

Theme 1: Innovative Business Models

Take-Back Programs: Opportunities and Challenges

This panel will include representatives from the RBRC and CARE, two associations that have taken a voluntary approach to product take-back and promoting recycling. It will also include a solid waste manager from Washington, the first state to enact producer responsibility for e-waste, and a resource recovery manager from P2AD. The discussion will be on the advantages and disadvantages of different product recovery models, the implications for manufacturers and consumers, and barriers and opportunities related to different models today.

Capturing Value from Commercial Returns

Commercial product returns, products that are returned by customers typically within 90 days of purchase, are estimated at \$100B annually in the US, and are a growing concern for retailers and manufacturers. Designing, planning and controlling the reverse supply chains to process and resell returns is often seen as a burden, and the focus has traditionally been on cost-minimizing efficient systems where a lot of the product value is lost. Some companies have started to recognize that supply chain management principles like responsiveness and agility can serve them well in reverse supply chains if applied to the right products and markets. In this panel, we will explore strategies to maximize the value recovered from commercial returns.

Business Strategies for Profitable Remanufacturing

There is a growing market for remanufactured products in the US and globally. Examples of remanufactured products include automotive parts, cranes and forklifts, furniture, medical equipment, pallets, personal computers, photocopiers, telephones, televisions, tires and toner cartridges, among others. For many firms, the remanufactured product is a low-price substitute for the new product and is targeted at low-income customers. Sales of remanufactured product may cannibalize some of the sales of the firm's new product. This fear of cannibalization keeps many firms from realizing remanufacturing opportunities. This fear is often without warrant however, if firms first determine the target customer segments and product prices for both products jointly to maximize profit. This session focuses on answering the following questions: "How do firms view remanufacturing?"; "What issues do they face if they decide to remanufacture and sell their own products?" and "How should businesses develop a remanufacturing strategy that increases shareholder value?"

Theme 2: Globalization

Sustainable Global Logistics and Reverse Logistics

This panel will address the energy and environmental issues in the global transport of goods. The manufacture, use, and recycling or refurbishment of a product may all involve transcontinental transport. Global production and recycling systems can be more efficient than local systems. But global product recycling can have greater environmental and energy impacts. The discussion will include a case study from Ford Motor Company.

The Market Impact of International Regulation

Environmental regulation in recent times has focused on goal-oriented and market-based policies such as the Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) directives in the EU, the Sulfur Dioxide emissions trading program in the USA and the Greenhouse Gas emissions trading program in the EU. Such policy-making on a global scale is redefining the landscape of business, including the markets in which businesses operate. This session will focus on addressing pertinent questions related to the market impact of international regulation. Questions for discussion include the following: What is the impact of international environmental regulation on the market dynamics of products, particularly with respect to the nature and rate of technological innovation (noting that markets are often disparate in the nature and stringency of environmental regulation), the management of product life-cycles (recognizing cascade use options - reuse, remanufacture, recycle), and product pricing (including product/service bundling options)? What is the impact of such regulation on industrial organization? Are there incentives for companies to integrate vertically/horizontally to better control the inputs and outputs of manufacturing processes? Are there increased incentives for collaborative efforts both locally and globally in R&D and supply chain management?

Theme 3: Material and Design Innovations

Bio-based materials: Implications for Product Re-X

There are many exciting developments in bio-based materials. Currently, the business and regulatory environment is based around non-bio materials. For example, the Basel convention bans the export of toxic waste such as that found in PCs. There is a healthy second-hand market in IT equipment based on the durability of some components beyond first use. A number of companies have developed successful strategies of introducing a remanufactured product line. This panel will discuss how the development of bio-based materials may change the conventional business models and the regulatory environment around product re-X. For example, how will these materials affect the durability of the products, and in turn the structure of second-hand markets? Will these materials lend themselves to easier/harder disassembly and refurbishing? What does the reduction of toxic materials in electronics mean for local recycling versus export?

Design for Product Re-X

In this panel, we will discuss product design innovations that facilitate product reuse, remanufacture, and/or recycling, as well as new design tools that support design for product re-x. Barriers to implementing design for re-x will also be discussed.

Theme 4: Economic Development

Opportunities in Reuse and Recycling

If materials are only collected and then processed but not turned into new products, then the majority of the economic benefit is lost.

(California Integrated Waste Management Board)

Studies have shown the manufacture of recycled goods increases the economic impact of recycling collection and processing fourfold. Product recycling can be used as part of a larger industrial development effort to bring higher wage jobs to a region. Further, depending upon the mode of recyclables collection, the “green collar” jobs created can involve job training for persons from distressed communities.

This panel will focus on ways that diversion of materials through recycling and reuse can promote economic development and the improvement of communities. Sometimes referred to as waste-based development, recycling and reuse industries create jobs, as well as private and public revenue; provide small business development opportunities and job training outlets; and reduce landfill expansion and waste export needs. In particular, panelists will focus on private and public sector efforts to promote waste-based development and explore how public-private partnerships can be created or strengthened to maximize this economic and social benefit.