

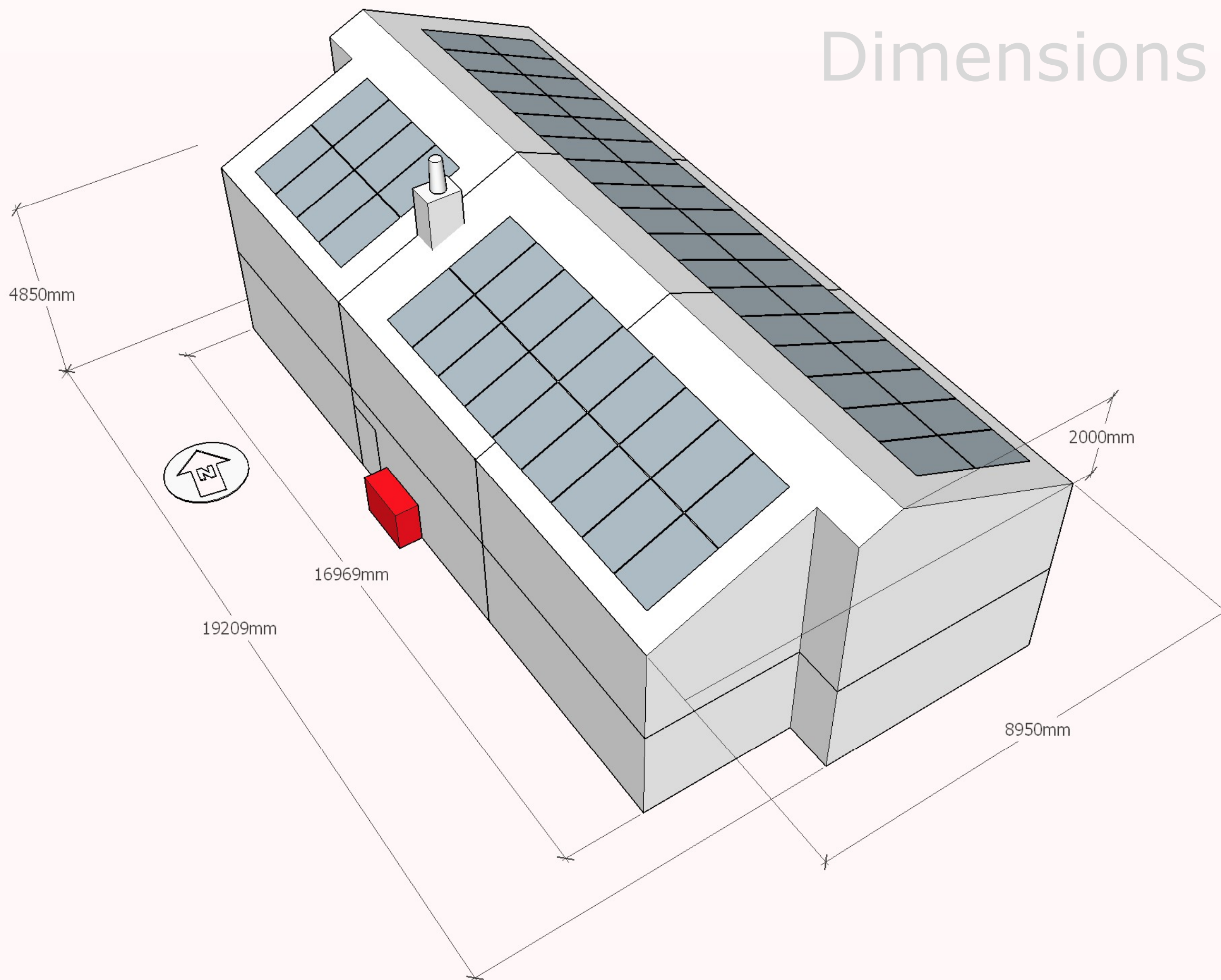


IoS Smart
Energy
Islands
Project

Ennor flats :

