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**Assessment of Possibility to Reduce Consumption & Recovery**

This document outlines the procedure for assessing opportunities to reduce the consumption of natural resources and implement resource recovery strategies within a food manufacturing facility (NIC Code 10101).

1. Scope

This procedure covers the assessment of possibilities to reduce consumption and recover resources across all areas of the facility, including water, energy, raw materials, and packaging materials.

2. Methodology

The assessment will involve a multi-faceted approach:

**2.1 Consumption Reduction Assessment:**

* Water: Analyze water usage data to identify areas of high consumption. Investigate opportunities for process optimization, such as implementing water-efficient equipment, improving cleaning procedures, and reusing water where feasible (e.g., greywater recycling for non-potable uses).
* Energy: Review energy consumption data to pin-point energy-intensive processes. Consider implementing energy-efficient equipment, improving insulation, optimizing heating and cooling systems, and exploring renewable energy sources.
* Raw Materials: Analyze raw material usage data to identify areas for optimization. Explore opportunities to reduce waste, improve yield, and utilize by-products. This may involve process improvements, optimized ingredient ratios, or improved storage practices.
* Packaging Materials: Assess the type and quantity of packaging materials used. Investigate opportunities to reduce packaging size, switch to more sustainable packaging materials (e.g., recycled content, biodegradable options), and optimize packaging processes to minimize waste.

**2.2 Resource Recovery Assessment:**

* Wastewater Treatment: Assess the feasibility of implementing wastewater treatment systems to recover water for reuse or reduce pollutant discharge.
* Waste Management: Analyze waste streams to identify materials that can be recycled or composted. Explore partnerships with recycling facilities or composting services.
* By-product Utilization: Identify by-products generated during the manufacturing process that can be used in other applications or sold as secondary products.

3. Data Analysis and Reporting

All data collected will be analyzed to determine the potential for resource reduction and recovery. A cost-benefit analysis will be conducted to assess the economic viability of each proposed solution. A comprehensive report detailing findings and recommendations will be generated.

4. Compliance Notes

* Waste Management Regulations: Ensure compliance with all relevant regulations regarding waste disposal and recycling.
* Water Discharge Permits: If applicable, obtain necessary permits for wastewater discharge.
* Environmental Impact Assessments: Conduct Environmental Impact Assessments (EIA) where required to evaluate the potential environmental impact of proposed solutions.

5. Practical Guidelines

* Benchmarking: Compare resource consumption levels against industry best practices and benchmarks.
* Life Cycle Assessment (LCA): Conduct an LCA to evaluate the environmental impact of different materials and processes.
* Technology Assessment: Explore the availability and suitability of new technologies to improve resource efficiency.

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