

Sustainability in Pharmaceutical Packaging & Delivery 2024

Mapping the Future of Net Zero Packaging & Supply Chains

September 23-24, 2024, Philadelphia PA

Featuring Lessons Learned & Case Studies from Industry Experts



Tom Szaky
TerraCycle



Matthew Hall
Corning Pharma Technologies



Chandana Kolluru
Boehringer Ingelheim



Jakob Lange
Ypsomed AG



Arne Kloke
Schott Pharma



Noreen Huma
Kintsugi Alliance



Duncan Paterson
AstraZeneca



Paul Kearns
Anthesis Group



Silvia Luebben
Sust-Chem



David Seitz
Former Amgen



Rachel Hogan
AMCOR



Kiley Djupstrom
thePACKout



Joseph Salerno
Innovative Bottles



Charlie Dean
Cambridge Consultants



Peter Welchman
MettCover Global



Mikey Pasciuto
Scrapp, Inc.



Jessica Buday
Corning Pharma Technologies



Dirk Lovelace
CCL Healthcare



Dan Cowen
Cambridge Consultants

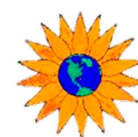


Shantu Patel
Innovative Bottles

And Comprehensive Coverage On:

- Are You Prepared for The Coming Packaging Regulations?— Bans, EPR, Taxes, Recycled Content, and Environmental Labeling Requirements
- Sustainable Pharmaceutical Packaging: Key Considerations for a Holistic Packaging Design
- Cost-Competitive Bioplastics for Sustainable Packaging
- Sustainable Packaging in the Cold Chain
- How Lightweight Packaging Can Reduce Pharma's Carbon Footprint
- Sustainable Pharma: Advancing Goals with Innovative Glass Vials
- Deploying Life Cycle Assessment (LCA) Into Combination Product Development
- Sustainability Strategies for Injectables: Designing for the Circular Economy
- Empowering Sustainable Packaging: Shaping the Future of Pharma
- Sustainable Solutions for a Highly Regulated Industry
- Responsible Waste Management Practices for a Sustainable Industry
- How a Product Lifecycle Assessment Can Support Sustainability Objectives
- Integrating Flexible & Biodegradable Packaging into Your Processes
- Completing the Circle—Keys to Supply Chain Sustainability
- And More!

With Representation From:



Contact: Kim Hubbard
khubbard@pharmaedresources.com or call (217) 721-5774

Pharma Ed's Sustainability in Pharmaceutical Packaging & Delivery 2024 is Sponsored by:

Silver Sponsors



Event Sponsors



Monday, September 23, 20247:15 *Complimentary Breakfast & Registration Check-in*8:15 *Chairperson Welcome and Opening Remarks*8:20 **How Can Packaging Goals Help Reduce Climate and Environmental Impacts?****Paul Kearns, Director and Service Line Leader –Sustainable Packaging, Anthesis Group**

For the longest time, we have been taught to reduce, reuse and recycle packaging as a strategy to reduce waste that goes to landfills. Now, as mitigating the effects of climate change has become a global imperative, many are asking for a holistic assessment of the climate and environmental impacts of the many packaging choices available today.

This session will begin with a review of the role of packaging and then use life-cycle principles to help bring clarity to questions such as: paper vs plastic, recycle vs compost vs landfill, recycled vs virgin content, single-use vs reuse, and how to lightweight. It will conclude with a proven methodology for setting packaging goals that balance multiple stakeholder concerns.

Spotlight on Consumer Perspectives9:05 **Patient Voices on Sustainability of Delivery Devices****Jakob Lange, VP & Head of Account & Business Development, Ypsomed AG**

This presentation will summarize our findings from extensive online surveys of patient preferences regarding sustainability in general and delivery devices in particular. Key takeaways include:

- Single use systems with re-usable options, including mechanical and electromechanical designs
- Which environmental factors are the most important to patients
- Results show that patients do perceive differences between device options, but not always the ones you would expect

9:50 *Networking Coffee Break***Conference Keynote**10:20 **Sustainable Solutions for a Highly Regulated Industry****Tom Szaky, Founder & CEO, TerraCycle**

Join us for a discussion with Tom Szaky, Founder & CEO of TerraCycle, about how his company manages the complex world of waste—as well as solutions that complement the current regulatory environment and recycling challenges. Tom will give an overview of TerraCycle's business and how they are finding ways to achieve sustainability in packaging across supply chains. He will touch on current trends and issues that are shaping the future of the packaging, manufacturing, and waste management industries, and why a collaborative approach will be crucial for navigating this uncertainty.

