Here is a second second



A better way to cook.



Closing the Loop Engineering a Sustainable Packaging Experience



SUSTAINABILITY at Blue Apron



A commitment to reducing food waste, and setting sustainable standards for ingredient sourcing.

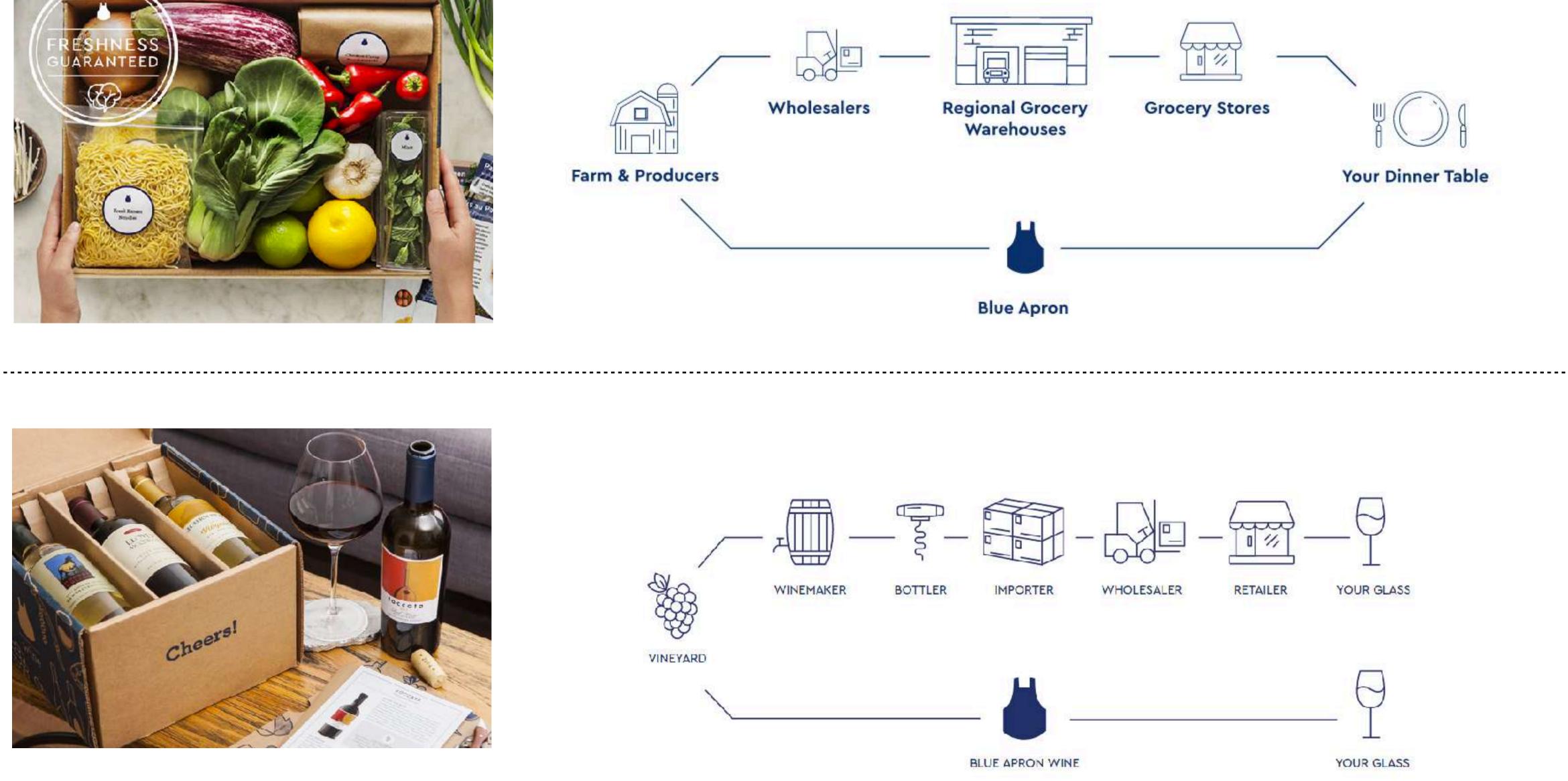


In 2019, Blue Apron reached it's 2030 goal by reducing food waste by over 53% in just 2 years.

