

Review of Sustainable Packaging Designed to Replace PFAS/PFC in Food Applications



Sustainable
Fiber Solutions

The Largest Eco Toll Coater in North America

Presented To:



DEPARTMENT OF
ECOLOGY
State of Washington

Agenda

- I. SFS Sustainability Message – Why it's Important to the Consumer
- II. SFS Product Overview
- III. Addressing the Bill
- IV. Next Steps

I. Sustainability - Why it's Important to the Consumer



Sustainable
Fiber Solutions

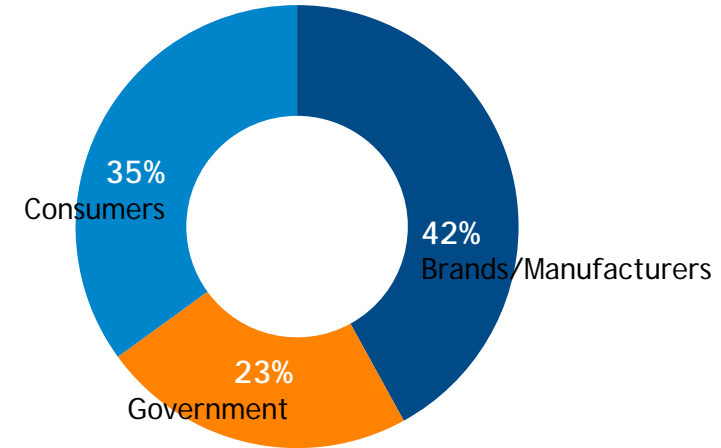
The Largest Eco Toll Coater in North America

Headlines – The Path of Packaging

- “PFASs are man-made and found everywhere.” – Madrid Conference
- **“The Emerging Crisis of PFAS Exposure”** – New York Law Journal
- “Fluorinated Compounds in U.S. Fast Food Packaging” – Environmental Science and Technology Letters
- **A World Without Waste? Absolutely** – Coca Cola WWW Campaign
- **“11 leading companies pledge to recycle 100% packaging”** – ClimateAction
- A new model for corporate governance – Larry Fink’s annual letter to CEOs
“To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society.”

Who is Responsible for Protecting the Environment?

- **Consumers consider brands to be most responsible for sustainability.**



- 91% of consumers say they expect food and beverage brands to actively help increase the recycling of their packages.

*- Carton Council of North America by
Research+Data Insights (2500 US Adults - March 2, 2016)*



Sustainable Packaging is an Important Issue for Consumers

- 43% of Millennials and 37% of Baby Boomers consider sustainability attributes, including certification as deforestation-free or made from recycled materials, when purchasing paper products*.



Look who's already focused on clear labeling:



II. SFS Product Overview



Sustainable
Fiber Solutions

The Largest Eco Toll Coater in North America

Sustainability

- ▶ PFAS free materials with suitable oil & grease resistance for a multitude of applications
- ▶ Eco SBS is repulpable – certified so at the Western Michigan University (WMU) facilities.
- ▶ Eco SBS is recyclable – also certified as so at WMU
- ▶ Life Cycle Assessment (LCA) – a tool to compare packaging and demonstrate the relative impact across eight environmental categories.

SFS Line of Sustainable Paper Based Products

- Eco Wrap
- Eco Linerboard
- Eco SBS

- Toll Coating Capabilities

Eco SBS – A Portfolio of Products to Cover Multiple Applications

- Three Current Products
 - Oil & Grease Resistance (OGR) + Moisture Resistance
 - Low Moisture Vapor Transmission Rate (MVTR)
 - Heat Sealable
- Typical Properties – substrate dependent
 - 30 minute Cobb values: <math><10 \text{ gms/m}^2</math>
 - kit values: 10-12 typical
 - MVTR – tropical conditions (90%RH, 100F): <math><120 \text{ gms/m}^2/24\text{hours}</math>
 - Heat sealable, hot melt, and/or cold set glueable