Technology Spotlight—Next Generation Packaging to Achieve Sustainability Goals11:05 **Sustainable Pharma: Advancing Goals with Innovative Glass Vials****Matt Hall, PhD, Technical Affairs Director, Corning Pharmaceutical Technologies, & Jessica Buday, Product Line Manager, Viridian and Velocity Vials, Corning Pharmaceutical Technologies**

It's been acknowledged that the pharmaceutical industry is a leading contributor to greenhouse gas emissions, even higher than the automotive industry. In response, drug makers are setting aggressive sustainability goals and looking to suppliers to jointly combat this immediate and urgent problem.

Achieving these targets will require several solutions, including improved approaches to pharmaceutical supply chain management. Primary packaging materials represent one area of opportunity for reducing emissions, where glass manufacturing is an energy intensive process and more than 100,000 tons of pharmaceutical glass packaging go to landfills each year. This presentation will consider key stages in the life cycle of glass packaging, including raw materials, melting, forming, fill & finish, etc. and their potential to reduce the environmental impact. Strategies being employed by pharmaceutical glass suppliers to improve the sustainability of their products will also be reviewed, including innovative product designs that reduce material waste.

11:50 Complimentary Lunch, sponsored by

1:00 **Empowering Sustainable Packaging: Shaping the Future of Pharma****Dirk Lovelace, CCL**

In the pharmaceutical industry's quest for sustainability, the focus is on eco-friendly packaging, utilizing bio-based films, FSC certified papers, and post-consumer recycled materials. CCL Healthcare champions this cause with technologies that reduce waste and optimize resource use. The discussion will cover how these practices lower energy use and CO2 emissions, aiding in the reduction of the industry's carbon footprint. Attendees will learn actionable strategies for implementing sustainable packaging, emphasizing the importance of designing their packaging to enable recycling and material reduction. The goal is to inspire a shift towards greener packaging solutions, contributing to the pharmaceutical industry's sustainable future.

1:20 **Sustainable Pharmaceutical Packaging: Key Considerations for a Holistic Packaging Design****Chandana Kolluru, Principal Expert, Device Innovation and Sustainability, Boehringer Ingelheim Animal Health**

Sustainable packaging for pharmaceuticals is no longer a mere trend, it's a critical necessity. This presentation will delve into the following key considerations for a holistic packaging design: Packaging material, distribution costs, product protection, market acceptance and user centricity. Recommendations for types of sustainable materials, focusing on the move from fossil-based raw materials to renewable raw materials based on Life Cycle Assessments will be provided. Lowering of distribution costs by right sizing lightweighting and streamlining logistics, providing product protection to ensure safe and effective medication throughout the lifecycle, influencing consumer behavior by prioritizing eco-consciousness and user centric designing will also be covered. By focusing on a holistic eco-design, we can create packaging that benefits both the patients and the environment.

2:05 **Cost-Competitive Bioplastics for Sustainable Packaging****Silvia Luebben, CEO & Founder, Sustainable Chemicals LLC**

Sust-Chem was established to address the catastrophic global plastic pollution crisis. Worldwide plastic usage contributes to 13% of CO2 emissions and 20% of oil consumption. Annually, oceans are flooded with 8 million tons of plastics, and by 2050, plastic could outweigh fish in the oceans. Despite decades of advocating plastic recycling as the solution, only 9% of global plastic gets recycled. Non-biodegradable plastics degrade into harmful microplastics contaminating food and water, posing toxicity. On average, a person consumes a tablespoon of microplastics weekly. Therefore, plastics need to be replaced with sustainable alternatives that are 100% biodegradable and have a low carbon footprint. Among all plastic types, polyolefins such as polyethylene (PE) and polypropylene (PP) have the largest market volumes, are major contributors to ocean pollution and make up 52% of microplastics found in sediments.

