

# IFAMA 2020 CASE STUDY WORKSHOP SERIES

## Improving Decision-Making through Material Flow Cost Accounting: The Case of VietGreen Bottled Mineral Water Company

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### **Abstract**

VietGreen, headquartered in the South of Vietnam, is a Bottled Mineral Water Company striving towards becoming a leading mineral water producer with a strong reputation for social responsibility and integrity. This case describes VietGreen's decision to explore the potential of material flow cost accounting (MFCA) for enhanced eco-efficiency and achieving the company's long-term goals. It introduces the students to the company's major challenges in meeting existing and newly introduced environmental regulations and in dealing with various controversial perspectives of managers involved in a project to implement MFCA. The focal questions of the case are why and how the company's management should invest in and apply MFCA to implement its major strategic objectives. In particular, it focuses on the tension between measures improving either environmental or economic performance as well as the search for solutions contributing to both types of goals.

**Keywords:** bottled mineral water production, economic and environmental performance, eco-efficiency, material flow cost accounting, decision-making.

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### Statement of Relevance

This case is relevant to food industry managers because it shows why the managers of VietGreen decided to implement a material flow cost accounting (MFCA) project. Two major reasons are: (1) to achieve the company's sustainable strategic objectives, (2) to meet existing and newly introduced environmental regulations.

(1) The case study describes the story of VietGreen striving towards becoming a leading mineral water producer with a strong reputation for social responsibility and integrity. Specifically, a new vision was created: 'VietGreen will become the best mineral water brand in Vietnam in 2025 and one of the top 30 mineral water brands in the world in 2030'. Based on this vision, the new strategic objectives were made in different perspectives and the new core values were emphasized: 'integrity, responsibility and diversity'.

(2) The case introduces existing environmental regulations which became the company's major challenges. In 2014, the Vietnamese government passed a law on Environmental Protection. Two years later, a new regulation on Environmental Protection Fees for industrial wastewater was signed to encourage Vietnamese enterprises in sustainable development. In 2017, the Ministry of Industry and Trade signed a decision to increase the price of electricity, making the price of bottled mineral water higher.

The case has a strong relevance to managers since it presents how MFCA could help managers to improve their decision making. It describes the process of identifying losses in material and energy usage which play a vital role in achieving continuous improvement. It also focuses on the tension between measures to improve either environmental or economic performance as well as the search for solutions contributing to both types of goals (eco-efficiency).

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### Target Market Statement

#### Main topics

The appearance of new objectives and new regulations confronted VietGreen with economic and environmental considerations. The CEO of VietGreen decided to set up an MFCA project team to determine what the company should improve in order to achieve high efficiency in future investments. Three options were:

- Construction of a new system for wastewater treatment, or;
- Development of a new process for producing PET bottles, or;
- Acquisition of a new system for the bottle filling process.

The balanced management of economic and environmental performance presented a new challenge for the company's managers. They were challenged to make decisions about what the company should invest in.

#### Teaching objectives

The objectives of the case study are to help students:

- Recognize the benefits of MFCA in supporting managerial decision-making.
- To be able to apply this new tool in practice at the corporate level.
- Develop the skills to analyze, discuss, and make decisions on the company's measures to address current concerns about economic and environmental performance.
- Recognize the importance of sustainable production through discovering solutions in order to reduce inefficiencies in material and energy usage as well as to identify ways for continuous improvements.

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## Intended audience

This case study is designed for graduate courses on agrifood business. It focuses on corporate social responsibility, environmental management, and management accounting and demonstrates the usefulness of tools such as material and energy flow accounting, material and energy flow cost accounting, and environmental investment appraisal.

## Questions for discussion at the IFAMA Online Workshop

1. If you were the CEO of VietGreen, who should participate in the MFCA project? Please explain your choice.
2. Please rank three proposals on the basis of considerations that you believe are important. Which proposal(s) should the company invest in? Please explain your reasons.

|                    | Wastewater treatment system | PET bottles      | Bottle filling system |                  |
|--------------------|-----------------------------|------------------|-----------------------|------------------|
|                    |                             |                  | Without hidden cost   | With hidden cost |
| Initial investment | \$ (6,607.930)              | \$ (110,132.159) | \$ (82,819.383)       | \$ (82,819.383)  |
| Net present value  | \$ (32,484.370)             | \$ 5,205,036.112 | \$ (83,074.754)       | \$ 1,607,605.293 |
| Simple payback     |                             | 0.079 years      |                       | 0.184 years      |

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