

# The Role of R&D in Driving Product Sustainability and Growth

A Six-Year Amcor Journey to Change an Industry

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April 16, 2024



# Where We Started



Global  
Commitment



2018: Develop all our packaging to be recyclable, reusable, or compostable by 2025...but no plan



2019: Integration of two companies and two very different R&D cultures. Plan created!

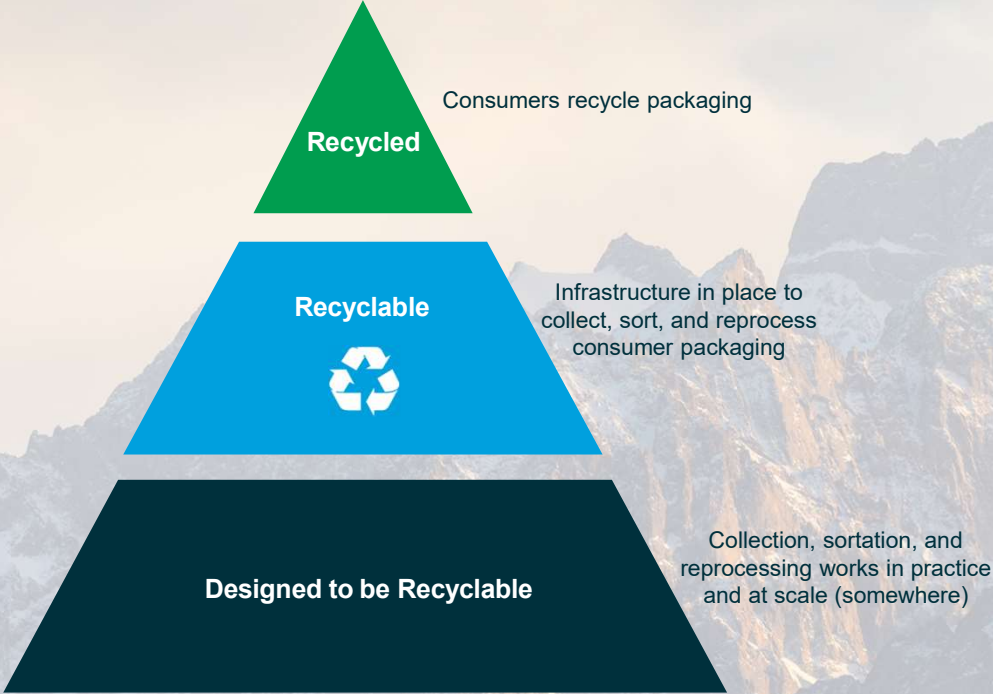


# Timeline in Review



Organized 600 engineers, >\$250M spend, over 6 years in a \$15B global business

# Defining Progress



- R&D plays a crucial role in packaging design, the first enabler for a circular economy
- There is no global definition of ‘recyclable’



Project Barrier from Ellen MacArthur Foundation provided a global guide to design flexible packaging

- Success needs to be measured on progress. Starts with creating alternative designs for customers
- ‘Recycle ready review’ incorporated into development process. Smart phone 5G analogy.

# Building a Framework for Success



**Global Innostreams**  
Focused on developing enabling technologies

**Steering Committee**  
Prioritize and leverage global sustainability knowledge

**Regional Teams**  
Implement technology to develop a more sustainable product portfolio; set pricing

**Customers**  
Commit to more sustainable packaging

How do we get thousands of products to be more sustainable?

# How We Globally Leverage Technology

- Understand technical details of new products developed in regions
- Share best practices (and challenges!) of product development and share product attributes
- Foster collaboration between the regional experts to ensure that products can be globally leveraged



# Customer Collaboration and Product Development

- R&D launched key platforms focused on sustainability: AmLite™, AmPrima™, AmSky™, AmFiber™
- Thousands of new recycle ready products have been created since 2021
- Challenge in navigating third party certifications



Amcor Catalyst™ Customer Experience



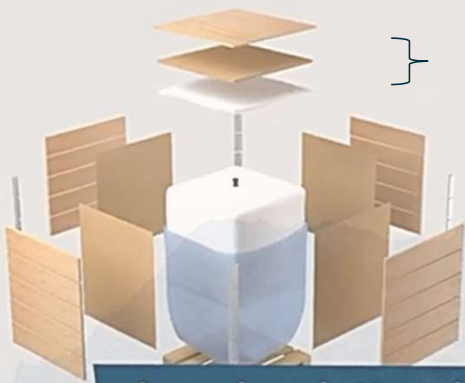
# Advanced Recycling – A Collaboration Story

- **GreenDot:** Procured post-consumer plastic packaging scrap, transformed into pyrolysis oil using **Plastic Energy's** technology
- **Ineos Olefins & Polymers Europe:** Utilized the pyrolysis oil as an alternative to naphtha, a traditional fossil feedstock, to produce recycled propylene and then, virgin-quality recycled polypropylene resin
- **Irplast S.p.A.:** Transformed the recycled resin into biaxially oriented PP films (BOPP)
- **Amcor:** Converted the films into printed packaging, ensuring technical performance for PepsiCo.



