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# **The Role of Green Packaging in International Logistics: Opportunities, Challenges, and Case Studies**

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## **Abstract**

The increasing environmental concerns and sustainability goals have made certain regulations and practices mandatory in logistics management. In this context, an important practice is the use of sustainable materials and designs in the packaging of goods that are safe for human health and the environment, also known as ‘eco-friendly packaging’, ‘sustainable packaging’, or ‘recyclable packaging’. This study conceptually examines the opportunities and implementation challenges that green packaging offers in international logistics processes within the framework of existing theoretical approaches and practical examples. The study first addresses the conceptual framework of green packaging and then evaluates its advantages such as load optimization that increases container and vehicle utilization rates in air and sea transportation, the prevention of over-packaging in e-commerce and last-mile delivery, and reusable packaging systems within the scope of reverse logistics. In addition, the cost increases, risks in product protection performance, supply chain adaptation processes, and differences in legislation between countries that companies face during the transition to green packaging are also discussed. At the end of the study, practical recommendations are presented for logistics companies and exporting businesses, and evaluations are made regarding the future role of green packaging.

**Keywords:** Circular Economy; Green Logistics; Packaging Waste; Reverse Logistics; Sustainable Supply Chain