Sust-Chem develops and commercializes innovative and patented bioplastics to substitute high-volume petrochemical plastics (e.g., PE, PP) in items like bags, packaging, and toys. Our bioplastics are made from a biobased raw material that is cheaper than the raw materials used to make petrochemical plastics such as polyethylene and polypropylene, providing us with a tremendous competitive advantage. Our bioplastics have a benign end-of-life whether recycled, or accidentally dispersed in the environment. Our bioplastics are designed to have tunable mechanical properties and can be used to replace both amorphous (soft and flexible) and semi-crystalline (rigid) petrochemical plastics. Afternoon Networking Break

3:20 **How Lightweight Packaging Can Reduce Pharma's Carbon Footprint****Noreen Huma, Senior Supply Chain Sustainability Advisor, Kintsugi Alliance**

Lightweight packaging options should form the basis of any holistic supply chain strategy aimed at reducing Pharma's carbon footprint. Lightweight packaging contributes to the reduction of resource extraction and energy consumption across the supply chain. Through examples drawn from industry, this talk will focus on four key takeaways:

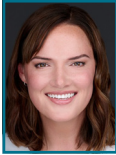
- **Material Efficiency:** Lightweight packaging designs use fewer materials compared to traditional packaging
- **Manufacturing Process:** The production of lightweight packaging requires less energy compared to the production of heavier packaging materials

- **Transportation Efficiency:** Lightweight packaging is lighter in weight, which directly impacts transportation efficiency
- **Life Cycle Analysis:** Lightweight packaging often has a lower environmental impact throughout its life cycle compared to heavier packaging

4:05

Day One Roundtable—Setting & Meeting Sustainability Goals for Pharma

Moderator: Kiley Djupstrom, thePACKout



Panelists:

Charlie Dean, Cambridge Consultants

Duncan Paterson, AstraZeneca

Discussants:

TBA

The Audience

4:50

Happy Hour Mixer

Join us in the hotel bar to relax, unwind, and informally network. Complimentary appetizers provided.

Tuesday, September 24, 2024

7:15

Complimentary Breakfast

8:15

Let's Turn it Green—Decarbonizing Drug Containment and Delivery

Arne Kloke, Head of Service & Sustainability, Schott Pharma, & President, Alliance to Zero



Abstract Coming Soon

Regulatory Spotlight

9:00

What You Need to Do to Prepare for The New Packaging Regulations: Bans, EPR, Taxes, Recycled Content, and Environmental Labeling Requirements

Paul Kearns, Director and Service Line Leader—Sustainable Packaging, Anthesis Group



Packaging has been the subject of increasing regulation for the last several decades. Regulatory themes that were once only “over there” are now becoming popular “over here.” This session will explore the ma-

for themes applicable to pharmaceutical packaging including bans, taxes, extended producer responsibility, recycled content, and environmental labeling. It will conclude with a proven methodology for understanding compliance costs and strategies for moving beyond compliance.

9:45

Morning Networking Break

Critical Issues—Integrating Lifecycle Assessments into Product Development

10:15

Deploying Life Cycle Assessment (LCA) Into Combination Product Development

Charlie Dean, Head of Sustainable Medical Technology, Cambridge Consultants



Conducting environmental impact assessments on drug combination products can be time consuming and costly. This talk showcases how to deploy LCA in an effective manner, to generate the most valuable insights at the right time with the least effort. Starting with the use of screening lifecycle assessments to lead into more detailed targeted and comprehensive LCAs focused on the areas of greatest environmental impact. Key takeaways include:

- Using a body-worn injector case study to demonstrate a methodical and systematic approach to sustainable device development
- Scaling LCA rigor to match product development stages
- Generating insights to effectively navigate trade-offs

11:00

Sustainability Strategies for Injectables: Designing for the Circular Economy

Dan Cowen, Senior Consultant, Cambridge Consultants



Management of medical waste is a significant challenge for the healthcare industry, and this is particularly relevant for injected therapies. With the majority of waste still being incinerated or sent to landfill, there is an ever-increasing pressure on the industry to divert waste to more sustainable end-of-life processing options. This talk discusses the various end-of-life options, such as recycling, remanufacturing, and reuse and how to choose the appropriate option for a given product. Key takeaways include:

- Making sense of the circular economy for combination products
- Achieving significant reductions in environmental impact through design for product end of life
- Designing products for commercially viable waste management methods

11:45

Eco Vials Gen X Pharmacy Bottles



Shantu Patel MD, Chief R&D Officer, & Joseph Salerno, CEO, Innovative Bottles, Inc.

This presentation introduces our plant-based vials for pharmaceutical packaging. Eco Vials are:

- First plant base pharmacy bottles with reduced carbon footprint
- Environmentally friendly pharmacy bottles that meet FDA standards
- Compostable, recyclable and biodegradable

12:05

Complimentary Lunch, sponsored by



1:10

How a Product Lifecycle Assessment Can Support Sustainability Objectives



Rachel Hogan, Flexibles R&D Sustainability Engineer, Amcor

Meeting sustainability goals can seem daunting when considering where to start or what specific modifications to make for the greatest overall impact.