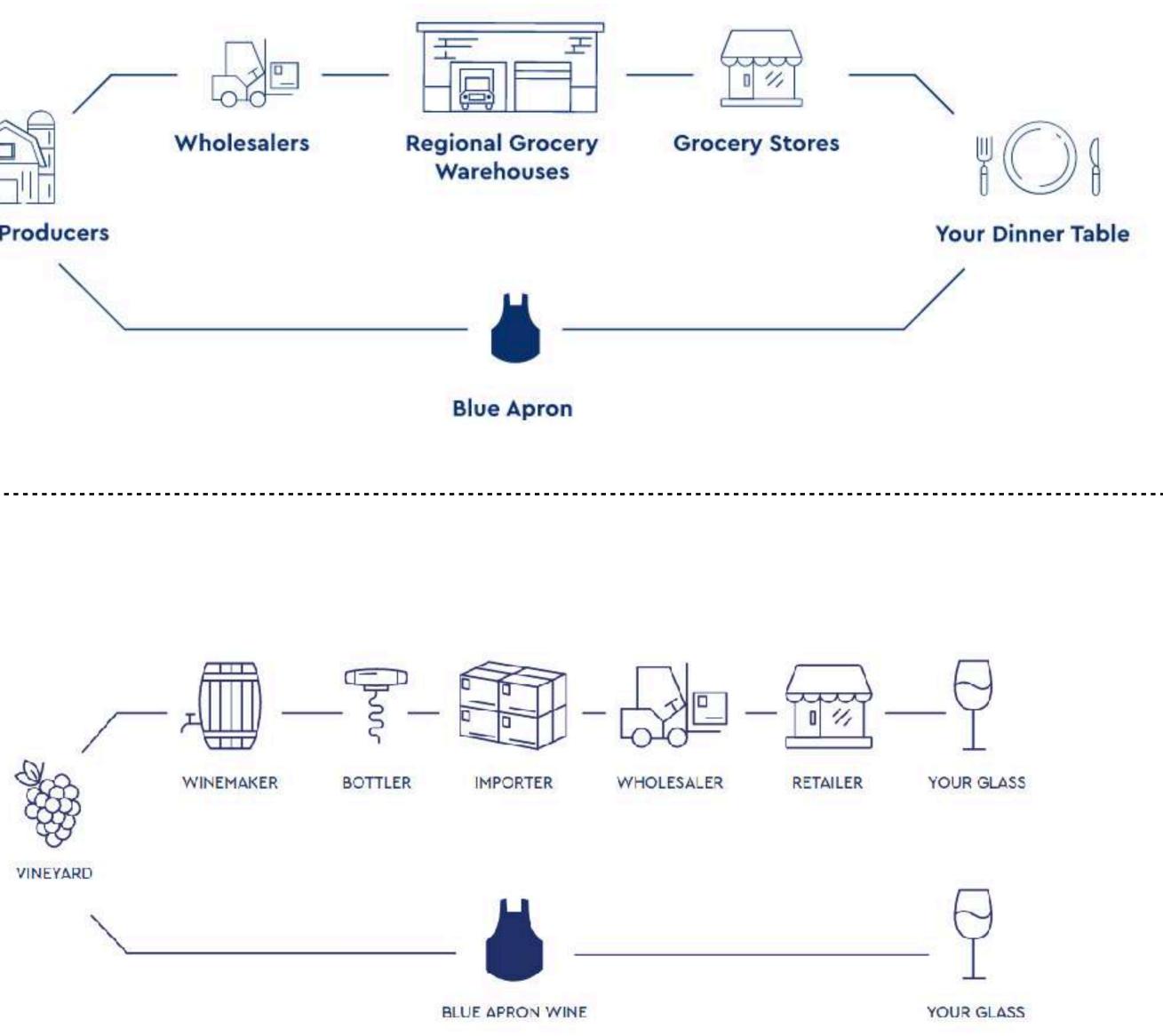


USDA & EPA Program U.S. Food Loss and Waste 2030 Champions









PACKAGING at Blue Apron

Dynamic Packaging Portfolio

- 500+ unique ingredients
- Product changes every week
- Shelf life requirements
- Cold-chain requirements
- Ingredient storage requirements
- Temperature zones within the box
- Shipping in multiple temperature geographical zones



PACKAGING

Simple

operations and efficacy

- Automation capable \bullet
- Superior shelf life
- Protection \bullet
- \bullet

Ensure all ingredient and cold chain packaging address customer and operational requirements

- Easy open
- Simple messaging \bullet
- Customer engagement \bullet
- Simple to produce in dynamic \bullet environment

Streamlined

Packaging optimized for functionality, cost,

Efficient thermal protection

Sustainable

Design with the end in mind! Customize packaging per recommended guidelines

- Recyclable
- PCR content \bullet
- Product to packaging ratio \bullet
- **Bio-based content** \bullet





CHALLENGES





INNOVATION

Improving the sustainability of meal kit packaging through industry-wide partnerships









85% of the Blue Apron packaging is recyclable





CHALLENGES

ENVIRONMENT JUNE 4, 2017

The Truth About Meal-Kit Freezer Packs

They're big. They're filled with goo. And they're rapidly accumulating in a landfill near you.



