



### Gandan dormitory

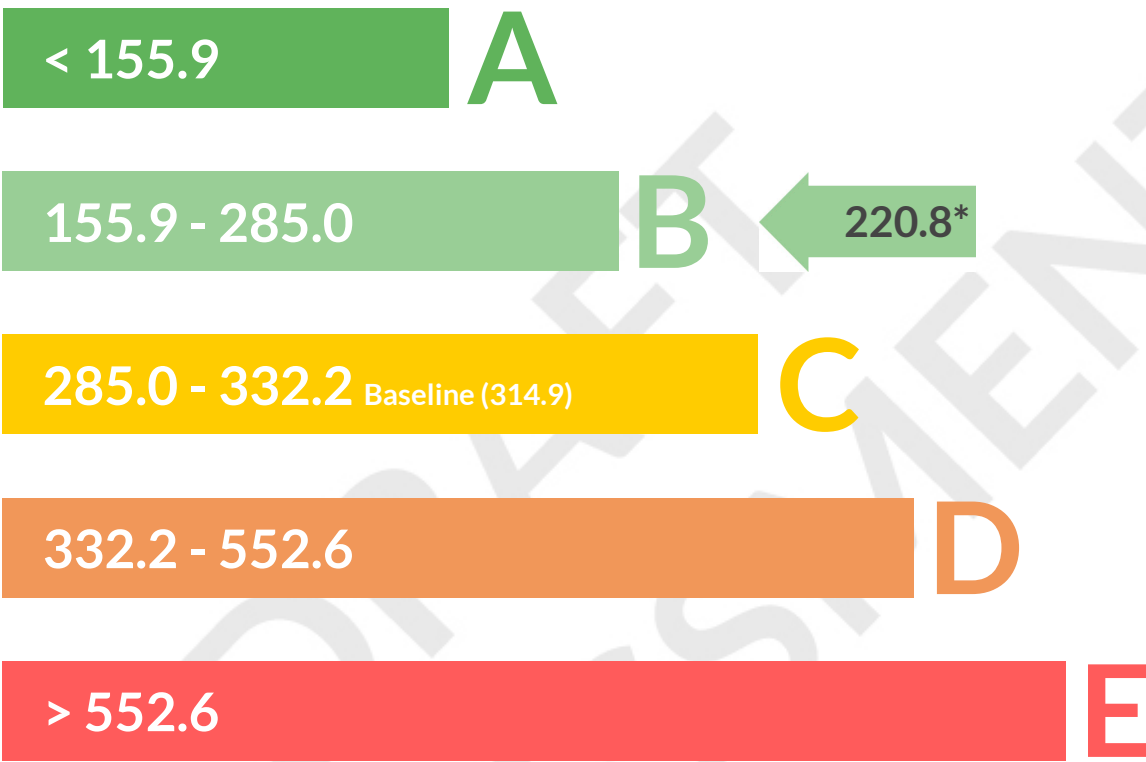
Bayangol District, Khoroo 16, Ulaanbaatar

Total floor area: 4,043 m<sup>2</sup>

is provided the rating of

# B

#### PREDICTED ANNUAL HEATING ENERGY (kWh/m<sup>2</sup>)



\*The predicted annual heating energy (kWh/m<sup>2</sup>) for this project

If upgraded to A, estimated annual heating savings

**\$58,500**

If upgraded to B, estimated annual heating savings

**\$0**

If upgraded to C, estimated annual heating savings

**\$0**

Issue Date  
2019-12-26

Assessed by

Signature



Gandan dormitory

Energy Efficiency Measures	Unit	Less Efficient	Baseline	Very Efficient				
Window to Wall Ratio	15 %	> 100%	> 75%	> 50%	> 25%	> 23%	> 22%	> 20%
Roof Insulation	0.11 U-value (W/m².K)	> 3.00	> 2.06	> 1.11	> 0.17	> 0.15	> 0.12	0.11
Wall Insulation	0.20 U-value (W/m².K)	> 2.00	> 1.43	> 0.85	> 0.28	> 0.22	0.20	0.10
Glass Insulation	2.50 U-value (W/m².K)	> 5.90	> 4.77	> 3.63	2.50	1.70	0.90	0.10
Glass SHGC	0.50 Factor	> 0.85	> 0.73	> 0.62	0.50	0.45	0.40	0.35
Cooling Efficiency	2.66 COP	> 1.00	> 1.55	> 2.11	2.66	4.11	5.55	7.00
Heating Efficiency	266 %	> 50%	> 66%	> 82%	> 98%	> 165%	> 233%	2.66
Natural Ventilation		None	In Some Spaces	In Most Spaces				
Energy Efficient Lighting		None	In Interior Spaces	In Exterior Spaces				
Automatic Lighting Controls		None	Circulation	Meeting & Bathrooms	Open Offices			
Hot Water Efficiency		None	High Efficiency Heating System	% HW demand met by Solar Heater				
Solar Photovoltaics	0 % of Electric Demand	None	15%	30%	45%	60%	75%	90%

Improvement Opportunities

Assessor's Comments

ENERGY BASELINE	IMPROVED CASE	ENERGY SAVINGS	OPERATIONAL CO <sub>2</sub> SAVINGS
380296.0 kWh/Month	301883.0 kWh/Month	21.9 %	348.0 tCO <sub>2</sub> /Year
Issue Date	Assessed by	Signature	
2019-12-26			