ENERGY STAR® Portfolio Manager® Technical Reference

ENERGY STAR Score for Senior Living Communities and Residential Care Facilities in Canada

OVERVIEW

The ENERGY STAR Score for Senior Living Communities and Residential Care Facilities in Canada applies to facilities that provide permanent rehabilitative, restorative and/or ongoing skilled nursing care to patients or residents in need of assistance with activities of daily living. Residential care facilities include nursing homes and residential developmental handicap, mental health and substance abuse facilities. The objective of the ENERGY STAR score is to fairly assess how a property's energy use measures up against similar properties considering the climate, weather, and business activities. A statistical analysis of the peer building population is performed to identify the aspects of property activity that are significant drivers of energy use and to normalize for those same factors. The result of this analysis is an equation that predicts the energy use of a property, based on its business activities. This prediction is compared to the property's actual energy use to yield a 1 – 100 percentile ranking in relation to the national population of properties.

- **Property types.** The ENERGY STAR score for senior living communities and residential care facilities in Canada applies to properties that provide permanent rehabilitative, restorative and/or ongoing skilled nursing care to patients or residents in need of assistance with activities of daily living. The ENERGY STAR score applies to entire senior living communities or residential care facilities, whether they are single buildings or campuses of buildings.

- **Reference data.** The analysis for senior living communities and residential care facilities in Canada is based on data from the *Survey of Commercial and Institutional Energy Use* (SCIEU), which was commissioned by Natural Resources Canada (NRCan) and carried out by Statistics Canada, and represents the energy consumption year 2014.

- **Adjustments for weather and business activity.** The analysis includes adjustments for:
  - Gross floor area
  - Licensed bed capacity
  - Number of workers on the main shift
  - Weather and climate (using heating and cooling degree days, retrieved based on postal code)
  - Percent of the building that is cooled
  - Percent of the building that is heated

- **Release date.** This is the second release of the ENERGY STAR score for Senior Living Communities and Residential Care Facilities in Canada. The ENERGY STAR score for Senior Living Communities and Residential Care Facilities is updated periodically as more recent data becomes available:
  - Most Recent Update: August 2021
  - Original Release: February 2016

This document details the calculation of the 1 – 100 ENERGY STAR score for senior living communities and residential care facilities. For more information on the methodology used to set up ENERGY STAR scores, go to the Technical Reference for the ENERGY STAR Score at http://www.energystar.gov/ENERGYSTARScore.

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Technical Reference

ENERGY STAR Score for Senior Living Communities and Residential Care Facilities in Canada

The following sections explain how the ENERGY STAR score for senior living communities and residential care facilities is developed:

REFERENCE DATA & FILTERS

The reference data used to form the peer property population relies on the Survey on Commercial and Institutional Energy Use (SCIEU), which was commissioned by Natural Resources Canada and conducted by Statistics Canada in late 2015 and early 2016. The energy data for the survey was from the calendar year 2014. The raw data file for this survey is not publicly available, but a report providing summary results is available on Natural Resources Canada's website at: http://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/menus/scieu/2014/tables.cfm.

Four types of filters are applied to analyse the building energy and operating characteristics in the survey. They are set to define the peer group for comparison and to overcome any technical limitations. Those filters are: Building Type Filters, Program Filters, Data Limitation Filters, and Analytical Filters.

A complete description of each category is given in the Technical Reference for the ENERGY STAR Score, at www.energystar.gov/ENERGYSTARScore. ***Figure 1*** summarizes each filter used to develop the ENERGY STAR score for Senior Living Communities model and the rationale that supports the filter. After all filters are applied, the remaining data set has 191 observations. Due to the confidentiality of the survey data, NRCan is not able to identify the number of cases after each filter.