KIERA BUTLER Senior Editor Bio | Follow

The stuff inside freezer packs is made from the same stuff as fossil fuels, and it doesn't biodegrade. Meal-kit companies assure their customers that the freezer-pack goo is nontoxic. That's true. But while sodium polyacrylate poses little to no danger to meal-kit customers, it's a different story for the people who manufacture the substance. (Meal-kit companies typically contract

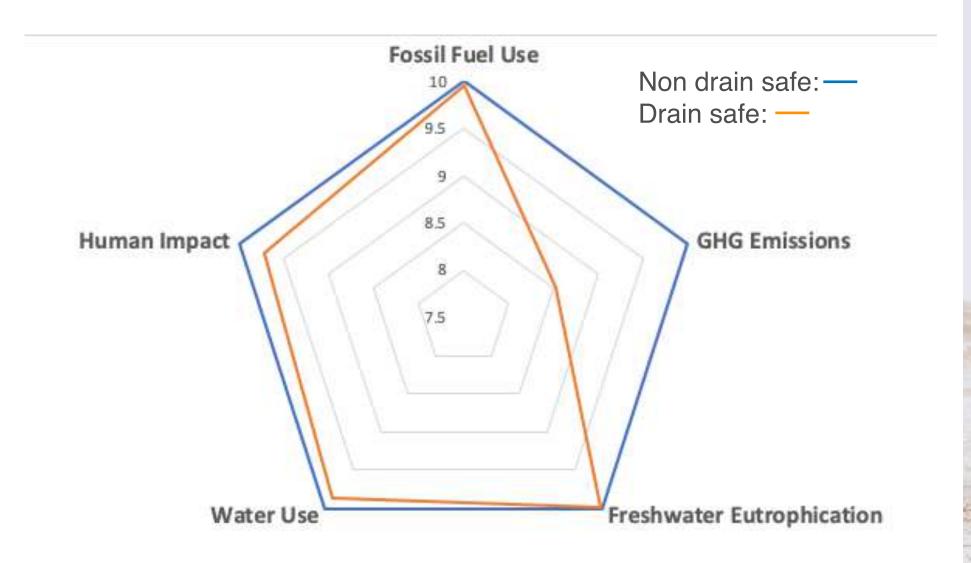
with freezer-pack manufacturers rather than making their own.) In its powdered state, it can get into workers' lungs, where it can cause serious problems. The Centers for Disease Control and Prevention noted in 2011 that workers in a sodium polyacrylate plant in India developed severe lung disease after inhaling the powder. Animal studies have shown that exposure to high concentrations of sodium polyacrylate can harm the lungs. Because of these known risks, some European countries have set limits on workers' exposure to sodium polyacrylate.





