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cSBEM (consultation simplified building energy model) Released June 2009.

Draft software with limited functions.

SBEM v 4.0a released on 1<sup>st</sup> June 2010.

Use from October 2010

[www.2010ncm.bre.co.uk](http://www.2010ncm.bre.co.uk)

- **Mountjoy Special School**
- 1940m<sup>2</sup>, hall, hydro pool specialist class rooms and areas.
- Very Good insulation levels, :-
- Walls 0.1, Roof 0.1, Floor 0.15  
Windows 1.6
- Lighting control
- Condensing gas fired boiler.
- 140m<sup>2</sup> of PV
- cSBEM v1.0
- Notional 62.65 TER 31.46
- BER 30.87



## Mountjoy cSBEM v1.0 results

System	Notional KgCO2/m2/yr	TER	BER	%Reduction Assume 2006 as 24%	Additional % reduction	
Gas Fired Boilers	62.65	31.46	37.29	47.61	33%	Fail
Biomass Boiler	62.65	34.96	36.7	47.61	28%	Fail
Gas Fired Boilers +175m <sup>2</sup> PVs	62.65	31.46	30.57	47.61	33%	Pass
Biomass Boiler +60m <sup>2</sup> PVs	62.65	34.96	34.15	47.61	28%	Pass



## Swanage Children's Centre

140m<sup>2</sup>, Two main crèche areas plus ancillary areas.

Highly Insulated, Walls 0.1/0.13, Roof 0.13, Floor 0.12 Windows 1.2

Lighting control

Condensing gas fired boiler.

SBEM 3.4a

Notional 33.91 TER 25.88 BER 19.12

EPC 25 A rated.



Calc Version	System	Notional	TER	BER	%Reduction Assume 2006 as 24%	Additional % reduction	
SBEM 3.4a	Gas fired boiler	33.91	25.88	19.12	25.88	0	Pass EPC 25 A rated
cSBEM v1.0	Gas fired boiler	45.98	27.58	28.07	35.70	25	Fail
SBEM v4.0	Gas fired boiler	20.58	20.58	19.93	25.88	20	Pass EPC 24 A rated



## Puddletown First School

1023m<sup>2</sup>, Two form entry 150 pupils.

Good insulation levels, :-

Walls 0.17, Roof 0.13, Floor 0.15 Windows 1.7

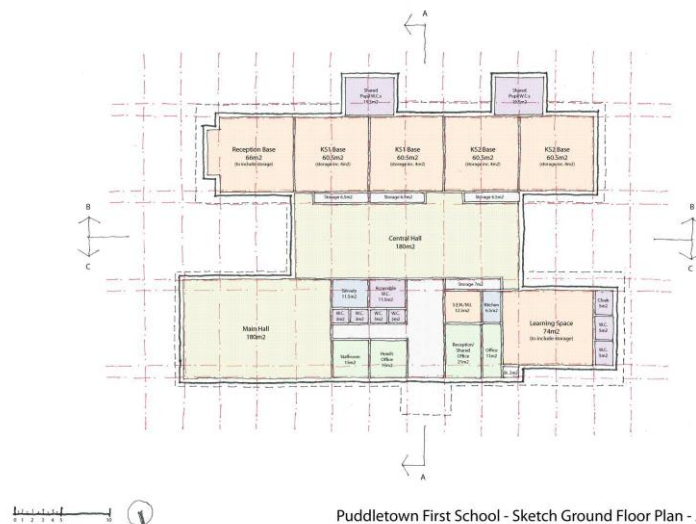
Lighting control

Condensing gas fired boiler.

