THE ROLE OF COMBUSTION BY-PRODUCTS IN SUSTAINABLE CONSTRUCTION MATERIALS
By Tarun R. Naik
Report No. CBU-2001-23
ABSTRACT

Over 5 billion tons of non-hazardous by-product materials are produced annually in the United States. Large quantities of by-products generated from industrial and domestic sources are generally landfilled due a lack of other economically viable options. Landfilling is undesirable because it causes not only huge financial burdens to producers of by-products, but also future unknown environmental liabilities. To overcome these problems, it has become essential to find cost-effective solutions to these waste disposal problems. By-product materials generated from various sources must provide innovative solutions to environmental challenges leading to recycling options. This paper briefly describes various combustion products produced from industrial operations and post-consumer wastes, as well as current best recycling use options for these materials. Materials, productions, properties, potential applications in manufacture of emerging materials for sustainable construction, as well as environmental impact are briefly discussed. Additionally, future recycling and research needs are also presented.