

EA Credit 1.1-1.10: Optimize Energy Performance

(Mechanical or Energy Engineer or Responsible Party)
 I, _____, declare the following reduction in design energy cost compared to the energy cost budget for energy systems regulated by MNECB 1997 for New Construction.

This project has been reviewed and approved by an independent third party reviewer (ie. Natural Resources Canada)

Energy Summary by End Use		Energy Type	Proposed Building Intensity [MJ]	Proposed Building Intensity [kWh/m ²]	Reference Building Intensity [MJ]	Reference Building Intensity [kWh/m ²]	Energy Savings [%]
Regulated Energy							
Lighting		Electric	1,152,904	19.4	3,247,301	54.8	64%
Space Heating		Electric	2,166,685	36.5	43,722,666	737.4	95%
Space Cooling		Electric	1,550,498	26.2	1,627,819	27.5	5%
Pumps		Electric	2,698,135	45.5	975,265	16.4	-177%
Fans		Electric	5,207,213	87.8	5,764,626	97.2	10%
Service Water Heating		Natural gas	530,072	8.9	445,949	7.5	-19%
Other:	Enter End Use	Select a fuel	0	0.0	0	0.0	0%
Other:	Enter End Use	Select a fuel	0	0.0	0	0.0	0%
Subtotal Regulated Energy			13,305,507	224.4	55,783,626	940.8	76%
Non-Regulated Energy							
Plug Loads		Electric	3,829,136	64.6	3,829,136	64.6	0%
Other:	Enter End Use	Select a fuel	0	0.0	0	0.0	0%
Other:	Enter End Use	Select a fuel	0	0.0	0	0.0	0%
Subtotal Non-Regulated Energy			3,829,136	64.6	3,829,136	64.6	0%

Total Energy Summary		Proposed Building Energy [MJ]	Proposed Building Cost [\$]	Reference Building Energy [MJ]	Reference Building Cost [\$]	Percent Savings Energy [%]	Percent Savings Cost [%]
Electricity		16,604,572	\$517,418	59,166,814	\$1,881,664	72%	73%
Natural Gas		530,072	\$4,868	445,949	\$4,238	-19%	-15%
Oil / Other Fuels		0	\$0	0	\$0	0%	0%
Total		17,134,644	\$522,286	59,612,763	\$1,885,902	71%	72%
Subtotal Regulated Energy Costs		13,305,507	\$402,966 (DEC')		\$1,764,125 (ECB')		
Industrial/Process	Select a fuel	0	\$0 (IEC ₁)		Enter IEC System 1		(IEC')
Energy Credit	Select a fuel	0	\$0 (IEC ₂)		Enter IEC System 2		\$0
Renewable	Electric	739,796	\$23,053 (REC ₁)		solarwall air heating		(REC')
Energy Credit	Electric	422,181	\$13,156 (REC ₂)		209 solar thermal collectors		\$36,209
Net Total		12,143,530	\$366,757				

* GHG emission reductions estimated using Environment Canada's GHG Inventory 1990-2002 Data (average intensity for Canada) with an adjustment factor to account for line losses, and upstream emissions.

** Oil/Other Fuels emissions reduction is based on light oil emission factor.

GHG Reduction *
3585.7 tons CO₂

Percent Savings = 100 x (ECB' \$ - DEC' \$ + REC' \$ + IEC' \$) / ECB' \$ = 79%
 Credit 1 Points Awarded (MNECB) = 10

I have provided the following documentation to support the declaration:

- A narrative listing the energy saving measures incorporated in the building design.
- An electronic copy of the computer simulation file and supporting documentation that is required for a CBIP/IBIP project submission

EA Cr 1 (10 possible points): Optimize Energy Performance

Points Documented
10

Name: _____
 Organization: _____
 Role in project: Energy Engineer
 Signature: _____
 Date: July 13, 2011