

# BorgWarner Thermal Systems Fletcher



Journey Toward Zero Waste To Landfill



2016

# Journey Toward Zero Waste To Landfill

- BorgWarner Corporation
- Fletcher facility
- What we produce
- Where we started
- Dumpster dive
- Plastic project
- Waste containers
- What we recycle
- Barriers
- Decision to incinerate

# Our Vision, Mission and Beliefs

- **Vision**

- A Clean, Energy-Efficient World

- **Mission**

- Deliver Innovative Powertrain Solutions that Improve Fuel Economy, Emissions & Performance

- **Our Beliefs**

- Respect for Each Other
- Power of **Collaboration**
- Passion for **Excellence**
- Personal **Integrity**
- Responsibility to Our **Communities**



# BorgWarner at a Glance

- **2016 Sales:** \$8.3 Billion
- **Employees:** 22,000
- **Operations:** 58 Locations  
19 Countries
- **Products:** Engine, Transmission and Driveline systems
- **Market Drivers:** Fuel Economy, Emissions, Performance



# BorgWarner Thermal – Fletcher, NC

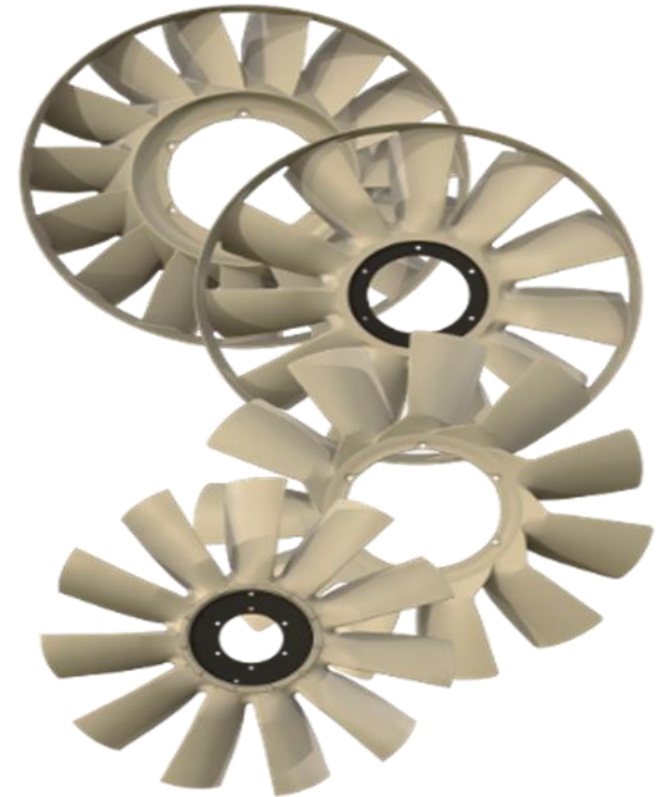
- Built in 1975-76 (Eaton)
  - Acquired by BorgWarner 1999
- Manufacturing Floor: 180,000 ft.<sup>2</sup>
- Headcount: 300
- Certifications: TS 16949 and ISO 14001



# What We Produce



Fan Clutches



Injection Molded Fans

# Where We Started

“Over the years” there was a lot of effort dedicated to recycling. Primarily for financial reasons (scrap metal and nylon).

A formal project to reduce the amount of our waste going to a landfill was initiated in 2008.

We decided to have a dumpster dive to find out what was in the trash cans.

We were at ~ 90% diversion from landfill.

# Dumpster Dive / Trash Audit – The Plan

We collected the plant trash for four days and placed it in a location near the employee entrance. Our employees were able to watch the pile grow.





# Dumpster Dive / Trash Audit – The Big Day

On Friday a crew of volunteers opened the bags and segregated the waste.



**Shout Out To:**  
Waste  
Reduction  
Partners for  
their help!

# Dumpster Dive / Trash Audit – What We Found



Production parts



Beverage Containers -  
Illegal in North Carolina

# Dumpster Dive / Trash Audit – What We Found



Paper and Cardboard



Gloves  
(we had a rewash program)

# Dumpster Dive / Trash Audit – Problem Items



Special items like nitrile gloves, label printer paper, oily shop towels, bathroom waste, cafeteria waste



# Dumpster Dive / Trash Audit – Opportunity



Items such as paper, cardboard, and beverage containers we knew we could improve with communication.

We were not recycling any plastic.

## Plastic!!

# Dumpster Dive / Trash Audit – Summary

- Displayed segregated materials for more than a week and encouraged employees to stop and look
- Created audit summary presentation and posted on communication boards
- Updated new employee training materials to ensure new employees knew what to do with waste
- Initiated plastic recycling project

# Plastic Project



We struggled to find a company that would take plastic. We gathered the bags and saved them until we had enough to make a bale (about 50). This was hard to maintain.

# Plastic Project – Continuous Improvement



Our current waste management company allows us to bail our plastic with our cardboard. We have a gaylord beside the cardboard bailer and bail plastic in the middle of a bail of cardboard.



# Waste Receptacles



Before



After

Improved waste receptacles did reduce the amount of recyclable materials entering the trash.

# What We Recycle



# What We Don't Recycle



# Our Barriers To Zero Waste To Landfill

- Discipline
- Difficult waste streams
- Cost



# To Incinerate Or Not To Incinerate?

Fletcher investigated incinerating the remaining waste that is not recycled and because of cost has decided not to pursue this option.

Another BorgWarner facility saves money on some materials by incinerating. They have contaminated packaging materials that had to be handled as a special waste.



# Takeaways

- Need to know what waste streams contain
  - Trash audit may be beneficial
- Need track waste streams
- Visual waste containers reduce amount of recyclable material placed in trash
- Regular communication to employees is important to instill pride and motivate compliance
- Decision to incinerate is based on many factors

# Thank You

## Our Vision

- A Clean, Energy-Efficient World

## Our Mission

- Deliver Innovative Powertrain Solutions that Improve Fuel Economy, Emissions & Performance



Fuel Economy



Emissions



Performance

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