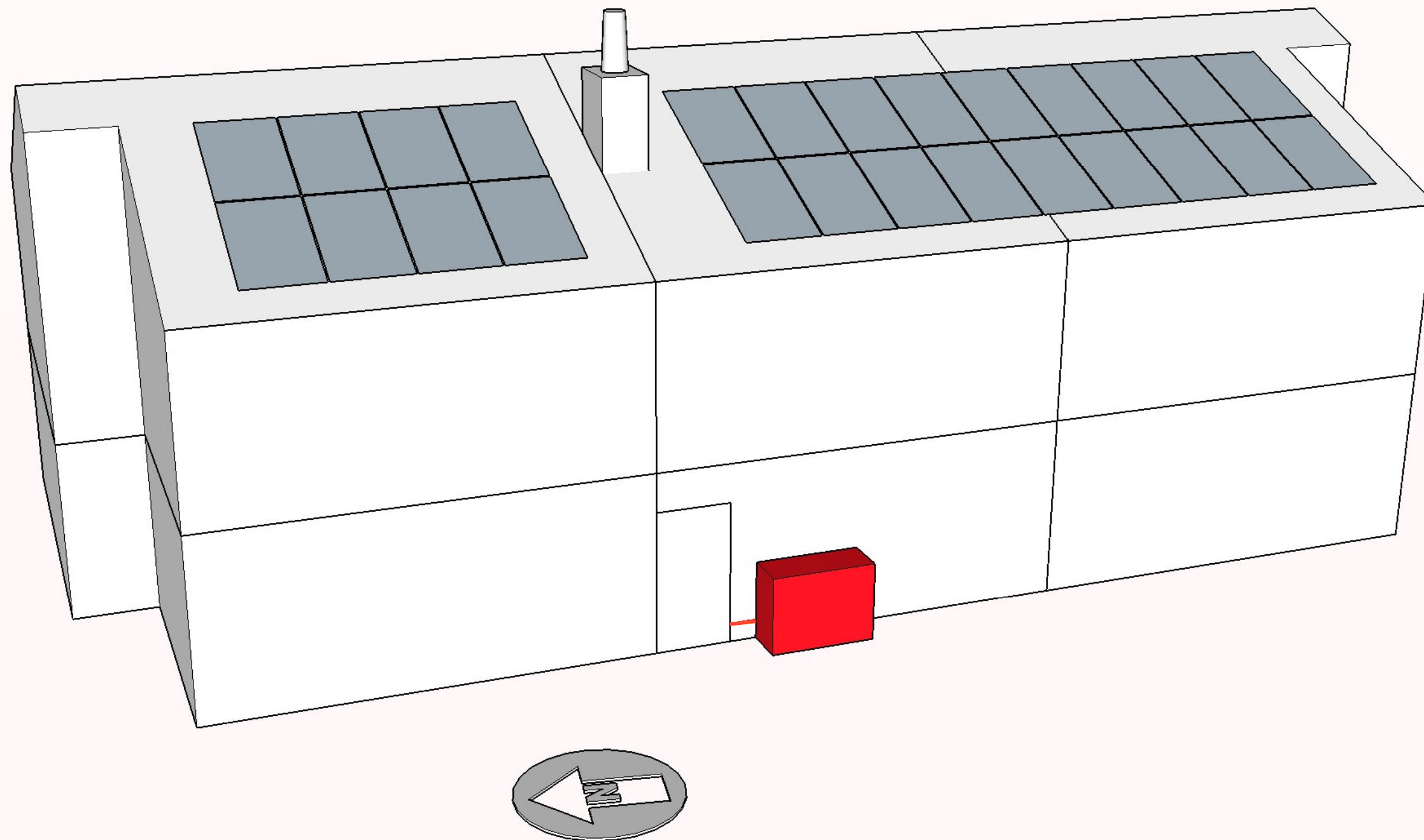
13,867kWh Annual Space Heating 1,0821kWh Hot Water

