

Aizetul Falah. NIM 210331100037. Analisis *Life Cycle Assessment* Produksi Roti Isi pada O'ndut *Bakery* Jawa Tengah. Dibawah Bimbingan **Dr. Millatul Ulya, S.TP., M.T** dan **Dr. Moh. Fuad Fauzul Mu'tamar, S.TP., M.Si**

ABSTRAK

Life cycle assessment (LCA) adalah salah satu metode yang dapat digunakan untuk menganalisis dampak lingkungan. Metode *life cycle assessment* (LCA) banyak dipakai pada industri besar maupun skala kecil, dalam dunia industri diatur pada ISO 14000 utamanya 14040. Salah satu industri skala kecil yang berpotensi memberikan kontribusi terhadap kerusakan lingkungan yakni O'ndut *bakery*, memproduksi berbagai macam jenis roti diantaranya roti isi, dalam 1x produksi menghasilkan 766 pcs roti. Proses pembuatan roti isi banyak melibatkan penggunaan bahan baku, mesin dan sumber energi yang berdampak terhadap lingkungan. Penelitian ini bertujuan untuk menganalisis dampak lingkungan pada produksi roti isi dengan metode *life cycle assessment* (LCA) berbasis *CML Baseline* dan *Eco Indicator 99*. Metode penelitian menggunakan kerangka *life cycle assessment* (LCA). Analisis ini terbagi menjadi dua kategori meliputi kategori dampak akibat bahan baku dan dampak yang berhubungan langsung dengan O'ndut *bakery*, namun fokus pada penelitian ini yaitu dampak yang berhubungan langsung dengan O'ndut *bakery*. Berdasarkan hasil analisis *life cycle assessment* (LCA) berbasis *CML Baseline* diketahui untuk kategori dampak terbesar yaitu *photochemical oxidation* dengan nilai $4,26E-13$ Kg C²H⁴, sedangkan basis *Eco Indicator 99* menunjukkan kategori dampak *climate change* dengan nilai $9,61E-6$ DALY.

Kata Kunci : *Life Cycle Assessment, Lingkungan, Roti Isi*

Aizetul Falah. NIM 210331100037. *Life Cycle Assessment Analysis of Stuffed Bread Production at O'ndut Bakery, Central Java. Under the guidance Dr. Millatul Ulya, S.TP., M.T dan Dr. Moh. Fuad Fauzul Mu'tamar, S.TP., M.Si*

ABSTRACT

Life cycle assessment (LCA) is one method that can be used to analyze environmental impacts. The LCA method is widely used in large and small-scale industries, in the industrial world it is regulated by ISO 14000, especially 14040. One of the small-scale industries that has the potential to contribute to environmental damage is O'ndut bakery, producing various types of bread including stuffed bread, in 1x production producing 766 pieces of bread. The process of making stuffed bread involves the use of many raw materials, machines and energy sources that have an impact on the environment. This study aims to analyze the environmental impact on the production of stuffed bread using the life cycle assessment (LCA) method based on CML Baseline and Eco Indicator 99. The research method uses the life cycle assessment (LCA) framework. This analysis is divided into two categories including the category of impacts due to raw materials and impacts directly related to Ondut bakery, but the focus of this study is the impact directly related to O'ndut bakery. Based on the results of the life cycle assessment (LCA) analysis based on CML Baseline, it is known that the largest impact category is photochemical oxidation with a value of $4.26E-13 \text{ Kg C}^2\text{H}^4$, while the Eco Indicator 99 basis shows the climate change impact category with a value of $9.61E-6 \text{ DALY}$.

Keywords: Life Cycle Assessment, Environment, Stuffed Bread