Green Lodging Metrics Database Manual

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Introduction

This database is the result of collaboration between the RI DEM, the Maine DEP, and graduate students from Antioch University of New England, primarily using metrics developed by the Northeast Waste Management Officials' Association (NEWMOA).

The purpose of the database is to quantify yearly reductions realized by hotels certified in green lodging certification programs. It enables program administrators to convert the raw data compiled from self-certification workbooks into useable estimates of both pollution and cost reductions. *Note that these estimates are not total reductions over the life of the program, but yearly reductions realized through specific conservation activities.*

The current database was made for the Rhode Island Green Hospitality Certification; however it is easily customizable for any program with similar certification requirements. Assumptions used in formulas, such as price of water or occupancy rate, can be changed to more accurately reflect local situations. Also, columns in the Raw Workbook Data sheet can be added or deleted to align with the specific workbook in use.

You will notice that two hotels: Hotel ABC and Hotel XYZ are included in the template. These are dummy hotels to use as examples and should be deleted before calculating figures for your own program.

Limitations

This database uses assumptions that are very broad estimates from various sources, so it is therefore not meant to be used by individual facilities. It may be possible for an individual facility to use the database if it has more accurate numbers that reflect the specific facility to use as assumptions. All calculations and assumptions are explained in the NEWMOA document, ["From Behavior Change to Environmental Outcomes in Sustainable Hospitality: Metrics, Formulas, Variables, & Assumptions"](), June 2011. Database users can investigate the assumptions used and decide if they are applicable for their program.

The Details

There are eight worksheets in the database:

- ➢ **Summary Data**

- ➢ **Recert Summary Data**

- ➢ **Raw Wkbk Data**

- ➢ **Raw Recert Wkbk Data**

- ➢ **Intermediate Calcs**

- ➢ **Recert Intermediate Calcs**

- ➢ **Assumptions**

Summary Data:

Shows the estimated yearly reductions for certain conservation behaviors or activities.

Note: The values are not initially zero in the template. This is because of the dummy hotels used as examples. Once the raw data from those hotels are erased, the values will become zero.

Column B lists the type of reduction.

Column C lists the specific pollution prevention activity.

Columns D, E, and F take totals from the Raw Workbook Data sheet for the number of businesses with how many rooms are engaging in the activity. Certain activities also have a number of devices (or other quantities such as gallons of paint used) associated with them, which are shown in Column F.

Columns D, E and F are the only columns that reference the Raw Workbook Data sheet. All other calculations on this and the Intermediate Calcs sheets reference those numbers.

The remaining columns (H through AL) contain calculations showing yearly estimated reductions from the associated activity. Next to each reduction cell, there is a number and letter code. These correspond with a Reference Table at the bottom of the sheet that briefly explains the formula.

Blue cells indicate that there is no formula in the cell. The reductions in these cells are obtained through various online calculators, the URL's for which can be found in the Reference Table. This must be obtained by the database user with these calculators. The Reference Table contains instructions. You can practice using the online calculators entering the data from the examples and seeing if you get the same results from the calculator.

Pink cells highlight the waste cost reduction values to note that the current assumptions used for money savings are based on data from one facility only so the user must decide the accuracy of those numbers for their state.

The orange row totals the reductions in each category. The last cell of that row contains the total yearly cost savings from the whole program.

The next row shows the total reductions if linen and towel reuse is disregarded. Certification programs may wish to disregard linen and towel reuse programs since they are increasingly the industry standard.

The next two rows show the average savings per hotel and per room. These are simply the total savings divided by the total number of hotels and rooms in the program. The

values in these rows should only be used for programmatic evaluation and marketing purposes, not as a predictor of what individual hotels can expect to save in the program.

Recert Summary Data:
Shows the estimated yearly reductions from changed behaviors.

These are new behaviors reported by hotels upon recertification. This data is important to help show the efficacy of your certification program. This sheet has the same format as the Summary Data sheet.

Raw Wkbk Data:
Shows facilities' answers to the self-certification workbook questions.

Most of the columns are pollution prevention activities. If the hotel is engaging in the activity, enter a "1". This will produce a total number of hotels engaging in the activity in the totals row. Some columns show how many rooms are in the hotels engaging in the activity, how many devices are in place, or other quantitative measurements. Columns should be changed by the user to reflect their self-certification workbook.

Note: when adding/deleting columns linked formulas will typically adjust so that the reference is still correct, but that should be double checked as in certain circumstances it will not adjust. Totals from this table are referenced in the Summary Data sheet, Columns D-F. Behaviors referenced on other sheets are highlighted in blue.

Some behavior categories are labeled "Biz" and some are "Rooms". In the Biz columns, enter a 1 if the business is engaging in the behavior. In the Rooms columns, multiply the Biz column by the #rooms in the hotel (Column C).   Typically, this formula is already present in the Rooms columns so nothing has to be manually entered into these columns.

The orange row at the bottom of the table contains the totals; and in a few cases, averages. Cells in this row are the only cells referenced in other sheets. Below the table are two orange cells that show how many pollution prevention activities are being practiced by all facilities. When customizing this sheet for your program, make sure that the references in this formula are still accurate.

Raw Recert Wkbk Data:
This sheet has the same format as the Raw Wkbk Data sheet but only contains data on changed behaviors. These are new behaviors reported by hotels upon recertification.

Intermediate Calcs:

This sheet calculates data to be used in the Summary Data calculations. This sheet serves to simplify Summary Data calculations.

Values in purple use formulas from the NEWMOA document, "From Behavior Change to Environmental Outcomes in Sustainable Hospitality: Metrics, Formulas, Variables, & Assumptions", June 2011. The values in green are modified from the NEWMOA formulas, specifically customized for the Rhode Island hotel examples.

The calculations in this sheet link to the Summary Data and the Assumptions sheets only. *Unless you are altering the formulas, this sheet should not be modified.*

Recert Intermediate Calcs:

This sheet contains the intermediate calculations for the Recert Summary Data sheet and has the same format as the Intermediate Calcs sheet.

Assumptions:

This sheet contains no formulas. The numbers on this sheet are used in formulas throughout the database. All assumptions in purple come from the NEWMOA document, "From Behavior Change to Environmental Outcomes in Sustainable Hospitality: Metrics, Formulas, Variables, & Assumptions", June 2011. Other assumptions are in green and are specific for Rhode Island hotel examples.

Values on this sheet can be changed to more accurately reflect your state. For example, your state's electricity or water costs may differ from the national average currently used. When you change a value, you should change the color to green and note where the value came from for record keeping and transparency purposes.

When an assumption is changed, no other modification needs to be made in the database (except for the blue cells in the Summary Data and Recert Summary Data sheets) as the formulas using these assumptions are linked to this sheet. Calculated values will automatically be updated.