DRAIN-SAFE GEL PACKS

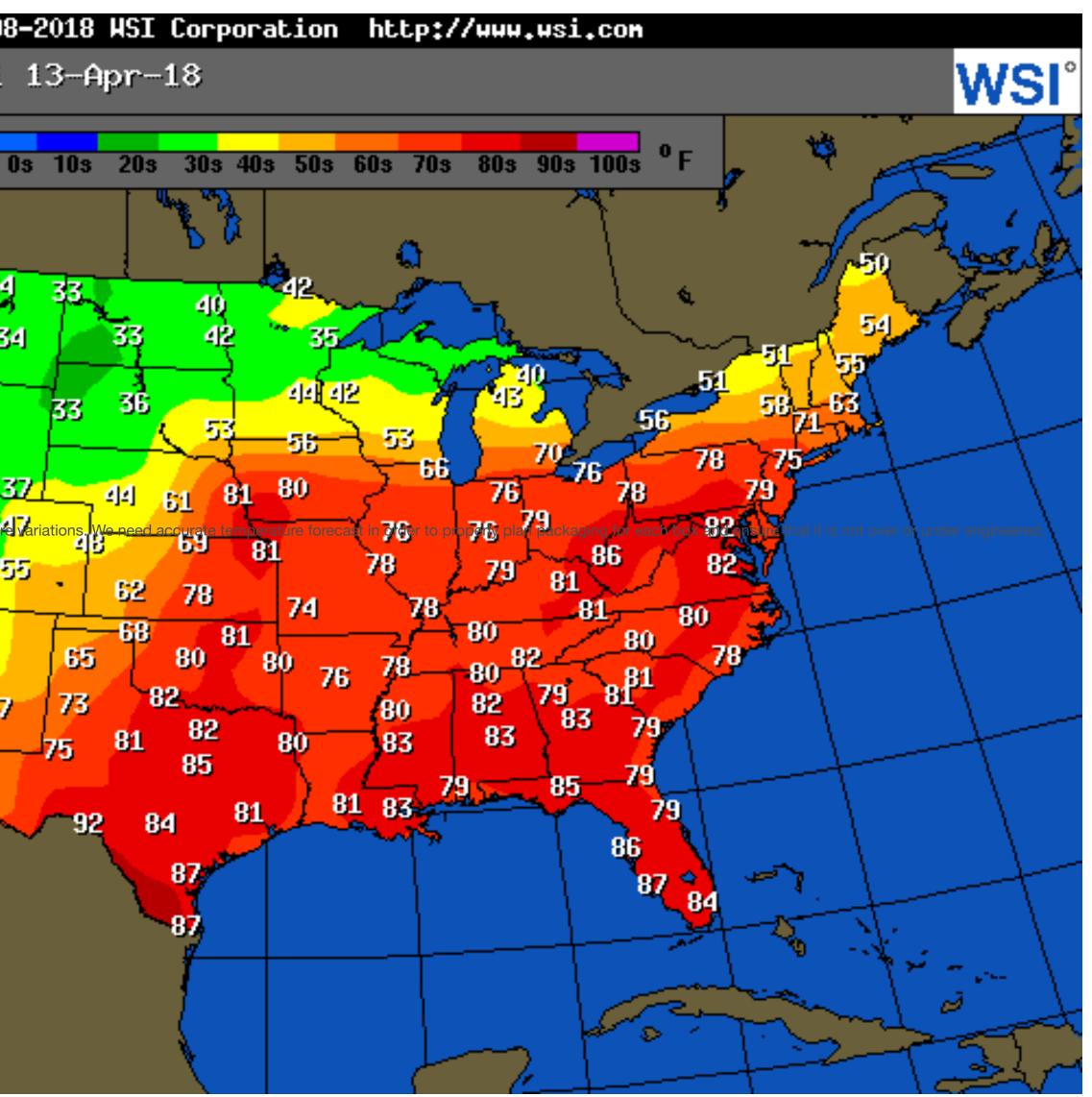
Blue Apron launched drain safe gel packs in 2018 due to customer demand. It allowed consumers to drain the gel solution in kitchen sink. This switch made a huge difference in LCA indicators, as well as met consumer expectations.





CHALLENGES

00:00 14-APR-2018 GMT Copyright © 1998-2018 WSI Corporation http://www.wsi.com High Temperature Forecast Fri 13-Apr-18 -30s -20s -10s -0s 52/ -57---34 54 47 66.59 ing with the dynamic temperature variations. We nee country and deal 57-1 UPDATED 04:30 UTC 12-Apr-18 DATA FROM GFS MODEL