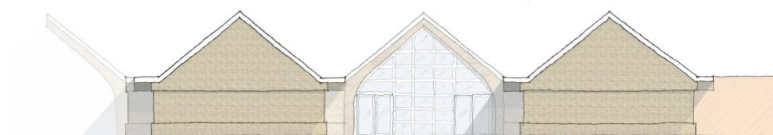
SBEM 3.4a

Notional 22.8 TER 17.3

BER 11.4



Puddletown First School - Sketch Ground Floor Plan - April 2010



Ratings - Puddletown Replacement School Feasibility Study -

General | Project Database | Geometry | Building Services | Ratings | Building Navigation

Building Regulation check

England and Wales Building Regulations Part L

Building Rating | Calculation Logs | Calculation Errors

	Heating	Cooling	Auxiliary	Lighting	Hot Water	Total	
Actual	21.82	0	2.04	7.9	15.13	46.88	kWh/m2/yr
Notional	57.51	0	1.32	21.2	11.09	91.11	kWh/m2/yr

**1. CO2 emissions mandatory requirement**

BER  kgCO2/m2/yr

Notional  kgCO2/m2/yr

IF  LZC

TER  kgCO2/m2/yr

Pass CO2 **YES**

**2. Additional checks required by approved documents:**

[View Approved Document Checks](#)

Calculation progress: HVAC type 1 - Zone 16 of 16

Click to check object assignments, there are NO CRITICAL un-assignments in

Ratings - Puddletown Replacement School Feasibility Study -

General | Project Database | Geometry | Building Services | Ratings | Building Navigation

Building Regulation check

England and Wales Building Regulations Part L 2010

Building Rating | Calculation Logs | Calculation Errors

	Heating	Cooling	Auxiliary	Lighting	Hot Water	Total	
Actual	20.32	0	4.44	18.95	9.6	53.31	kWh/m2/yr
Not 2002	54.89	0	2.38	37.68	12.15	107.1	kWh/m2/yr
Not 2010	20.37	0	2.24	17.84	6.21	46.66	kWh/m2/yr

**1. CO2 emissions mandatory requirement**

BER  kgCO2/m2/yr

**FLAT (Not 2002) AGGREGATE (Not 2010)**

Notional   kgCO2/m2/yr

TER   kgCO2/m2/yr

Pass CO2 **YES** **NO**

**2. Additional checks required by approved documents:**

[View Approved Document Checks](#)

Calculation progress: Building Regulation check completed

Click to check object assignments, there are NO CRITICAL un-assignments in the project

Click on text below for...



Ratings - Puddletown Replacement School Feasibility Study -

General | Project Database | Geometry | Building Services | Ratings | Building Navigation

Building Regulation check

England and Wales Building Regulations Part L 2010

Building Rating | Calculation Logs | Calculation Errors

	Heating	Cooling	Auxiliary	Lighting	Hot Water	Total	
Actual	20.32	0	4.44	18.95	9.6	53.31	kWh/m2/yr
Not 2002	54.89	0	2.38	37.68	12.15	107.1	kWh/m2/yr
Not 2010	20.37	0	2.24	17.84	6.21	46.66	kWh/m2/yr

**1. CO2 emissions mandatory requirement**

BER  kgCO2/m2/yr

**FLAT (Not 2002) AGGREGATE (Not 2010)**

Notional  kgCO2/m2/yr

TER  kgCO2/m2/yr

Pass CO2

**2. Additional checks required by approved documents:**

[View Approved Document Checks](#)

Calculation progress: **Building Regulation check completed**

Click to check object assignments, there are NO CRITICAL un-assig

iSBEM v4.0.a - Ratings - Puddletown Replacement School Feasibility Study -

General | Project Database | Geometry | Building Services | Ratings | Building Navigation | About iSBEM

Building Regulation check

England and Wales Building Regulations Part L 2010

Building Rating | Calculation Logs | Calculation Errors | Supporting Documents

	Heating	Cooling	Auxiliary	Lighting	Hot Water	Total	
Actual	25.77	0	2.99	17.35	9.29	55.4	kWh/m2/yr
Notional	41.21	0	0.88	15.18	6.2	63.47	kWh/m2/yr

**1. CO2 emissions mandatory requirement**

BER  kgCO2/m2/yr

Notional  kgCO2/m2/yr

TER  kgCO2/m2/yr

Pass CO2

**2. Additional checks required by approved documents:**

[View Approved Document Checks](#)

Calculation progress: **Building Regulation check completed**

Click to check object assignments, there are NO CRITICAL un-assignments in the project

