

A Concept of Environmental Accounting for Local Governments Based on the Theory of Environmental Impact Assessment

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[SYNOPSIS]

In the transition to a sustainable society, all businesses are required to appropriately recognize, measure, and report on environmental issues associated with their activities, and to take long-term efforts to resolve them. As part of those efforts, “environmental accounting” in which one’s own environmental activities are quantitatively recorded in monetary terms is undertaken mainly by private companies, but it is also important for local governments, which are responsible for the local environment. However, there are many unique issues in local governments, which have organizational characteristics different from those of private companies, and environmental accounting has not yet been widely adopted by local governments in Japan.

In life cycle assessment research, life cycle impact assessment (LCIA) is a method for quantitatively measuring the environmental impact of products and services throughout the life cycle. One of the LCIA processes is “integration,” which integrates the impacts of products and services in multiple categories such as “climate change” and “resource consumption” to obtain an overall assessment result using a single indicator. By applying the concepts of these assessments to administrative divisions, it may be possible to propose a new methodology for calculating the environmental impact from each division in a unified manner.

First, this study proposes an assessment concept for local governments that combines Japanese “Environmental Accounting Guidelines” and the theory of the endpoint-type LCIA method “LIME2.” This provides insights for establishing standard guidelines for environmental accounting in public institutions. Second, a case study of comprehensive environmental impact assessment for human activities is conducted within administrative divisions over a particular period. This provides a valid method for calculating “environmental conservation effects,” which tend to be particularly difficult for local governments.