Figure 1 – Summary of Filters for the ENERGY STAR Score for Senior Living Communities and Residential Care Facilities

Condition for Including an Observation in the Analysis	Rationale
Defined as category 4 in SCIEU – Senior Living Community	The SCIEU survey covered the commercial and institutional sector and included buildings of all types. For this model, only the observations identified as primarily Senior Living Community are used.
Must be more than 50% Senior Living Community and less than 50% of any other building type	Building Type Filter – To be considered as a Senior Living Community, the building must have a minimum amount of Senior Living Community space.
Must have electricity consumption data	Program Filter – Senior Living Communities that do not use electricity are rare or non-existent and may indicate an omission in energy data. Electricity can be grid-purchased or produced on site.
Must not use any "other" fuels for which the consumption is not reported	Data Limitation Filter – The survey asked whether fuels other than purchased electricity, on-site generated electricity from renewable sources, natural gas, light fuel oil, diesel, kerosene, propane, district steam, district hot water or district chilled water were consumed in the facility. Either the type of energy was not defined or in the case of wood, the energy was not easily convertible; therefore, the energy provided by these fuels could not be directly compared. In such cases, these observations were removed from the analysis.
Must be built in 2013 or earlier	Data Limitation Filter – The survey reported the energy consumption data for calendar year 2014. Therefore, if the building was being built in 2014, a full year of energy data would not be available.
Must not include energy supplied to other buildings	Data Limitation Filter – The survey asked whether the energy reported at the facility included energy supplied to other buildings such as a multi-building complex or portables. Usage data may not have been included; therefore, buildings were removed.
The area of the indoor or partially enclosed parking structures must be less than 50% of the gross floor area including indoor and partially enclosed parking structures	Program Filter – If the combined area of parking structures is more than 50% the area of the Senior Living Community building, the overall structure is classified as a parking structure, not as a Senior Living Community.

Condition for Including an Observation in the Analysis	Rationale
The size of the vacant space must be less than 50% of the gross floor area	Program Filter – Occupancy needs to be greater than 50% for Senior Living Community to meet ENERGY STAR certification requirements.
More than 50% of the building must be heated	Program Filter – More than 50% of a senior living community must be heated for it to be considered a senior living community.
Building must operate for 168 hours per week and 12 months per year	Analytical Filter – Senior Living Community must operate for 168 hours per week to be considered a full-time operating Senior Living Community.
Must have at least one worker	Program Filter – Senior Living Community that does not have any workers is rare or non-existent and may indicate an omission in data.
Must have worker density less than or equal to 3 workers per 100 m^2	Analytical Filter – Values determined to be outliers based on analysis of the data. Outliers are typically clearly outside normal operating parameters for a building of this type.
Must have at least 5 beds	Analytical Filter – Values determined to be outliers based on analysis of the data. Outliers are typically clearly outside normal operating parameters for a building of this type.
Must have bed density less than or equal to 4 beds per 100 m^2	Analytical Filter – Values determined to be outliers based on analysis of the data. Outliers are typically clearly outside normal operating parameters for a building of this type.
Must have bed to worker ratio between 0.5 and 6.5 beds per worker inclusively	Analytical Filter – Values determined to be outliers based on analysis of the data. Outliers are typically clearly outside normal operating parameters for a building of this type.
Source EUI must be between 0.9 and 4.5 GJ/m^2 inclusively	Analytical Filter – Values determined to be outliers based on analysis of the data. Outliers are typically clearly outside normal operating parameters for a building of this type.
Must be between 464.5 m^2 and 30,000 m^2 in area inclusively	Analytical Filter – The analysis could not model behaviours for buildings smaller than 464.5 m^2 (5,000 sq. ft.). In Canada, most Senior Living Communities do not exceed 30,000 m^2.