Dimensions



Ennor flats :

13,867kWh Annual Space Heating 1,0821kWh Hot Water



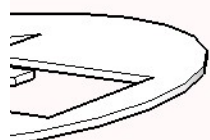
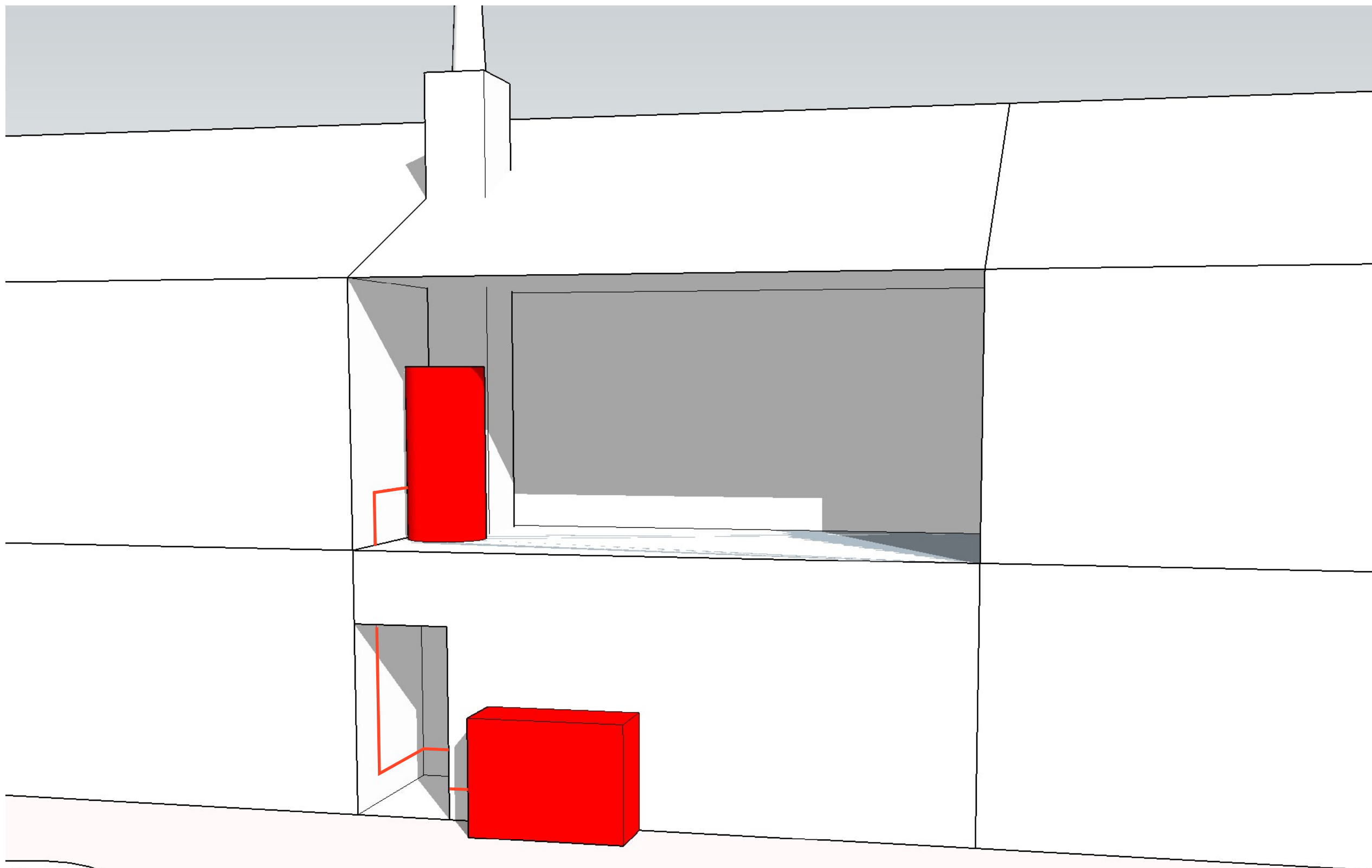
Heat pump to be situated on front of property, outside service cupboard of existing boiler.

