



## **Chapter VI**

# **Eco-Efficient Controlling of Material Flows with Flow Cost Accounting: ERP-Based Solutions of the ECO Rapid Project**

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## **Abstract**

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*The point of departure for ECO Rapid is the assumption that environmental management instruments have been perfected, but they will only be able to be used in practice to any extent worth mentioning if costs and benefits are in a favourable relationship to one another for companies. A key factor for achieving this goal is the question of how standard business management*

*software can be used as instruments for solving the problems of company environmental management (environmental cost accounting, flow cost accounting, preparing an environmental balance sheet and environmental figures, etc.). This is the reason why we developed a method in the ECO Rapid project that puts companies and software retailers in a position to use and further develop enterprise resource planning systems (ERP systems) in a fashion that is orientated more towards material flows. We have used the reference model of ECO-Integral (Krcmar et al., 2000) to make it possible to take advantage of the database of ERP systems for a number of new evaluations on company material flows in quantities and values. This means that companies will be better able to use the ERP software they already have for the purposes of company environmental management while creating synergies to business management. We are publishing this method as a digital CD manual for small- and medium-sized companies and to a great extent it can be used independently of any particular software product. An important step along this route is pilot implementation in three companies. These hands-on projects are being followed up by imu augsburg (Augsburg, Germany) and Green IT GmbH (Konstanz, Germany). The chair for economic IT (at the Stuttgart-Hohenheim University) has the all-round responsibility for handling the project and IT support. And this chapter has the purpose of presenting the experience gathered in ECO Rapid.*

## **Methodology of ECO Rapid**

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### **Flow Cost Accounting**

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The following report is limited to the implementation of flow cost accounting, as this tool was given highest priority by the pilot companies involved. The continuous linking of quantity and value data enables companies to systematically combine cost reduction and resource-saving measures. Flow cost accounting as a tool of modern cost accounting has been the subject of a number of publications and guidelines (among others, LfU/Ministerium für Umwelt and Verkehr Baden-Württemberg, 1999, Krcmar et al., 2000; Strobel, 2001). Essentially, flow cost accounting is a cost accounting method that aims at the quantitative and monetary valuation of a company's material flows on an accrual basis. The underlying concept of flow cost accounting is the material-flow-related distribution and calculation of a company's total manufacturing costs by allocating these costs to the individual material flows (Pojasek, 1997; US EPA, 2000). The material flows are considered to be the main cost drivers and therefore also serve as cost collectors (Figure 1).

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