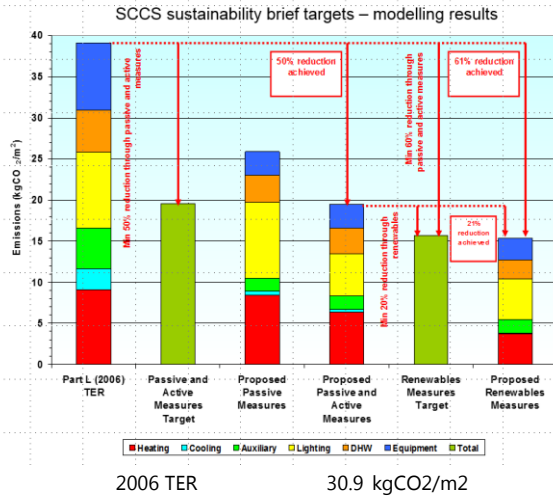


# 1 Regent High School CO2 Emission Reduction Calculation

2	2010 INP BUILDING_DATA = BUILDING-DATA	
3	ANALYSIS = ACTUAL	
4	AREA =	13666.4
5	AREA-EXT =	20801.3
6	WEATHER =	LON
7	Q50-INF =	5
8	BUILDING-W/K =	10134.2
9	BUILDING-W/M2K =	0.48719
10	BUILDING-ALPHA =	8.86101
11	KWH/M2-HEAT =	9.27952
12	KWH/M2-COOL =	0.711462
13	KWH/M2-AUX =	6.06404
14	KWH/M2-LIGHT =	12.866
15	KWH/M2-DHW =	15.7147
16	KWH/M2-EQUP =	25.6566
17	KWH/M2-NATGAS =	20.5675
18	KWH/M2-LPG =	0
19	KWH/M2-BIOGAS =	0
20	KWH/M2-OIL =	0
21	KWH/M2-COAL =	0
22	KWH/M2-ANTHRACITE =	0
23	KWH/M2-SMOKELESS =	0
24	KWH/M2-DUELFUEL =	0
25	KWH/M2-BIOMASS =	0
26	KWH/M2-SUPELEC =	24.0672
27	KWH/M2-WASTEHEAT =	0
28	KWH/M2-DISTRICT-HEATING =	0
29	KWH/M2-DISP =	1.37687
30	KWH/M2-PVS =	1.37687
31	KWH/M2-WIND =	0
32	KWH/M2-CHP =	0
33	KWH/M2-SES =	1.00848
34	KWH/M2-HEAT-PUMP =	2.03001
35	KWH/M2-HEAT-DEMAND =	15.7572
36	KWH/M2-COOL-DEMAND =	5.00998
37	KWH/M2-DEMAND-ALL =	20.7672
38	KWH/M2-CONSUM-ALL =	44.6357
39	PRIM-KWH/M2 =	91.255
40	KG/M2-CO2 =	15.6626



Cell Ref	Element	Energy kWh/m2	Emissions kgCO2/m2	Reduction %
B11-B34	Gas Heating	7.25	1.41	
B34	Electric Heating	2.03	0.86	
B12	Cooling	0.71	0.30	
B13	Auxiliary	6.06	2.05	
B14	Lighting	12.87	4.89	
B15	DHW	15.71	2.77	
B30	PV	1.38	-0.78	
	<b>TOTAL</b>		<b>11.49</b>	<b>62.82%</b>

**Renewables Contribution**

Cell Ref	Element	SEER	Energy kWh/m2	Emissions kgCO2/m2	Reduction %
B34*F33-B34	GSHP	4.4542	7.01	1.36	11.8%
B30	PV		1.38	0.78	6.8%
B33	Solar Thermal		1.01	0.20	1.7%
	<b>TOTAL</b>			<b>2.34</b>	<b>20.3%</b>

2006 Emission Factors	
gas	0.194
electricity import	0.422
electricity export	-0.568

A B C D E F G H I