

# ISO 14053:2021-02 (E)

## Environmental management - Material flow cost accounting - Guidance for phased implementation in organizations

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Principles .....	3
4.1	Understand the basic material flow and energy use .....	3
4.2	Ensure the reliability of physical data .....	3
4.3	Estimate and attribute costs to material losses and energy use .....	3
4.4	Link physical and monetary data .....	3
5	Cost calculations in a phased approach .....	3
5.1	General .....	3
5.2	Preparation phase -- Identification of the most relevant production process in the organization .....	3
5.3	Calculation phase 1 -- Quantification of material flows in physical units .....	4
5.4	Calculation phase 2 -- Calculation of material costs and waste management costs .....	4
5.5	Calculation phase 3 -- Calculation of energy costs .....	4
5.6	Calculation phase 4 -- Calculation of system costs .....	4
5.7	Analytical phase -- Analysis of material loss costs .....	4
6	Calculation methods in a phased approach and development of an improvement plan .....	4
6.1	General .....	4
6.2	MFCA summary sheet .....	4
6.3	Example template for the preparation phase .....	5
6.4	Example template for calculation phase 1 .....	6
6.5	Example template for calculation phase 2 .....	7
6.6	Example template for calculation phase 3 .....	7
6.7	Example template for calculation phase 4 .....	8
6.8	Example template for the analytical phase .....	8
6.9	Development of an improvement plan .....	10
7	Extended approach .....	10
Annex A (informative) Example of a phased MFCA implementation by an organization .....		11
Bibliography .....		16