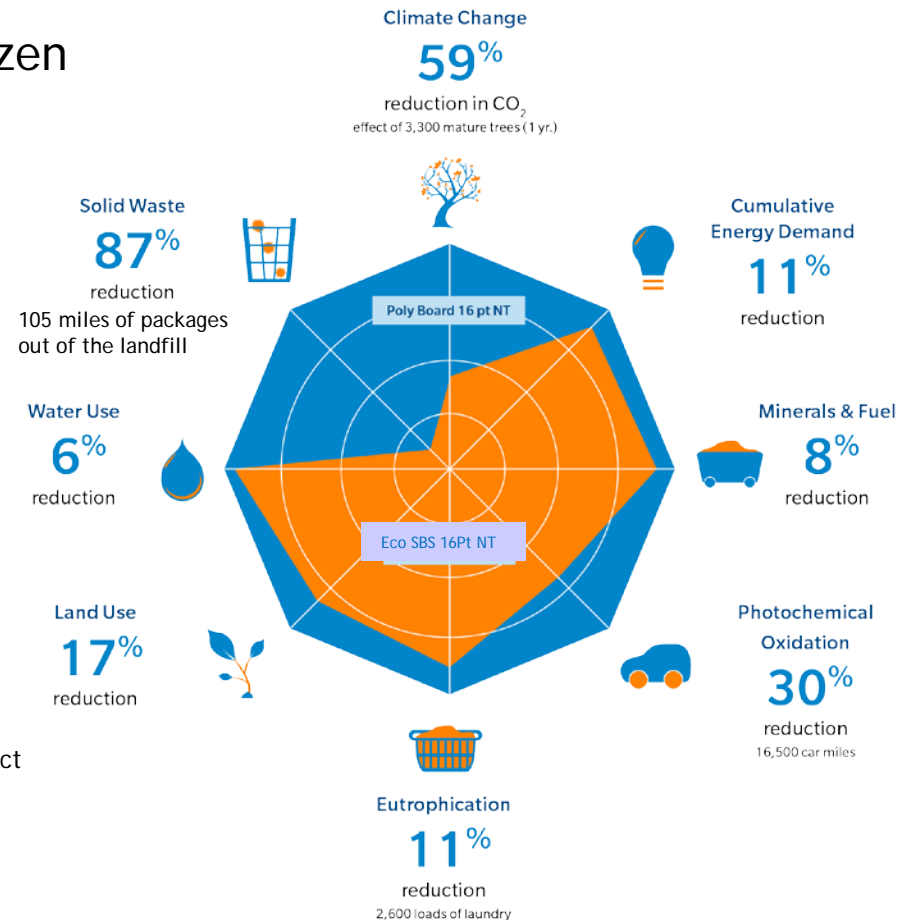
Target Applications – Eco SBS

- ▶ Clamshells
- ▶ French Fry Scoops
- ▶ Fried Desserts & Wrap Pillow Packs
- ▶ Folding Cartons
- ▶ Bakery Pads
- ▶ Take-out containers (non-liquid)
- ▶ Doughnut Boxes
- ▶ Food Trays
- ▶ Ice Cream Containers
- ▶ Butter Boxes
- ▶ Muffin Sleeves
- ▶ Paper plates

Life Cycle Assessment Example*

Eco SBS® vs. poly-coated SBS

Life cycle impact¹ of frozen food packages²



1 PIQET v3.4-16

2 One million units of takeout packaging containers (7" x 2 3/4" x 4 1/4")

* "Typical" - need to run the model for exact impact

III. Addressing ENGROSSED SUBSTITUTE HOUSE BILL 2658



Sustainable
Fiber Solutions

The Largest Eco Toll Coater in North America

Eliminate PFAS Materials with Sustainable Solutions

- Sustainable paper based products that replace poly or PFAS containing materials for many applications.
- Current solutions for a multitude of applications.
- In development for other applications – hot/cold cups – containers that must hold liquids. Starbucks NextGen Cup Challenge
- Leverage technology to meet all of the sustainability requirements of food packaging:
 - No PFAS materials
 - Reusable, recyclable, compostable.

Section 2.2.c – “...evaluation of chemical hazards, exposure, performance, cost, and availability.”

- FDA approved paperboard and papers.
- Exposure equivalent to non-PFAS, FDA approved paper products.
- Performance equal to or better than PFAS materials
- Equal to slightly higher costs (see tables)
- Available immediately – SBS
- Available with minimal development work - wrap, linerboard, other substrates
- Explore total cost – savings from recycling/composting vs landfills

Alternative Solution Assessment - Cost

Sandwich Wrap	Increased Cost per Sheet (\$)		
16" x 16"	Increased Cost per Ton of Paper		
	\$100	\$200	\$300
25#	0.00074	0.00147	0.00221
30#	0.00088	0.00177	0.00265
40#	0.00118	0.00236	0.00354
Clamshell	Increased Cost per Package (\$)		
18" x 6"	Increased Cost per Ton of Paper		
	\$100	\$200	\$300
12Pt	0.0018	0.0036	0.0054
14Pt	0.0020	0.0041	0.0061
16Pt	0.0023	0.0046	0.0068
18Pt	0.0025	0.0050	0.0075
20Pt	0.0027	0.0053	0.0080

V. Next Steps



Sustainable
Fiber Solutions

The Largest Eco Toll Coater in North America

Next Steps

- Scope of Work – what additional information is required?
- Implementation Approach
- How can SFS be of assistance?
- Others



Sustainable
Fiber Solutions

The Largest Eco Toll Coater in North America

Appendix - Supply Chain and Qualification Processes



Sustainable
Fiber Solutions

The Largest Eco Toll Coater in North America

Supply Chain Process

- ▶ Paper or paperboard is shipped to the SFS facility in Covington, TN
- ▶ Paper is coated to produce the customer specified product.
- ▶ Order to delivery lead times that are $1/3$ to $1/2$ that of poly products designed for the same application.
- ▶ SFS coordinates all production related activities.

Qualification Process

- ▶ Poly is a “known quantity” having been used in packaging applications for decades.
- ▶ Poly is over engineered for many applications.
- ▶ Understanding the true requirements of an application is the challenge.
- ▶ Work with the customer to fully understand each step of the supply chain.
- ▶ Perform the appropriate testing to confirm full fit-for-use performance.