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Pipe run from pump to cylinder
via service cupboard on ground
floor to first floor cylinder
cupboard. Approx 5m. Cable run
from pump to CUs through
service cupboard - approx 2m

Flats 8 & 10

Room 1: Living Room					
Desired temperature:	21 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	3 m	362.91 W
Window:	Double glazed wood/plastic	U value:	2.8	2.21 m2	138.21 W
Roof / Ceiling:	internal no loss	U value:	-0.15	16.2 m2	0 W
Floor:	Concrete, no insulation	U value:	1	16.2 m2	167.67 W
Ventilation Loss:	Living Rooms	U value:	1.5	Total Fabric Heat Loss	668.8W
				Vent. Heat Loss	391.01W
				Total Heat Loss	1059.8W

ROOM 2: Kitchen					
Desired temperature:	18 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	4.721 m	756.64 W
Window:	Double glazed wood/plastic	U value:	2.8	1.08 m2	67.54 W
Roof / Ceiling:	internal no loss	U value:	-0.15	6 m2	0 W
Floor:	Concrete, no insulation	U value:	1	6 m2	62.1 W
Ventilation Loss:	Living Rooms	U value:	2	Total Fabric Heat Loss	886.29W
				Vent. Heat Loss	193.09W
				Total Heat Loss	1079.38

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Flats 8 & 10

ROOM 3: Bedroom					
Desired temperature:	18 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	2.9 m	395.41 W
Window:	Double glazed wood/plastic	U value:	2.8	1.56 m2	97.56 W
Roof / Ceiling:	internal no loss	U value:	-0.15	11.89 m2	0 W
Floor:	Concrete, no insulation	U value:	1	11.89 m2	123.06 W
Ventilation Loss:	Bedroom	U value:	1	Total Fabric Heat Loss	616.04W
				Vent. Heat Loss	191.32W
				Total Heat Loss	807.36W

ROOM 4: Hallway					
Desired temperature:	18 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	0 m	0W
Window:	Double glazed wood/plastic	U value:	2.8	0 m2	0W
Roof / Ceiling:	internal no loss	U value:	-0.15	4 m2	0 W
Floor:	Concrete, no insulation	U value:	1	4m2	41.4W
Ventilation Loss:	Hallway	U value:	1.5	Total Fabric Heat Loss	41.4W
				Vent. Heat Loss	96.54W
				Total Heat Loss	137.94W

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Flats 8 & 10

ROOM 5: Bathroom					
Desired temperature:	22 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	1.7 m	240.65W
Window:	Double glazed wood/plastic	U value:	2.8	0.8 m2	50.03W
Roof / Ceiling:	internal no loss	U value:	-0.15	2.89 m2	0 W
Floor:	Concrete, no insulation	U value:	1	2.89 m2	29.91W
Ventilation Loss:	Bathroom	U value:	2	Total Fabric Heat Loss	320.6W
Vent. Heat Loss					93W
Total Heat Loss					413.6W

Total Heat Loss:	3498.08W
Heat Loss/m2	85.36W

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Flats 8a & 10c

Room 1: Living Room

Desired temperature:	21 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	3 m	49.71 W
Window:	Double glazed wood/plastic	U value:	2.8	2.21 m2	138.21 W
Roof / Ceiling:	Custom Value	U value:	0.35	16.2 m2	171.72 W
Floor:	internal no loss	U value:	-0.15	16.2 m2	0 W
Ventilation Loss:	Living Rooms	U value:	1.5	Total Fabric Heat Loss	400.41W
				Vent. Heat Loss	173.55W
				Total Heat Loss	573.96W

