The circular economy (CE) lacks a standardized definition, frequently described as combining reduce, reuse, and recycle activities. ADEME defines CE as an economic model analyzing product life cycles to increase resource efficiency, reduce environmental impact, improve well-being, decouple economic growth from resource consumption, and satisfy individual desires. The Ellen MacArthur Foundation characterizes CE as an industrial system inherently restorative or regenerative by design, replacing the 'end-of-life' concept with restoration, aiming to eliminate waste through superior design for maximum efficiency, using renewable energy, and avoiding toxic chemicals. Academically, CE is an alternative to the linear model, focused on improving well-being, preserving the environment, and reducing natural resource use. CE operates across three main areas—supply from economic actors, demand and consumer behavior, and waste management (with recycling being essential)—leveraging technological innovations for efficient waste management and clean energy, and organizational innovations like industrial ecology, product life extension, and responsible purchasing. The CE concept aligns with Karl Ludwig Von Bertalanffy's 'general systems theory,' which emphasizes interdisciplinarity and the interaction of key players toward a common goal, offering sustainable solutions. This is evident in CE through manufacturer interactions that extend product life cycles and consumers' responsible purchases, contributing to environmental protection and cost reduction. Industrial ecology, or industrial symbiosis, is a crucial element. Its prerequisite, industrial metabolism, studies material and energy flows in industrial systems. Industrial ecology builds on this by aiming to make industrial systems compatible with biological ecosystems. Industrial symbiosis embodies this, with companies collectively exchanging materials, energy, water, and by-products, turning one company's waste into another's resource for competitive .advantage

lakhasly.com © تم تلخيص النص بواسطة موقع لخصلي