Of the filters applied to the reference data, some result in constraints on calculating a score in Portfolio Manager, and others do not. Building Type and Program Filters are used to limit the reference data to include only properties that are intended to receive a score in Portfolio Manager and are therefore related to eligibility requirements. In contrast, Data Limitation Filters account for limitations in the data available during the analysis, but do not apply in Portfolio Manager. Analytical Filters are used to eliminate outlier data points or different subsets of data and may or may not affect eligibility. A full description of the criteria you must meet to obtain a score in Portfolio Manager is available at https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/benchmarking-frequently-asked-questions/3787#es17

Related to the filters and eligibility criteria described above, another consideration is how Portfolio Manager treats properties situated on a campus. The main unit for benchmarking in Portfolio Manager is the property, which may be used to describe either a single building or campus of buildings. The applicability of the ENERGY STAR score depends on the type of property. For Senior Living Communities, the score is used for either a single building or campus of buildings.

VARIABLES ANALYSED

To normalize for differences in business activity, NRCan performed a statistical analysis to understand what aspects of building activity are significant with respect to energy use. The filtered reference data set, described in the previous section, was analysed using a weighted ordinary least squares regression, which evaluated energy use relative to business activity (e.g. number of workers, operating hours per week, floor area, and climate).This linear regression gave an equation used to compute energy use (also called the dependent variable) based on a series of characteristics that describe the business activities (also called independent variables). This section details the variables used in the statistical analysis for Senior Living Communities in Canada.

Dependent Variables

The dependent variable is what NRCan tries to predict with the regression equation. For the Senior Living Communities analysis, the dependent variable is energy use, expressed in source energy use intensity (source EUI). This is equal to the total source energy use of the property divided by the gross floor area. The regression analyzes the key drivers of source EUI—those factors that explain the variation in source energy use per square metre in Senior Living Communities. The units for source EUI in the Canadian model are annual gigajoules per square metre (GJ/m^2).

Independent Variables

The reference survey contains numerous property operation questions that NRCan identified as likely to be important for Senior Living Communities. Based on a review of the variables found in the reference data, following the criteria for inclusion in Portfolio Manager,[1] NRCan initially analysed the variables below in the regression analysis:

- Gross floor area (m^2)
- Gross floor area for food preparation (m^2)
- Cooling degree days (CDD)
- Heating degree days (HDD)
- Percentage of floor space that is cooled
- Percentage of floor space that is heated
- Weekly hours of operation
- Number of workers during the main shift
- Number of computers
- Months in operation in 2014
- Number of commercial appliances
- Number of sterilization units
- Number of MRI units
- Number of beds
- Number of elevators
- Number of televisions/electronic displays/LCDs
- Year of construction
- Presence of onsite laundry

[1] For a complete explanation of these criteria, refer to the Technical Reference for the ENERGY STAR Score, at www.energystar.gov/ENERGYSTARScore.

NRCan, with the advice of the Environmental Protection Agency (EPA) and it's contractor, performed an extensive review on all of these operational characteristics individually and in combination with each other (e.g. Heating Degree Days times Percent Heated). As part of the analysis, some variables were reformatted to reflect the physical relationships of building components. For example, the number of workers on the main shift can be evaluated in a density format: workers per 100 m^2. The worker density (as opposed to the gross number of workers) is more closely related to the energy use intensity. In addition, using analytical results and residual plots, variables were assessed using different transformations (such as the natural logarithm, abbreviated as Ln). Overall, the analysis consists of multiple regression formulations, structured to find the combination of statistically significant operating characteristics that explained the greatest amount of variance in the dependent variable: source EUI.

The final regression equation includes the following variables:

- Natural log of Gross Floor Area (natural log of Area)
- Number of workers per 100 m^2 (worker density)
- Number of beds per 100 m^2 (bed density)
- Percent Heated x Heating Degree Days (Percent Heated x HDD)
- Percent Cooled x Cooling Degree Days (Percent Cooled x CDD)

These variables are used together to compute the predicted source EUI for Senior Living Communities. The predicted source EUI is the mean EUI for a hypothetical population of buildings that share the same values for each of these characteristics. It is the mean energy for buildings that operate like your building.

