Method to Estimate Heating and Cooling Energy Demand

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The rational utilization of energy and management of environmental issues associated with energy consumption is crucial for cost reduction and maximized benefits for society.

This study aims to consider method of assessment of cooling and heating degree days in order to estimate energy consumption in different locations within the Georgia.

Heating and cooling degree days are measures that reflect the amount of energy needed to heat or cool a building to a comfortable temperature, given how cold or hot it is outside.

Heating degree days (HDDs) are calculated by subtractions of the outdoor temperature from the base temperature, taking into account only positive values. The base temperature is considered as the outdoor temperature above which there is no need for a building to be heated. Cooling degree days (CDDs) are calculated from temperatures above the base temperature. In this case, a base temperature is considered as the outdoor temperature below which a building needs no cooling.

Thus, using temperature data from the meteorological stations of Georgia we can calculate the monthly and the annual number of cooling and heating degree days for different locations within the Georgia.

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