross/Active PV Surface Area:	131.47 / 131.59	m²

PV Array Irradiation:	137,599	kWh
Energy Produced by PV Array (AC):	17,755	kWh
Energy to Grid:	82.0	kWh
Consumption Requirement:	120,000	kWh
Direct Use of PV Energy:	17,673	kWh
Energy from Grid:	102,360.2	kWh

Solar Fraction:	14.8	%
System Efficiency:	12.9	%
Performance Ratio:	86.5	%
Inverter Efficiency:	95.3	%
PV Array Efficiency:	13.5	%
Specific Annual Yield:	904.2	kWh/kWp
CO2 Emissions Avoided:	10,904	kg/a

The results are determined by a mathematical model calculation. The actual yields of the photovoltaic system can deviate from these values due to fluctuations in the weather, the efficiency of modules and inverters, and other factors. The System Diagram above does not represent and cannot replace a full technical drawing of the solar system.

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System in Grid Connected Operation

Location:	Manchester-Ringway	PV Output:	19.60 kWp
Climate Data Record:	Manchester-Ringway	Gross/Active PV Surface Area:	131.5 m² / 131.6 m²
Number of Arrays:	1		

Array 1: Array Name

Output:	19.60 kW	Ground Reflection:	20.0 %
Gross/Active Solar Surface Area:	131.5 m² / 131.6 m²	Output Losses due to...	
PV Module	80 x	deviation from AM 1.5:	1.0 %
Manufacturer:	CentroSolar AG	deviation from Manufacturer's Specification:	2.0 %
Model:	S 245P60 Professional (12/11)	in Diodes:	0.5 %
Nominal Output:	245 W	due to Pollution:	0.0 %
Power Rating Deviation:	0 %	Inverter	2 x
Efficiency (STC):	14.9 %	Manufacturer:	SMA Solar Technology AG
No. of Modules in Series:	20	Model:	Sunny Tripower 10000TL
MPP Voltage (STC):	576 V	Output:	10.00 kW
Orientation:	0.0 °	European Efficiency:	97.7 %
Inclination:	15.0 °	No. of MPP Trackers:	1
Mount:	Free-Standing	MPP Tracking:	150 V To 800 V
Shade:	No		

Appliances 1 (Load Profile)

Annual Requirement:	120,000 kWh	
Max. Hourly Value:	30.33 kW	
Weekend Consumption:	Saturday: 100 %	Sunday: 100 %
Consumption Profile:	Block of flats	
Holiday Periods:	None	

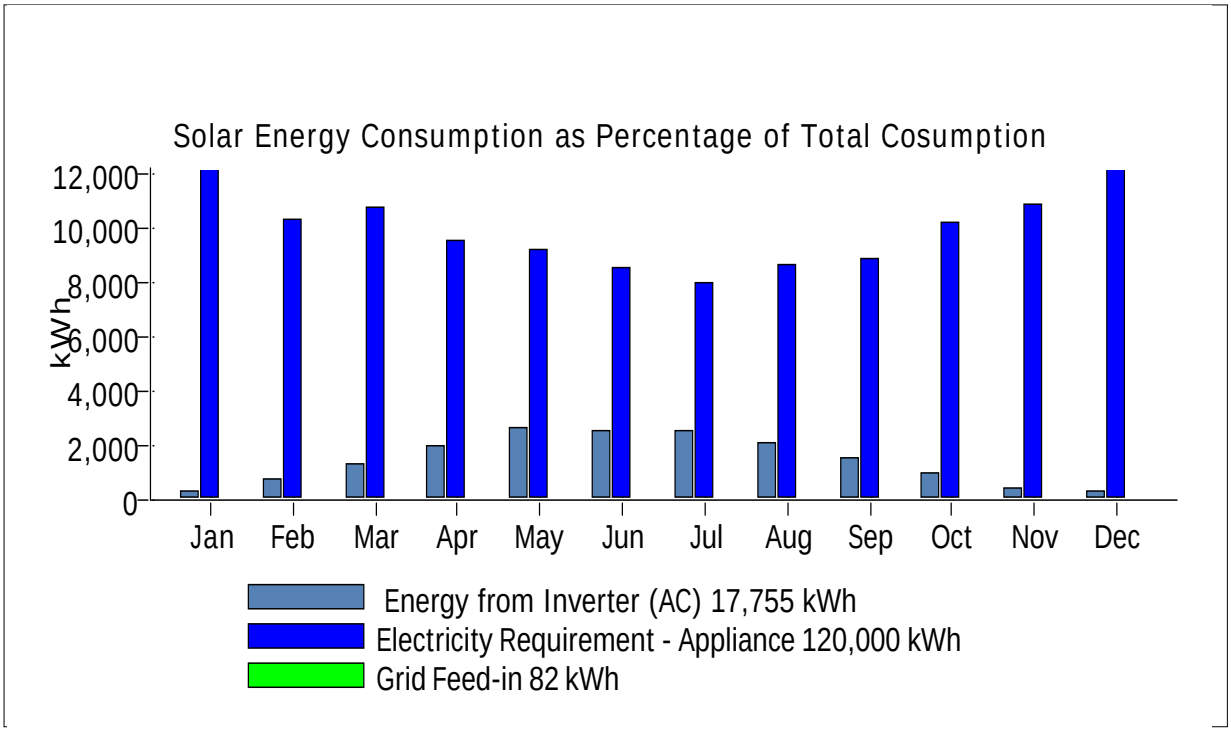
Individual Appliances Total Consumption: 0 kWh

Individual Appliance 1	Model: User-Independent Appl.	0 kWh

Simulation Results for Total System

Irradiation onto Horizontal:	125,231 kWh	Own Use:	33.2 kWh
PV Array Irradiation:	137,599 kWh	Energy Produced by PV Array:	18,601 kWh
Irradiation minus Reflection:	129,833 kWh	Solar Fraction:	14.8 %
Energy from Inverter (AC):	17,755 kWh	System Efficiency:	12.9 %
Energy to Grid:	82 kWh	Performance Ratio:	86.5 %
Consumption Requirement:	120,000 kWh	Final Yield:	2.5 h/d
Direct Use of PV Energy:	17,673 kWh	Specific Annual Yield:	904 kWh/kWp
Energy from Grid:	102,360 kWh	Array Efficiency:	13.5 %

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Roof Layout for Array: Array Name