Climate Variables

Climate is one characteristic that was examined closely. NRCan analysed the relationship between EUI and both Cooling Degree Days (CDD) and Heating Degree Days (HDD). While HDD was found to be consistently significant in the models, analysis showed that CDD also contributed to increased energy use, although to a lesser extent compared to HDD. Due to the limited variance of CDD within a single sample year, and the complex relationship between HDD and CDD in different climate regions in Canada, NRCan had concerns that the impact of cooling was not being fully represented in the model. To adjust, NRCan used a combination of analysis techniques, including linear regression of EUI and Percent Cooled x CDD in the SCIEU 2014 senior living community data, review of engineering models, and comparisons to Portfolio Manager data, to determine an appropriate factor to account for cooling energy. From the analysis, the rate of increase of source energy to Percent Cooled x CDD was determined. Applying this adjustment resulted in a more comprehensive model with both cooling and heating terms that is better adapted to changing climate trends.

Testing

NRCan further analysed the regression equation using actual data entered in Portfolio Manager. In addition to the SCIEU data, this analysis provided another set of buildings to examine the ENERGY STAR scores and distributions to assess the impacts and adjustments. It also confirmed that there are minimal biases when it comes to fundamental operational characteristics, such as percent cooled or percent heated, and that there was no regional bias or bias for the type of energy used for heating.

It is important to reiterate that the final regression equation relies on the nationally representative reference data from SCIEU 2014, and not on data previously stored in Portfolio Manager.

REGRESSION EQUATION RESULTS

The final regression is a weighted ordinary least squares regression across the filtered data set of 191 observations. The dependent variable is source EUI. Each independent variable is centred relative to the weighted mean value, presented in ***Figure 2***. The final equation is presented in ***Figure 3***. All variables in the regression equation are considered significant at a 90% confidence level or better, as shown by their respective significance levels.

The regression equation has a coefficient of determination (R^2) value of 0.2295, indicating that this equation explains 22.95% of the variance in source EUI for Senior Living Communities. Because the final equation is structured with energy per unit area as the dependent variable, the explanatory power of the area is not included in the R^2 value, and thus this value appears artificially low. Recomputing the R^2 value in units of source energy[2] demonstrates that the equation explains 89.52% of the variation in total source energy of Senior Living Communities. It is an excellent result for a statistically based energy model.

For detailed information on the ordinary least squares regression approach, see the Technical Reference for the ENERGY STAR Score, at www.energystar.gov/ENERGYSTARscore.

[2] The R^2 value in Source Energy is calculated as: 1 – (Residual Variation of Y) / (Total Variation of Y). The residual variation is sum of [Weight*(Actual Source Energy$_i$ – Predicted Source Energy$_i$)]^2 across all observations. The total variation of Y is the sum of [Weight*(Actual Source Energy$_i$ – Weighted Mean Source Energy)]^2 across all observations.

Figure 2 – Descriptive Statistics for Variables in Final Regression Equation

Variable	Minimum	Median	Maximum	Mean
Source energy per square metre (GJ/m^2)	0.9109	1.944	4.352	2.177
Natural log of Area	6.141	7.895	10.12	7.953
Worker Density	0.1974	0.9587	2.578	1.056
Bed Density	0.2366	1.400	1.400	1.309
Percent Cooled x CDD	0	69.30	347.8	97.54
Percent Heated x HDD	2,380	4,403	7,905	4,579

Figure 3 – Final Regression Results

Summary				
Dependent variable	Source energy use intensity (GJ/m^2)			
Number of observations in analysis	191			
R^2 value	0.2295			
Adjusted R^2 value	0.2129			
F statistic	13.85			
Significance (p-level)	<0.0001			
	Unstandardized Coefficients	**Standard Error**	**T Value**	**Significance (p-level)**
Constant	2.177	5.811E-02	37.45	<.0001
Natural log of Area	0.1517	6.427E-02	2.36	0.0193
Worker Density	0.2208	0.1084	2.04	0.0431
Bed Density	1.067	0.3107	3.43	0.0007
Percent Cooled x CDD (restricted, see notes)	3.000E-04	n/a	n/a	n/a
Percent Heated x HDD	5.019E-04	7.796E-05	6.44	0.0001