ROOM 2: Kitchen

Desired temperature:	18 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custome Value	U value:	0.35	4.721 m	103.65 W
Window:	Double glazed wood/plastic	U value:	2.8	1.08 m2	67.54 W
Roof / Ceiling:	Custome Value	U value:	0.35	6 m2	63.6 W
Floor:	Internal no loss	U value:	-0.15	6 m2	0 W
Ventilation Loss:	Kitchen	U value:	2	Total Fabric Heat Loss	234.79W
				Vent. Heat Loss	193.09W
				Total Heat Loss	427.88W

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Flats 8a & 10c

ROOM 3: Bedroom					
Desired temperature:	18 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custome Value	U value:	0.35	2.9 m	54.17 W
Window:	Double glazed wood/plastic	U value:	2.8	1.56 m2	97.56 W
Roof / Ceiling:	Custome Value	U value:	0.35	11.89 m2	126.03 W
Floor:	Internal no loss	U value:	-0.15	11.89 m2	0 W
Ventilation Loss:	Bedroom	U value:	1	Total Fabric Heat Loss	277.76W
				Vent. Heat Loss	191.32W
				Total Heat Loss	469.08W

ROOM 4: Hallway					
Desired temperature:	18 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custome Value	U value:	0.35	0 m	0 W
Window:	Double glazed wood/plastic	U value:	2.8	0 m2	0 W
Roof / Ceiling:	Custome Value	U value:	0.35	4 m2	42.4 W
Floor:	Internal no loss	U value:	-0.15	4 m2	0 W
Ventilation Loss:	Hallway	U value:	1.5	Total Fabric Heat Loss	42.4W
				Vent. Heat Loss	96.54W
				Total Heat Loss	138.94W

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Flats 8a &10c

ROOM 5: Bathroom					
Desired temperature:	22 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custome Value	U value:	0.35	1.7 m	32.97 W
Window:	Double glazed wood/plastic	U value:	2.8	0.8 m2	50.03 W
Roof / Ceiling:	Custome Value	U value:	0.35	2.89 m2	30.63 W
Floor:	Internal no loss	U value:	-0.15	2.89 m2	0 W
Ventilation Loss:	Bathroom	U value:	2	Total Fabric Heat Loss	113.63W
				Vent. Heat Loss	93W
				Total Heat Loss	206.63W

Total Heat Loss:	1993.19W
Heat Loss/m2	48.64W

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Flats 9 & 9b

ROOM 1: Bed sit					
Desired temperature:	21 degrees				
Average ceiling height:	2.3 m				
External Wall:	Custom Value	U value:	0.35	4.5 m	67.31 W
Window:	Double glazed wood/plastic	U value:	2.8	4 m2	250.16 W
Roof / Ceiling:	Pitched w felt and 100mm insulation	U value:	0.35	33 m2	349.8 W
Floor:	concrete floor no insulation	U value:	1	33 m2	341.55 W
Ventilation loss:	Bedroom	U value:	1	Total Fabric Heat Loss:	1008.82W
				Vent. Heat Loss	531W
				Total Fabric Heat Loss:	1539.82W

