dioxide equivalents (0.782 $MMtCO_2e$). To estimate the upper bound, established targets for 2020 were used if available; otherwise, it was assumed each school would reduce emissions from scope 1 and scope 2 by 20 percent by 2020 based upon each school's base year.[17] The estimated GHG emissions reduction in 2020 including all 21 Maryland colleges and universities which have completed a GHG emission inventory is 820,989 metric tons of carbon dioxide equivalents (0.821 $MMtCO_2e$).[18]

B. Detailed Explanation of Methodology

Each college and university participating in the commitment is required to develop a GHG inventory. The GHG emission reductions were estimated by combining the business-as-usual baselines for 2020 from each school, then projecting the reductions expected in 2020. The business-as-usual baselines for each school (see Table C-31) were projected for 2020 by using available data from each school's inventory. If only one year of data was available, the baseline emissions were assumed to increase by 2 percent each year.

To estimate the lower bound of GHG emission reductions expected by 2020 (Table C-32), only schools with established targets for 2020 were included. The column labeled "assumptions for 2020 reductions" describes the established targets for 2020 according to school. The business as usual baselines for each school are transferred directly from Table C-31. The result of applying the established target for 2020 for each school to the business as usual baseline is the amount in metric tons of carbon dioxide equivalents (metric tons of CO_2-equivalent) contained in the "2020 Reductions" column. The sum of the "2020 Reductions" column provides the final result. By including only schools which have an established GHG emission target in 2020, the total estimated GHG emissions reduction in 2020 by 17 Maryland colleges and universities is 782,262 metric tons of carbon dioxide equivalents (0.782 $MMtCO_2e$).

To estimate the upper bound (Table C-33), established targets for 2020 were used if available; otherwise, it was assumed each school would reduce emissions from scope 1 and scope 2 or from scope 1, 2, and 3 (depending upon the inventory information available), by 20 percent by 2020 based upon each school's base year. In Table C-33, the column labeled "assumptions for 2020 reductions" describes the established targets for 2020 according to school or if the school does not have a 2020 target, it is assumed that emissions from scope 1 and scope 2 will be reduced by 20 percent by 2020 based upon each school's base year. The business as usual baselines for each school are transferred directly from Table C-31. The result of applying the established target for 2020 for each school to the business as usual baseline is the amount in metric tons of CO_2-equivalent contained in the "2020 Reductions" column. The sum of the "2020 Reductions" column provides the final result. The estimated GHG emissions reduction in 2020 including all 21 Maryland colleges and universities which have completed a GHG emission inventory is 820,989 metric tons of CO_2-equivalent (0.821 $MMtCO_2e$).

[17] Scope 1 emissions are considered direct emissions from sources that are either owned or controlled by the school. Scope 2 emissions are indirect emissions resulting from the generation of electricity, heating and cooling, or steam generated off-site but purchased by the school. Scope 3 emissions are indirect emissions from sources not owned or directly controlled by the school but related to the school's activities, such as travel and commuting. (As defined by the EPA: http://www.epa.gov/greeningepa/ghg/index.htm)

[18] One school has not completed a GHG inventory at this time and therefore, was not included in this estimation.