

# Needham Recycling

*Giving Resources New Life®*



*Paul E. Degnan  
Auburn MRF*



# RECYCLING

- **15 Recycling Operations**
- **7 Single Stream Recycling Operations**
- **Auburn, MA MRF**
  - 20 tph
  - 100,000 tons/year
- **Boston, MA MRF**
  - 45 tph
  - 225,000 tons/year

Since 1977, we have helped to pioneer the field of resource recovery. In 2018, led by our Zero-Sort<sup>®</sup> recycling facilities, we recovered over **800,000** tons of recyclable materials.



# RECYCLING MARKETS

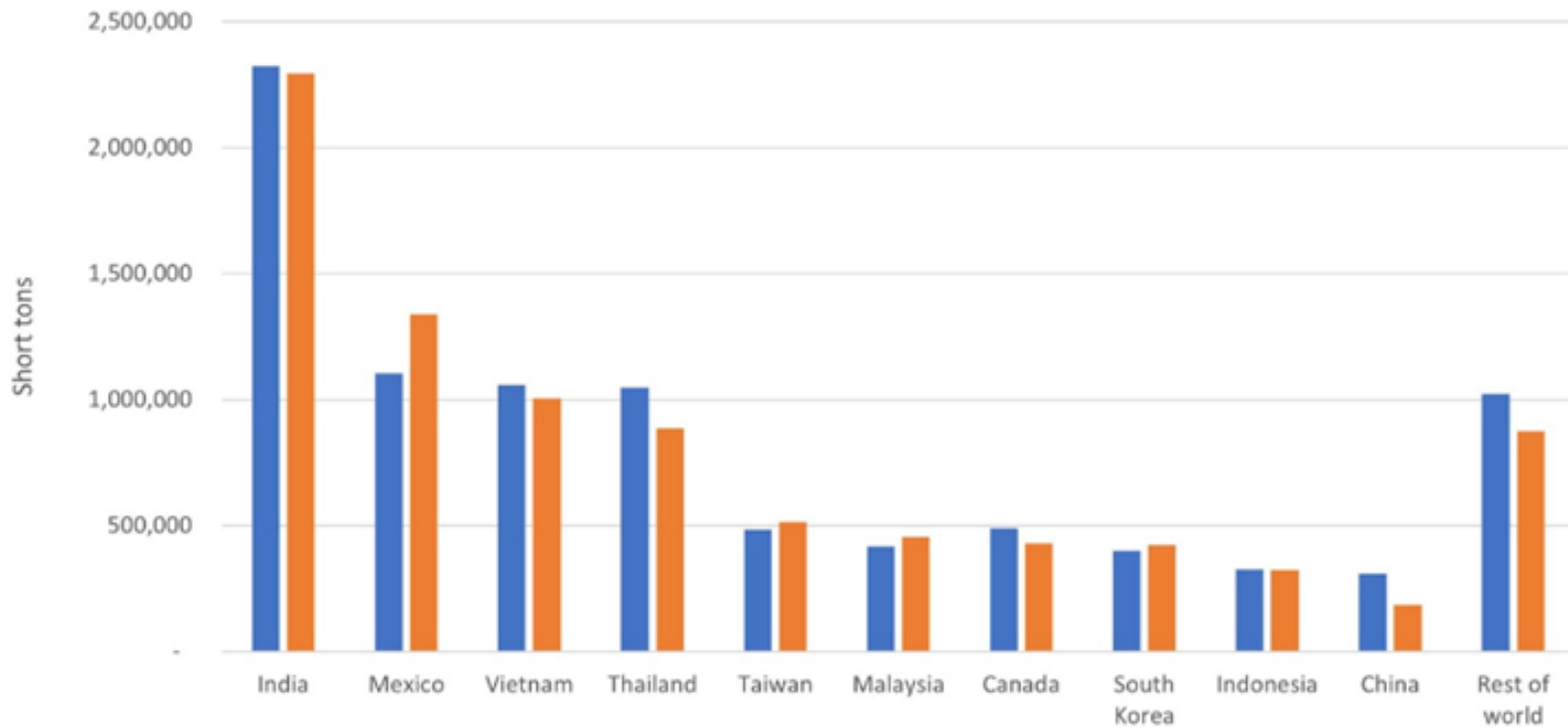
- **Supply & Demand**
- **ISRI Paper Stock Industries' Specifications**
  - Prohibitives/Out-Throws
  - Moisture %
- **National Sword**
- **Quality vs. Quantity**
- **COVID-19**
- **Oil/Fuel**



# RECYCLING MARKETS

## U.S. Scrap Fiber Exports

*Top 10 Destinations in first half of 2022*



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■ 1H 2021 ■ 1H 2022



# RECYCLING

- Recycling IQ Kit
- Cleaning the Stream
  - Education
  - Enforcement
- Investment
  - Mills
  - MRF's
- Best Practices
  - Audits
  - Contracting

*“Problems are the price of progress. Don’t bring me anything but trouble. Good news weakens me”*

*- Charles Kettering*

# GOOD NEWS



# RECYCLING





# RETROFIT PHOTOS





# RECYCLING

- **Paper**
  - Cardboard
  - Newspaper/Magazines
  - “Junk Mail”
- **Metal Containers**
  - Tin Cans
  - Aluminum Cans
- **Glass Bottles & Jars**
- **Plastic Containers**
  - Milk Jugs
  - Detergent Bottles
  - Soda/Water Bottles
  - Tubs/Lids

*“Trying to understand the behavior of some is like trying to smell the color 9”*

*Anonymous*





# RECYCLING

- **Plastics**
  - **Very Volatile Recently**
  - **End Markets**
    - #1 PETE, #2 HDPE, #5 PP
    - #3 thru #7
    - Behaviors & Markets
  - **Recycling Innovations**
    - Chemical Recycling
    - Fuel (Thermal Transformation)
  - **NPR/Greenpeace Story**
    - Material Lifecycle
    - Unfair & Sensational



# RECYCLING

- **Casella – Recycle Better**
- **MA-DEP - Recycle Smart**
- **Recycling Partnership**
- **NOT – “One Size Fits All”**

# ACCEPTABLE?



# RECYCLING

- **Top 5 (+) Contaminants for Auburn MRF**
  - Plastic Bags/Film
  - Tangles (Wire, Rope, Strapping, Hoses)
  - Textiles/Clothing
  - Non-Recyclable Plastic
  - Other
    - Food Waste
    - Yard Waste
    - Snow
    - Hazardous Materials

## Contamination



# RECYCLING

- **Wraps Around Separation Equipment**
  - Screens
  - Conveyors
- **Reduces Effectiveness of Screens**
- **Damages Conveyors**
  - Bearings
  - Shafts
- **Maintenance & Safety**
  - Must Clean Screens Once per Shift
  - Difficult Job/Sharp Tools

## Plastic Bags/Film



# RECYCLING

- **MRF Residue 14%**
  - >12,500 tons per year
  - Approximately one-sixth
- **Economic Effects**
  - Decreased Throughput
  - Increased Maintenance
  - Rejected Material
  - Customer Pricing
    - Contracts
    - Budgets
  - Risk Exposure/Workers Compensation

# Contamination

# Questions/Suggestions



RESOURCE SOLUTIONS

RECYCLING | COLLECTION | ORGANICS | ENERGY | LANDFILLS