INNOVATION

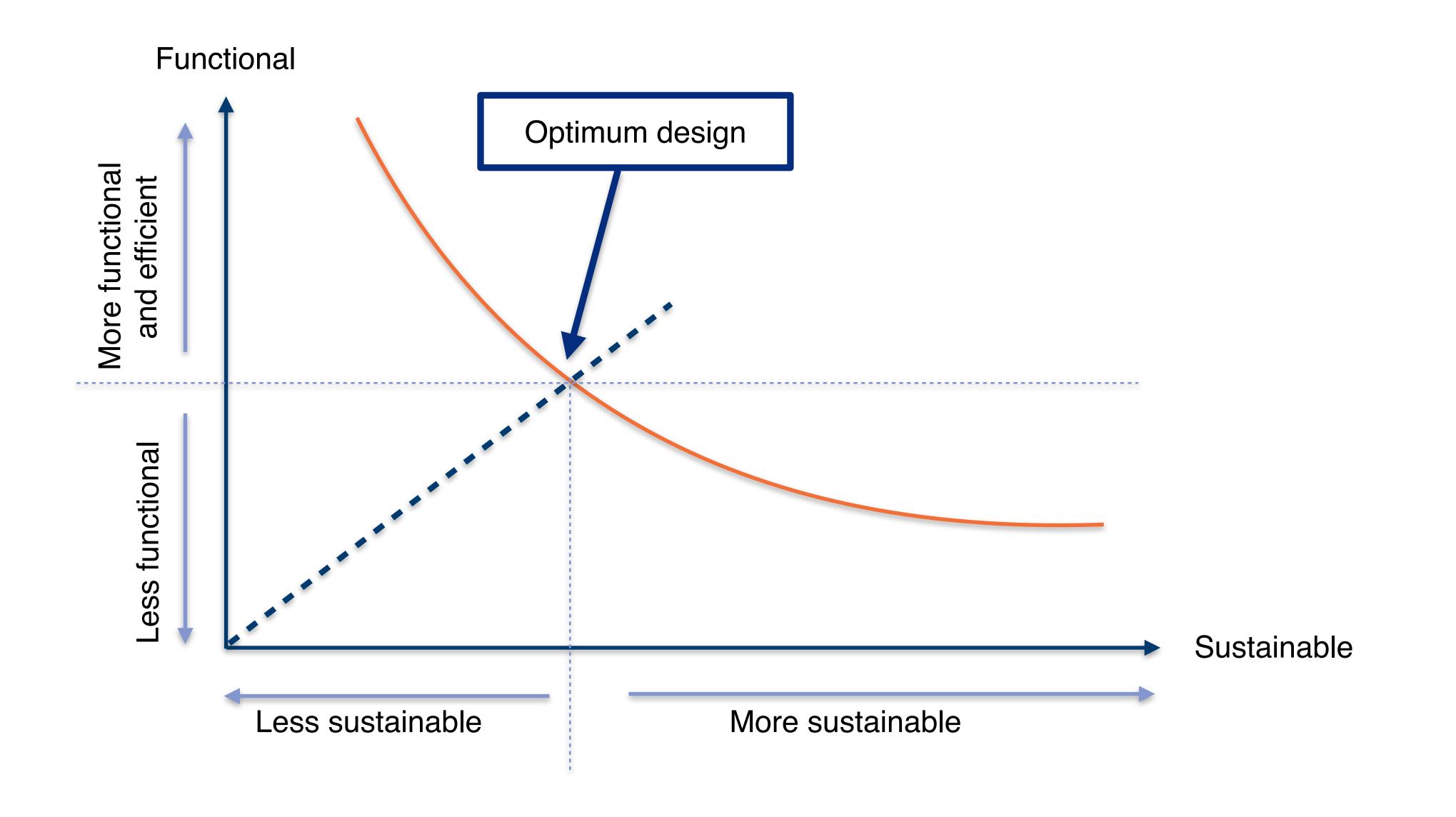
COLD CHAIN SOLUTION FOR MULTIPLE SEASONS AND ZONES

Dynamic cold chain packaging system

- Seasons
- Shipping lanes/zones
- Optimized for performance, cost and sustainability
- Testing per ASTM and ISTA standards
- Proprietary shipping methods
- Unique packaging for gel pack placement in the box



CHALLENGES







Phase 4 **Innovation in recovery** systems

Phase 3 **Innovations in material** science

> Phase 2 **Close the loop**

Phase 1 **Design for Recovery**

Improving the experience

Adopt next-gen innovation **Reusables, smart packaging, chemical** recycling, composting, etc

Introduce bioplastics, PCR, and easy to recycle materials in the packaging

Make it easier for the consumers to effectively recycle the packaging

Develop and implement packaging that is easily recyclable

INNOVATOR AWARDS

Award for Innovations in Sustainable Packaging

17

Industry Recognition



The Packaging Innovation Awards brought to you by

Award for Innovations in Gel Packs





REUSABLE PACKAGING - PRIMARY AND SECONDARY

Solve for challenges related to reusable packaging

- **Return logistics**
- Durable, collapsible, ergonomic design
- Optimizing product journey : pack cook return
- Cleaning and sanitation
- **Consumer participation**
- Drop off programs





SMART PACKAGING

Incorporate tech and smart sensors in packaging

- IoT enabled devices
- Active packaging
- Temperature monitoring
- Tamper proofing
- GPS
- Temperature indicator for customers









FUTURE

INNOVATIONS IN DELIVERY TECHNOLOGIES

Drone Delivery



Robotic Delivery





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