# A Sustainability Story

Dunnage eliminated with multilayer barrier pouch



Amcor has a better solution that proves **LESS is MORE...**



flex crack

Flex cracks allow oxygen ingress that reduces product quality and shelf life



 -33% water consumption	 -29% primary energy demand	 -25% carbon footprint
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# Journey Accelerated Globally Leveraging Solutions

- Leveraging new products across country borders was key to accelerating adoption
- Regional teams were hesitant to offer a product to customers that couldn't be locally manufactured
- Mindset change was needed to get regional teams to accept solutions from outside their regions
- Established an intra-company pricing policy and product transfer process



# Additional Challenges Along the Way

- Reconciling manufacturing capital investments prior to demand
- Understanding pricing
- Business aspirational ideas versus aligning with customers on their journey
- Very small volume outliers

## Very Small Volume Outliers

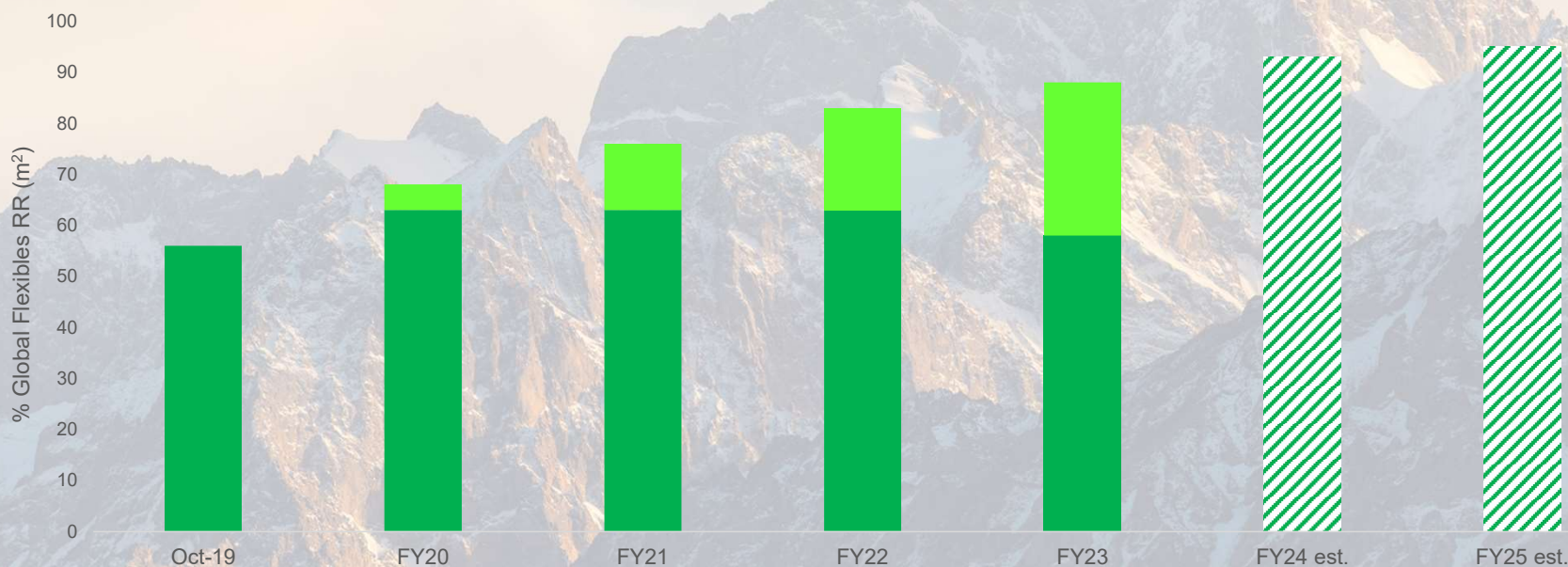




## Customer Pouch

- Annual production run time measured in hours (~1 hr/change-over)
- Requires very high moisture and odor barrier
- Alternative technologies expensive to develop and costly
- No customer interest in paying for a RR structure
- However, R&D ready to move if customer moves

# Solid Progress with the End in Sight

R&D continues to push the portfolio closer to the 2025 goal with new recycle ready products available to customers



-  **Designed for RR:** alternate recycle ready (RR) product ready to trial with customers
-  **RR Sales:** produced at scale and sold to customers



# Path Ahead

- R&D has positioned Amcor well for the circular economy
- Establishing portfolio maintenance program to ensure healthy level of recycle ready products
- Third party partnerships for circularity demonstrations (PCR)
- Strategically looking at next generation of lower cost designs
- Looking to create lower carbon solutions