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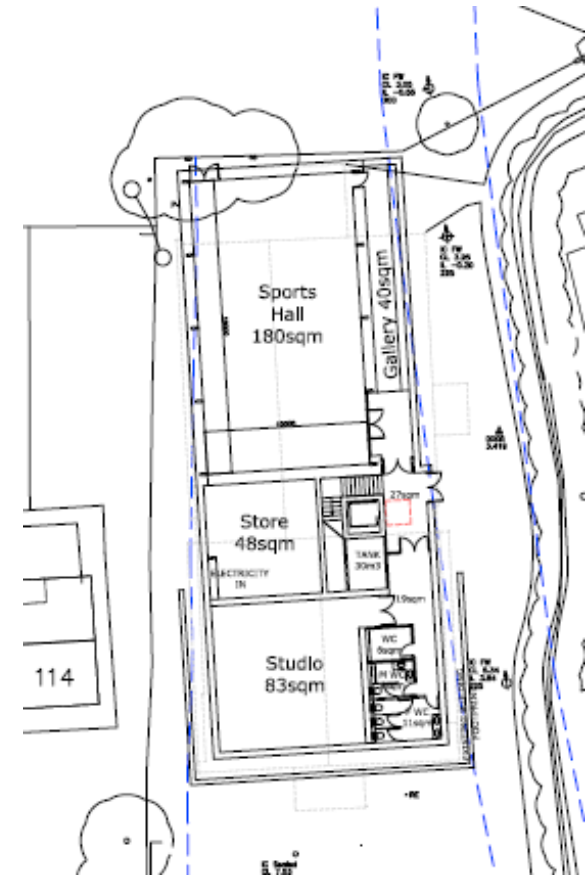
Version	System	Notional	TER	BER	Additional % reduction	
SBEM 3.4a	Gas fired boiler	22.8	17.3	11.4	0	2006 Pass
SBEM 3.4a	Biomass Boiler	22.8	17.81	5.18	0	2006 Pass
cSBEM V1.0	Gas fired boiler	37.49	17.34	19.32	31	2010 Fail
cSBEM V1.0	Biomass Boiler	37.49	18.22	19.9	26	2010 Fail
cSBEM V1.0	Gas fired boiler +40m <sup>2</sup> PVs	37.49	17.34	17.32	31	2010 Pass
cSBEM V1.0	Biomass Boiler +30m <sup>2</sup> PVs	37.49	18.22	17.9	26	2010 Pass



Version	System	Notional	TER	BER	Additional % reduction	
SBEM 3.4a	Gas fired boiler	22.8	17.3	11.4	0	2006 Pass
cSBEM V1.0	Gas fired boiler	37.49	17.34	19.32	31	2010 Fail
SBEM V4.0	Gas fired boiler	~	17.69	17.35		2010 Pass
SBEM 3.4a	Biomass Boiler	22.8	17.81	5.18	0	2006 Pass
cSBEM V1.0	Biomass Boiler	37.49	18.22	19.9	26	2010 Fail
SBEM V4.0	Biomass Boiler	~	9.31	11		2010 Fail



- **STEPS Youth Centre**
- 800m<sup>2</sup>, Sports hall, studio, lounge and ancillary areas.
- Good insulation levels, :-
- Walls 0.2, Roof 0.16, Floor 0.15 Windows 1.7
- Lighting control
- Condensing gas fired boiler.
- SBEM 3.4a
- Notional 37.5 TER 28.4
- BER 19.3
- EPC 25 A rated



# STEPS

Version	System	Notional	TER	BER	Additional % reduction	
SBEM 3.4a	Gas fired boiler	37.57	28.4	19.3	0	2006 Pass
SBEM 3.4a	Biomass Boiler	37.57	29.5	13.7	0	2006 Pass
cSBEM V1.0	Gas fired boiler	51.78	25.7	28.61	31	2010 Fail
cSBEM V1.0	Biomass Boiler	51.78	26.73	28.49	26	2010 Fail
SBEM V4.0	Gas fired boiler		22.9	33.47	31	2010 Pass
SBEM V4.0	Biomass Boiler		13.55	26.22	26	2010 Pass