Life Cycle Assessment programs provide a tool to better understand how modifications to packaging systems can influence carbon emissions and other sustainability metrics for a particular product or package.

Amcor's Advanced Sustainability Stewardship Evaluation Tool (ASSET™) is an independently verified LCA system that compares different packaging options throughout their life cycles using a variety of metrics including energy demand, carbon footprint and water consumption. This presentation will cover several examples of how carbon footprint and other metrics can be reduced through the selection of packaging materials and package design.

Key topics will include:

- Overview of sustainability levers for pharmaceutical packaging
- How LCA Tools can be used to measure impact
- Real-world examples of LCAs using Amcor's ASSET™ tool

Spotlight on Waste Management & Cold Chain Sustainability

1:55

Responsible Waste Management Practices for a Sustainable Industry



Mikey Pasciuto, Co-founder, Scrapp, Inc.

In this presentation we will address the growing field of Sustainable Waste Management & how your organization can implement efficient and responsible practices both onsite and on the shelf. We will focus on three core tenants:

- Sustainable Packaging Design and what resonates with customers while protecting the product
- Sustainable Waste Management practices throughout facilities and what is best for your organization
- Pursuing Zero Waste, what it means, how to get there, and where to start

2:40

Sustainable Packaging in the Cold Chain



Peter Welchman, Head of Sales, Mettcover Global

Net zero cold chain packaging is likely unachievable. However, sustainable cold chain packaging can be accomplished with the right perspective and plan. This presentation will focus on what companies, consumers and governments can do to reimagine the cold chain in sustainable ways. Key topics to be covered include:

- Industry updates: Dry Ice shortage, route flexibility, real-time monitoring, natural fiber development
- Case studies in circular logistics—where sustainable cold chain is working
- Regulatory incentives: current and future prospects

3:35

Close of Program



PharmaEd Resources, Inc. • 2810 Robeson Park Drive • Champaign, IL 61822

About your conference destination:

Located in Philadelphia (Center City), Wyndham Philadelphia Historic District is within a 10-minute walk of Liberty Bell Center and Independence Hall. This eco-friendly hotel is 0.9 mi (1.4 km) from Pennsylvania Convention Center and 1 mi (1.5 km) from Reading Terminal Market. Enjoy recreational amenities such as an outdoor pool and a 24-hour fitness center. Additional features at this hotel include complimentary wireless Internet access, concierge services, and gift shops/newsstands. Featured amenities include a business center, complimentary newspapers in the lobby, and dry cleaning/laundry services. Self-parking (subject to charges) is available onsite. Enjoy American cuisine at Coins Restaurant and Pub, a restaurant which features a bar/lounge, or stay in and take advantage of the room service (during limited hours).



Registration Information

Register for the conference using one of three options:

Online: www.pharmaedresources.com Phone: (217) 721-5774

Mail: 2810 Robeson Park Drive, Champaign, IL 61822

Please Complete the Following

FIRST NAME: _____

LAST NAME: _____

TITLE: _____

COMPANY: _____

ADDRESS: _____

ADDRESS: _____

CITY: _____ STATE: _____

ZIP: _____ COUNTRY CODE: _____

OFFICE PHONE: _____

MOBILE PHONE: _____

FAX: _____

E-MAIL: _____

VENUE INFORMATION:

Dates: **September 23-24, 2024**
 Venue: **Wyndham Philadelphia Historic District**
 Venue Address: **400 Arch Street
 Philadelphia, PA 19106**
 Venue Phone: **215-923-8660**

Please register me for:

Sustainability in Pharmaceutical Packaging & Delivery, 2024

Standard Registration	\$1,595
Early Bird Registration (by August 10)	\$1,395
Call for government, academic, or non-profit rate	

PAYMENT METHOD

CREDIT CARD REGISTRATION:

CREDIT CARD VISA MASTERCARD AMEX

NAME: _____

CARD #: _____

EXPIRATION: ____ / ____

SIGNATURE: _____

BILLING ADDRESS: _____

CHECK REGISTRATION:

To pay by check, please provide a purchase order below. Please note that all payments must be received five (5) days prior to the conference to ensure space. Attendees will not be admitted to the conference without full payment.

PURCHASE ORDER #:

PLEASE NOTE:

PharmaEd Resources does not offer refunds. However, if you cannot attend after registering, we are happy to apply your registration fee to another PharmaEd Resources event, or transfer your registration to a colleague. Notice of cancellation must be received at least 5 days prior to the event.