



# John Deere Turf Care

**Manufacturers Zero Waste  
Conference**

**Eco-Efficiency – Path to Recycling  
Efficiency**

**April 2014**



**JOHN DEERE**

## Factory Environmental Goal 2009

Implement a comprehensive recycling program to better capture high volume waste streams before the end of fiscal year '09. Reduce landfill waste per/ton of production by 80% compared to fiscal '08.

An effective Environmental Management System (EMS) is a key component of the Leadership lane of the Deere Production System.

# Landfill Waste Reduction and Sustainability

## Supplier Returnable Container Program

- EPDP Build Readiness Reviews – “Environmental review of supply waste streams (no landfill waste).”

## Finished Product Returnable Container Program

- Wood waste

## Waste Vendor Sourcing

- Reliable and sustainable vendors

## Continuous Improvement Process

- Monthly Audit – Safety and Environmental Alignment Measurement System (SEAMS)

## Employee Participation

- First stages of process were employee driven

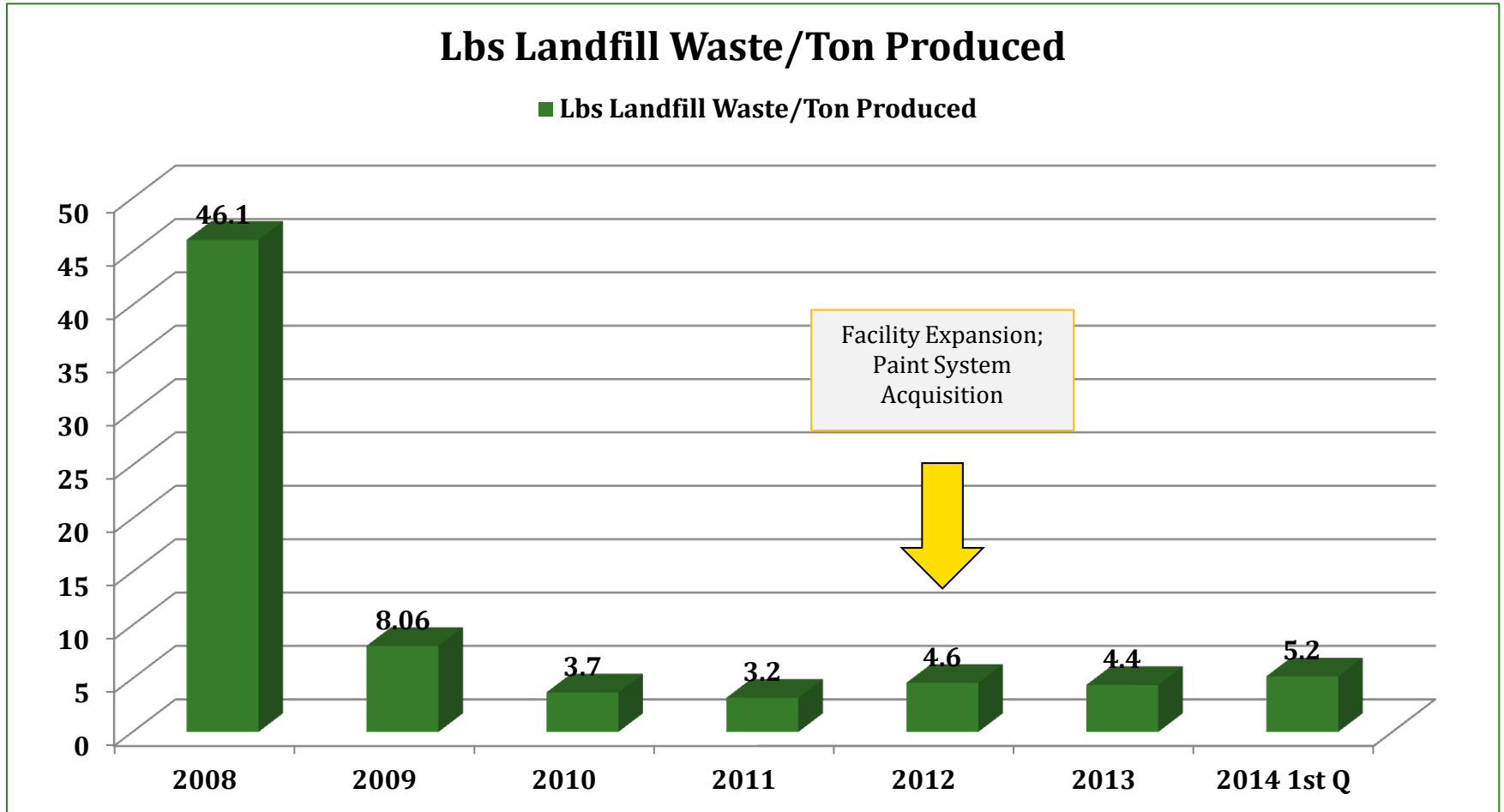
## Management Support

- Approvals for each stage

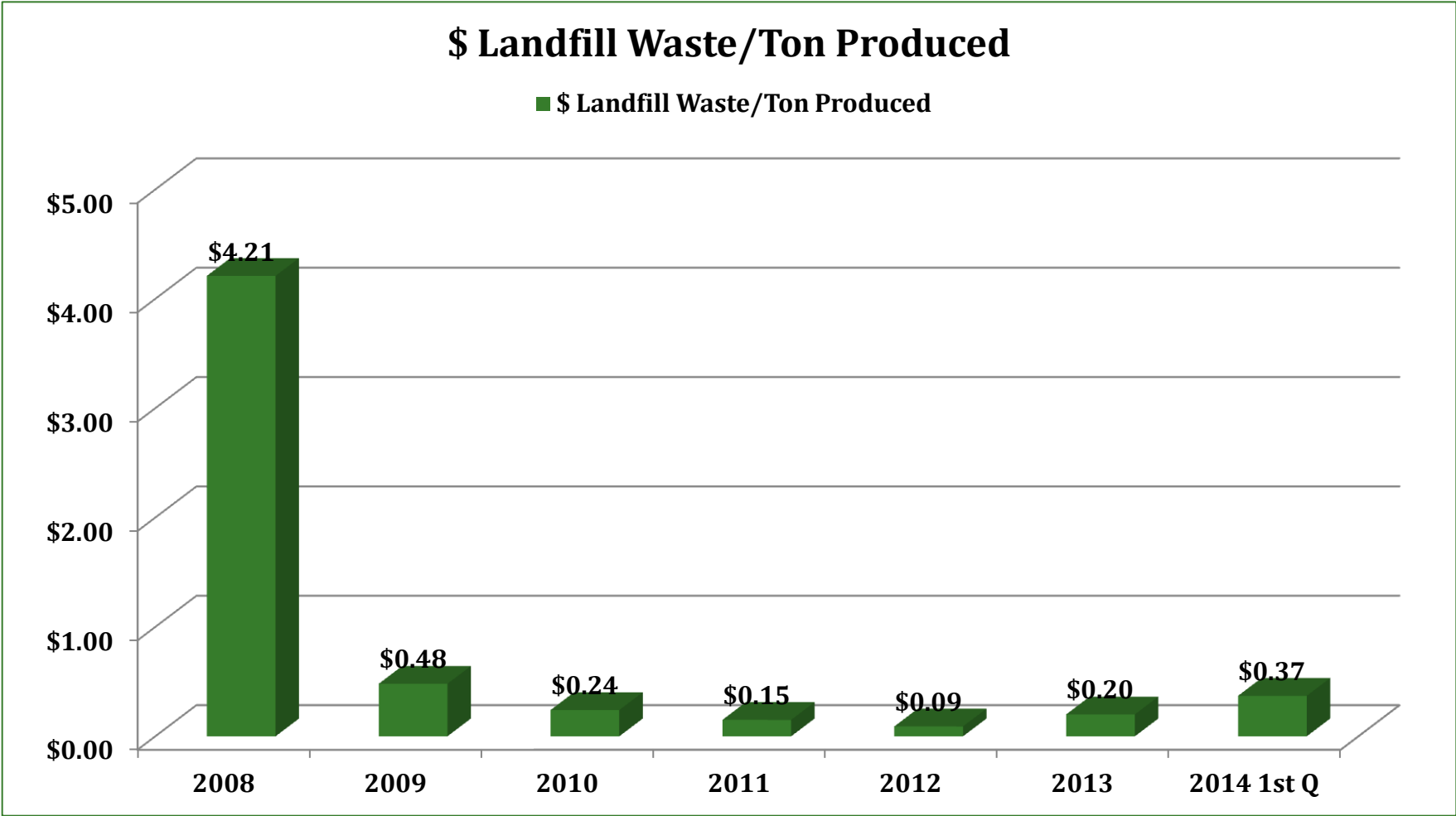
## Metrics Tracking and Communication

- Key metric

# Benefits – Landfill Waste Reduction



# Benefits - Landfill Waste Cost Reduction



# Benefits – Total Waste Costs

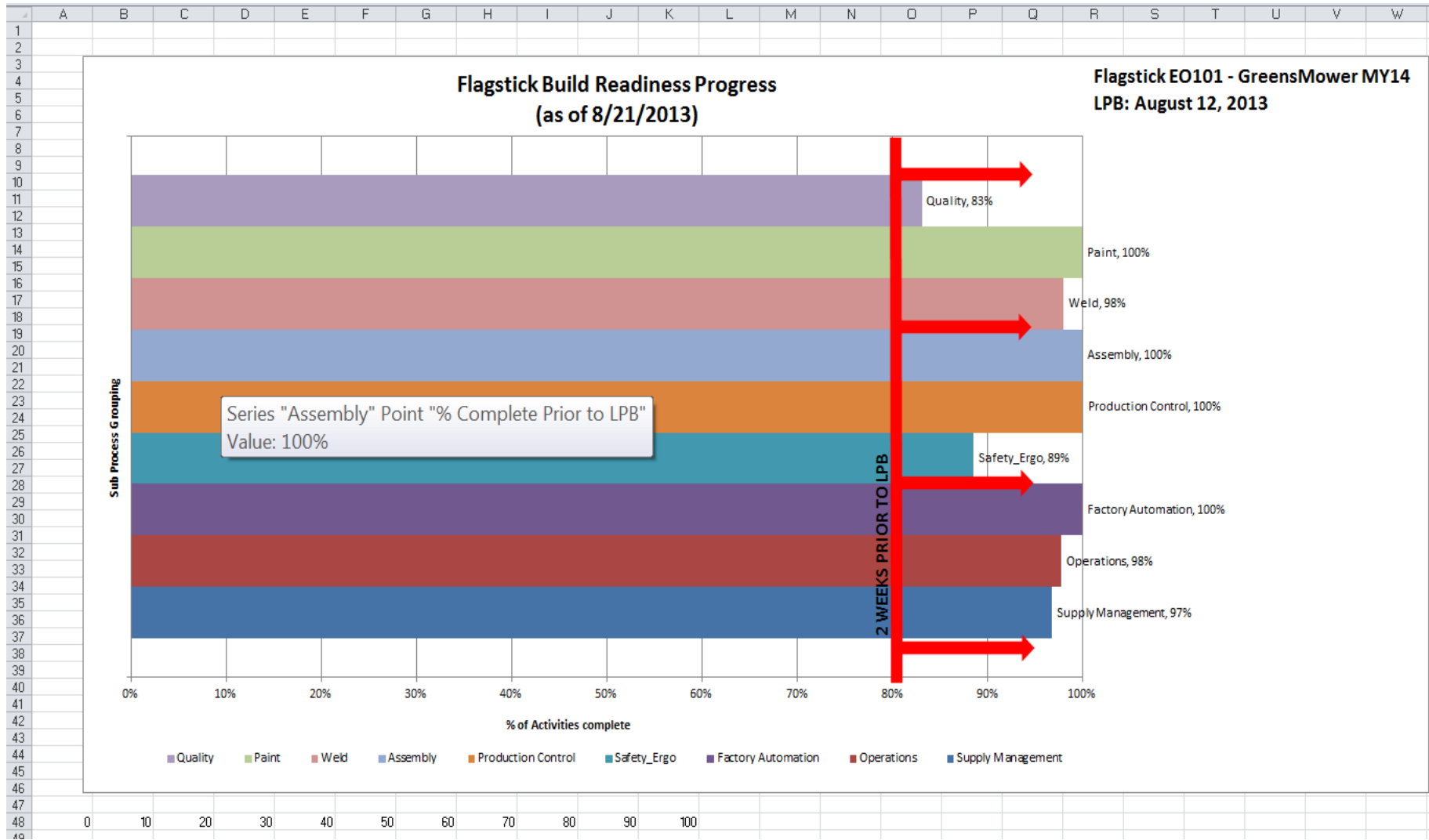
All Waste Streams: Landfill, Recycling, Universal, Hazardous...

