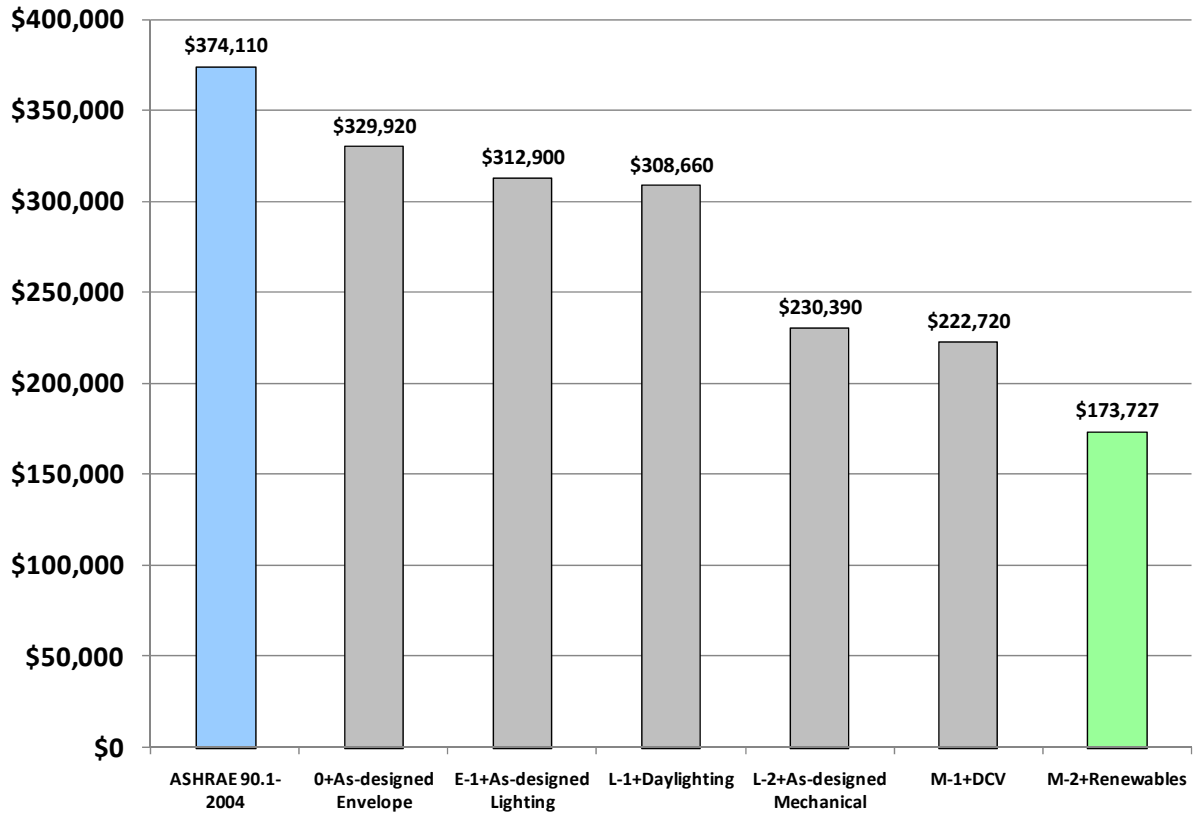
Analysis Results

Results of the analysis are summarized in the Table below. The as-designed building will achieve approximately $200,386 (53.6%) in annual utility savings per year as compared to a minimally compliant ASHRAE 90.1-2004 building. More detailed results are shown in the Table and Figure below.

Description		Peak		Total Energy	Electric			Utility Cost		LEED		
#	Name	Cooling Tons	Electric kW	Electric kWh	Lighting kWh	HVAC kWh	Equip kWh	Total $	Total $/sqft	LEED %	EAc1	EAc2
B-0	ASHRAE 90.1-2004	522	1287	3,648,400	549,700	2,307,200	560,500	$374,110	$1.99			
E-1	0+As-designed Envelope	448	1104	3,266,700	549,700	1,925,600	560,500	$329,920	$1.76	11.8%	1	
L-1	E-1+As-designed Lighting	436	1047	3,052,300	424,700	1,871,900	560,500	$312,900	$1.67	16.4%	2	
L-2	L-1+Daylighting	432	1032	3,004,200	383,200	1,865,400	560,500	$308,660	$1.64	17.5%	2	
M-1	L-2+As-designed Mechanical	360	912	2,411,900	383,200	1,273,200	560,500	$230,390	$1.23	38.4%	8	
M-2	M-1+DCV	330	851	2,371,000	383,200	1,232,400	560,500	$222,720	$1.19	40.5%	9	
R-1	M-2+Renewables	330	851	1,849,429	383,200	1,232,400	560,500	$173,727	$0.93	53.6%	10	3



LEED Calculations

From a LEED perspective, the building is 53.6% below ASHRAE and is potentially eligible for ten (10) LEED credits according to Option 1 under EA Credit 1, as well as three (3) credits under EA Credit 2. Calculations are provided in this section in the format prescribed by the USGBC.

Energy & Cost Summary

		Baseline (ECB')			Proposed (DEC")	
		Electric	Energy Use	Energy Cost	Electric	Energy Use
End-Use	Energy Type	kWh	kBtu/sf/yr	%	kWh	kBtu/sf/yr
Lighting	Electric	549,733	10.0	15%	383,165	7.0
Misc Equipment	Electric	560,451	10.2	15%	560,451	10.2
Space Heating	Electric	332,277	6.0	9%	191,059	3.5
Space Cooling	Electric	1,337,599	24.3	37%	524,781	9.5
Fans	Electric	637,631	11.6	17%	333,568	6.1
Pumps/Aux	Electric	-	-	0%	183,008	3.3
Exterior	Electric	142,121	2.6	4%	106,460	1.9
Domestic Hot Water	Electric	88,546	1.6	2%	88,546	1.6
Subtotal Regulated		**3,648,358**	**66.3**	**100%**	**2,371,038**	**43.1**
Regulated Cost	**$**	**$374,114**	**$374,114**		**$222,721**	**$222,721**
Total Building	**Energy**	**3,648,358**	**66.3**		**2,371,038**	**43.1**
	Cost	**$374,114**	**$1.99**		**$222,721**	**$1.19**

Annual Energy & Utility Cost Summary by Fuel	ECB' Use kBtu/sqft	ECB' Cost $	DEC" Use kBtu/sqft	DEC" Cost $	DEC"/ECB' Energy %	DEC"/ECB' Cost %
Electricity	66.3	$374,114	43.1	$222,721	65.0%	59.5%
Subtotal Non-Renewable (DEC')	66.3	$374,114	43.1	$222,721	65.0%	59.5%
Subtotal Renewable (REC')			(9.5)	($48,993)	-14.3%	-13.1%
Total (DEC")	66.3	$374,114	33.6	$173,728	50.7%	46.4%

Percent Savings = 100 x (ECB' $ - DEC" $)/ECB' $ = **53.6%**
Credit 1 Points = **10**

% Renewable Energy = 100 x (REC' / DEC") = **22.0%**
Credit 2 Points = **3**

EA Credit 1 & 2 Points = **13**