Non-CO$_2$, one of the greenhouse gases, is influenced by a multitude of factors, not only the characteristics of fuels, but a variety of boilers, combustion and driving conditions, and technical elements. Thus, securing a national data is imperative. This study aims at creating measures to improve the reliability of the emission factors by comparing and reviewing the development process and the results of Non-CO$_2$ emission factors in the domestic cement industry.

This study shows that there is a difference of 6.7 times for CH$_4$ and a difference of 0.66 times for N$_2$O among Non-CO$_2$ emission factors developed in the cement industry to date. The differences are assumed to have been due to different measurement methods and the number of sample extractions. Accordingly, Non-CO$_2$ emission factors in the cement industry can considerably vary depending on combustion conditions, and for that reason, it is imperative to conduct research that can establish methodologies with appropriate measurement periods as well as measurement times considering emission characteristics of fuels and greenhouse gas emissions used in the cement industry. Moreover, it is necessary to examine the irregularities in the measurement of sample extraction and device analysis in a bid to improve reliability and develop representative national emission factors by independently evaluating such irregularities of measurements of Non-CO$_2$ emission factors.