Notes:

- *The adjustment for Bed Density is capped at a value of 1.4 beds per 100 m^2.*
- *The adjustment for HDD in Percent Heated x HDD has a minimum of 3,500,meaning that any property with a value below 3,500 will be assigned a value of 3,500.*
- *The regression is a weighted ordinary least squares regression, weighted by the SCIEU variable "SWEIGHT."*
- *All model variables are centred. The centred variable is equal to the difference between the actual value and the observed mean. The observed mean values are presented in Figure 2.*
- *HDDs and CDDs are sourced from Canadian weather stations included in the U.S. National Climatic Data Center system.*
- *The Percent Cooled x CDD coefficient was restricted to the average GJ/m^2 for Percent Cooled x CDD identified through analysis performed by NRCan. The analysis showed that, on average, source cooling EUI increases by 0.0003 GJ/m^2 for every Percent Cooled x CDD.*

ENERGY STAR SCORE LOOKUP TABLE

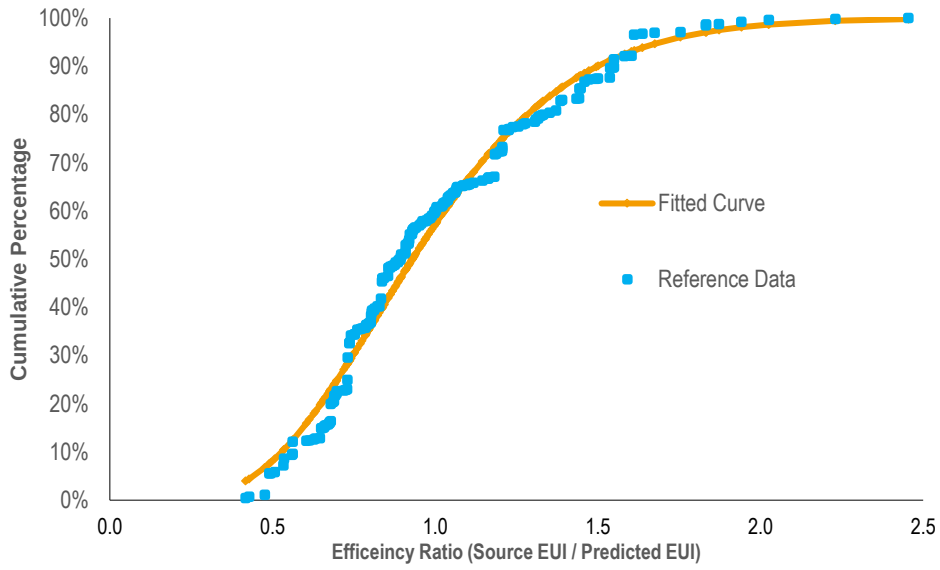
The final regression equation (presented in ***Figure 3***) gives a prediction of source EUI based on a building's operating characteristics. Some buildings in the SCIEU data sample use more energy than predicted by the regression equation, while others use less. The *actual* source EUI of each reference data observation is divided by its *predicted* source EUI to calculate an energy efficiency ratio:

$$Energy\ Efficiency\ Ratio = \frac{Actual\ Source\ Energy\ Intensity}{Predicted\ Source\ Energy\ Intensity}$$

An efficiency ratio lower than one indicates that a building uses less energy than predicted, and consequently is more efficient. A higher efficiency ratio indicates the opposite.

The efficiency ratios are sorted from smallest to largest, and the cumulative percent of the population at each ratio is computed using the individual observation weights from the reference data set. ***Figure 4*** presents a plot of this cumulative distribution. A smooth curve (shown in orange) is fitted to the data using a two-parameter gamma distribution. The fit is performed in order to minimize the sum of squared differences between each building's actual percent rank in the group and each building's percent rank with the gamma solution. The final fit for the gamma curve gave a shape parameter (alpha) of 6.407 and a scale parameter (beta) of.0.1531. The sum of the squared error for this fit is 0.2487.

