



Full Cost Environmental Accounting

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Introduction:

Manufacturers concerned with lean production and environmental compliance now have the opportunity to improve them in parallel through full cost accounting methods. Full cost accounting allows companies to recognize environmental costs as specific costs related to a product or process, and not as overhead in a facility as with traditional accounting systems.

Accounting for the environmental costs of an individual product allows the manufacturer to evaluate the efficiency of the production and persuade more environmentally aware decisions such as materials substitution, process efficiency, and waste reduction. Because these costs were lumped into overhead accounts in the past, locating such inefficiencies would not have been possible.

Objective of Research:

To provide industry with a methodology to assess environmental impacts and allocate these impacts in terms of cost by product or process.

Approach:

- Locate waste streams
- Evaluate cost impacts of waste streams
- Track the costs back to individual processes
- Determine how costs should be represented in the current accounting system
- Implement structure and cost impacts into current accounting system

A Case Study:

A Midwestern injection molding plant was studied so that a methodology for full cost accounting could be implemented for the entire company. This plant was plagued with high scrap rates, causing an undesirable loss in profitability. However, the plant did not account for the total costs caused by high scrap rates.

The plant's management information system accounted for materials costs only and did not attribute any additional costs to scrap production. Without considering the additional labor time and production time lost because of high scrap production, the cost of scrap was grossly underestimated. The determination of the study was that the scrap costs were three times higher than originally estimated.

Representative publications:

"Integrating Environmental Costs in an Automobile Manufacturing Plant," Cheryl Horney, unpublished M.S. Thesis, Carnegie Mellon University, Pittsburgh, PA, May 1998.

"Price Setting for Green Design," H. Scott Matthews and Lester B. Lave, 1995 IEEE International Symposium on Electronics and the Environment, Orlando, FL, May 1995.

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