Journey Toward Zero Waste To Landfill
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.$^2$
- Headcount: 300
- Certifications: TS 16949 and ISO 14001
What We Produce

Fan Clutches

Injection Molded Fans
“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.
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.
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)
Special items like nitrile gloves, label printer paper, oily shop towels, bathroom waste, cafeteria waste
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 bail (about 50). This was hard to maintain.
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 it 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

gdehart@borgwarner.com