Figure 4 – Distribution for Senior Living Community



The final gamma shape and scale parameters are used to calculate the efficiency ratio at each percentile (1 to 100) along the curve. For example, the ratio on the gamma curve at 1% corresponds to a score of 99; only 1% of the population has a ratio this small or smaller. The ratio on the gamma curve at the value of 25% corresponds to the ratio for a score of 75; only 25% of the population has a ratio this small or smaller. Figure 5 shows the complete score lookup table.

Figure 5 – ENERGY STAR Score Lookup Table for Senior Living Community

ENERG STAR Score	Cumulative Percentage	Energy Efficiency Ratio > =	Energy Efficiency Ratio <	ENERGY STAR Score	Cumulative Percentage	Energy Efficiency Ratio >=	Energy Efficiency Ratio <
100	0%	0.0000	0.3067	50	50%	0.9304	0.9399
99	1%	0.3067	0.3564	49	51%	0.9399	0.9494
98	2%	0.3564	0.3908	48	52%	0.9494	0.9590
97	3%	0.3908	0.4182	47	53%	0.9590	0.9687
96	4%	0.4182	0.4415	46	54%	0.9687	0.9784
95	5%	0.4415	0.4620	45	55%	0.9784	0.9883
94	6%	0.4620	0.4806	44	56%	0.9883	0.9983
93	7%	0.4806	0.4977	43	57%	0.9983	1.0084
92	8%	0.4977	0.5136	42	58%	1.0084	1.0186
91	9%	0.5136	0.5285	41	59%	1.0186	1.0289
90	10%	0.5285	0.5426	40	60%	1.0289	1.0394
89	11%	0.5426	0.5561	39	61%	1.0394	1.0500
88	12%	0.5561	0.5691	38	62%	1.0500	1.0608
87	13%	0.5691	0.5815	37	63%	1.0608	1.0717
86	14%	0.5815	0.5936	36	64%	1.0717	1.0828
85	15%	0.5936	0.6053	35	65%	1.0828	1.0941
84	16%	0.6053	0.6166	34	66%	1.0941	1.1057
83	17%	0.6166	0.6277	33	67%	1.1057	1.1174
82	18%	0.6277	0.6385	32	68%	1.1174	1.1294
81	19%	0.6385	0.6491	31	69%	1.1294	1.1417
80	20%	0.6491	0.6596	30	70%	1.1417	1.1542
79	21%	0.6596	0.6698	29	71%	1.1542	1.1670
78	22%	0.6698	0.6799	28	72%	1.1670	1.1801
77	23%	0.6799	0.6898	27	73%	1.1801	1.1936
76	24%	0.6898	0.6996	26	74%	1.1936	1.2075
75	25%	0.6996	0.7093	25	75%	1.2075	1.2217
74	26%	0.7093	0.7189	24	76%	1.2217	1.2364
73	27%	0.7189	0.7284	23	77%	1.2364	1.2516
72	28%	0.7284	0.7378	22	78%	1.2516	1.2673
71	29%	0.7378	0.7471	21	79%	1.2673	1.2836
70	30%	0.7471	0.7564	20	80%	1.2836	1.3005
69	31%	0.7564	0.7657	19	81%	1.3005	1.3182
68	32%	0.7657	0.7748	18	82%	1.3182	1.3366
67	33%	0.7748	0.7840	17	83%	1.3366	1.3559
66	34%	0.7840	0.7931	16	84%	1.3559	1.3762
65	35%	0.7931	0.8022	15	85%	1.3762	1.3977
64	36%	0.8022	0.8113	14	86%	1.3977	1.4204
63	37%	0.8113	0.8204	13	87%	1.4204	1.4447
62	38%	0.8204	0.8294	12	88%	1.4447	1.4707
61	39%	0.8294	0.8385	11	89%	1.4707	1.4988
60	40%	0.8385	0.8476	10	90%	1.4988	1.5294
59	41%	0.8476	0.8566	9	91%	1.5294	1.5631
58	42%	0.8566	0.8657	8	92%	1.5631	1.6007
57	43%	0.8657	0.8749	7	93%	1.6007	1.6434
56	44%	0.8749	0.8840	6	94%	1.6434	1.6930
55	45%	0.8840	0.8932	5	95%	1.6930	1.7524
54	46%	0.8932	0.9024	4	96%	1.7524	1.8272
53	47%	0.9024	0.9117	3	97%	1.8272	1.9299
52	48%	0.9117	0.9210	2	98%	1.9299	2.0988
51	49%	0.9210	0.9304	1	99%	2.0988	>2.0988