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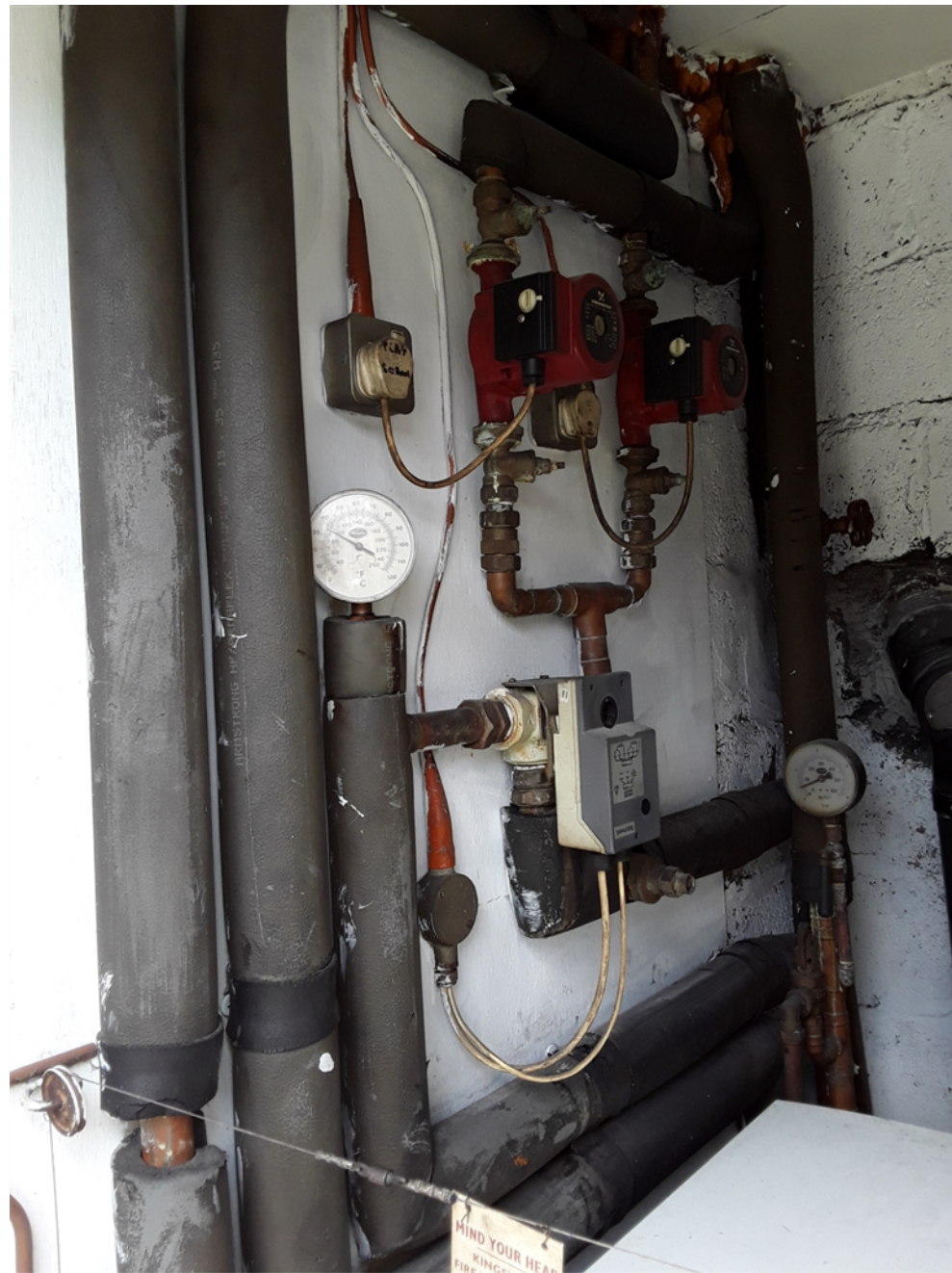
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Existing oil boiler currently installed to supply wet system and Cylinder. Cupboard areas to be used as service areas for new equipment.



Existing pipework and controls.

Existing wet system means preliminary pipework already installed, however heat emitters will require upgrading according to heat losses.



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Current bedroom radiator in flats 8, 8a, 9, 9b, 10, 10c. Recommended replacement: 400mm x 1400mm (Double Convector)

Hallway radiator as in flats 8, 8a, 9, 9b, 10, 10c. Recommended replacement: 600mm x 400mm (Double Convector)



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Kitchen pipework in place, no current emitter in 8, emitters require replacing in 8a, 10, 10c. Recommended radiator size: 600mm x 500mm (Double Convector)

No Radiator space in 9,9b

Bathrooms have no existing plumbed in emitter (8,8a, 9,9b,10,10c). Recommended radiator size: 600mm x 400mm (Double Convector)

Current living room radiators in flats 8, 8a, 9, 9b, 10, 10c.
Recommended radiator size: 300mm x 1000mm (Double Convector)



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