EXAMPLE CALCULATION

According to the Technical Reference for the ENERGY STAR Score at www.energystar.gov/ENERGYSTARScore, there are five steps to compute a score for Senior Living Communities. Below is a specific example:

1 User enters building data into Portfolio Manager

- 12 months of energy use information for all energy types (annual values, entered in monthly meter entries)
- Physical building information (size, location, etc.) and use details describing building activity (hours, etc.)

Energy Data	Value
Electricity	900,000 kWh
Natural gas	200,000 m^3

Property Use Details	Value
Gross floor area (m^2)	11,000
Number of Beds	200
Number of Workers	60
Percent Cooled	100%
Percent Heated	100%
CDD (provided by Portfolio Manager, based on postal code)	165
HDD (provided by Portfolio Manager, based on postal code)	2,900

2 Portfolio Manager computes the actual source EUI

- Total energy consumption for each fuel is converted from billing units into site energy and source energy.
- Source energy values are added across all fuel types.
- Source energy is divided by gross floor area to determine actual source EUI.

Computing Actual Source EUI

Fuel	Billing Units	Site GJ Multiplier	Site GJ	Source Multiplier	Source GJ
Electricity	900,000 kWh	3.600E-03	3,240	1.960	6350
Natural gas	200,000 m^3	3.843E-02	7,686	1.010	7763
				Total Source Energy (GJ)	14,113
				Source EUI (GJ/m^2)	**1.283**

3 Portfolio Manager computes the predicted source EUI

- Using the property use details from Step 1, Portfolio Manager computes each building variable value in the regression equation (determining the density as necessary).
- The centring values are subtracted to compute the centred variable for each operating parameter (e.g. actual building value minus reference centring value).
- The centred variables are multiplied by the coefficients from the Senior Living Community regression equation to obtain a predicted source EUI.

Computing Predicted Source EUI

Variable	Actual Building Value	Reference Centring Value	Building Centred Variable	Coefficient	Coefficient x Centred Variable
Constant	-	-	-	2.177	2.177
Natural Log of Area	9.306	7.953	1.353	0.1517	0.2053
Worker Density	0.5455	1.056	-0.5105	0.2208	-0.1127
Bed Density*	1.400	1.309	0.0910	1.067	9.710E-02
Percent Cooled x CDD	165.0	97.54	67.46	3.000E-04	2.024E-02
Percent Heated x HDD**	3500	4579	-1079	5.019 E-04	-0.5416
			Predicted Source EUI (GJ/m²)		**1.845**

**The adjustment for the Bed Density is capped at a value of 1.4 beds per 100 m².*
*** The adjustment for HDD in Percent Heated x HDD has a minimum of 3,500,meaning that any property with a value below 3,500 will be assigned a value of 3,500.*

4 Portfolio Manager computes the energy efficiency ratio

- The ratio equals the actual source EUI (Step 2) divided by the predicted source EUI (Step 3).
- Ratio = 1.283 / 1.845 = 0.6954

5 Portfolio Manager uses the efficiency ratio to assign a score via a lookup table

- The ratio from Step 4 is used to identify the score from the lookup table.
- A ratio of 0.6954 is greater than 0.6898 and less than 0.6996
- ***The ENERGY STAR score is 76.***