## Cost Waste/Tons Produced

■ Cost Waste/Tons Produced



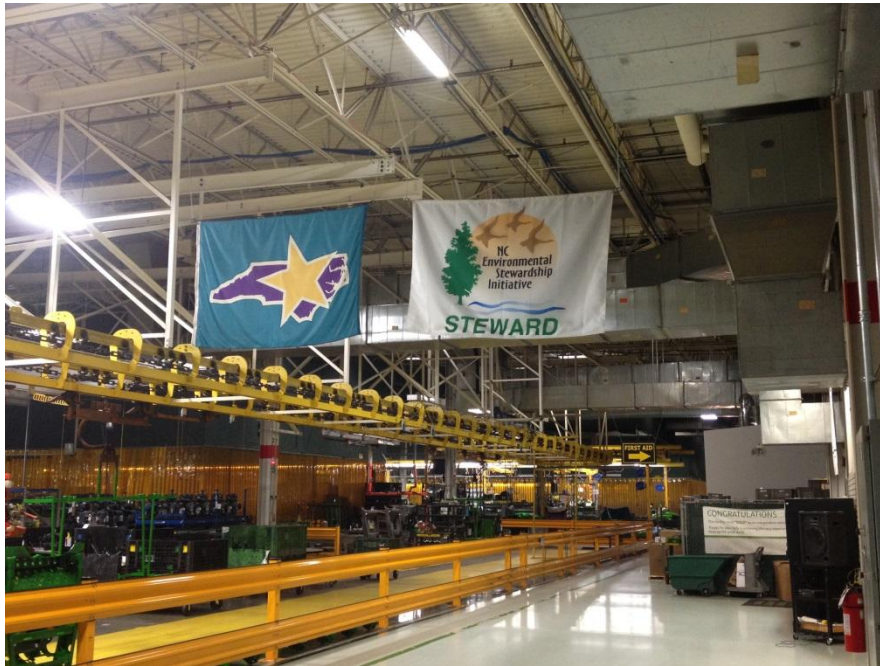
# Benefits - Sustainability and Efficiency



# Benefits – Sales & Recognition

John Deere Turf Care is a recognized Steward in the North Carolina Environmental Stewardship Initiative. ESI's mission is to assist organizations in reducing their environmental impacts beyond regulatory requirements and recognize those that achieve and maintain this commitment.

<http://portal.ncdenr.org/web/deao/esi-members>





# Benefits – Returnable Containers - Landfill Waste Reduction and Sustainability

- Eliminate:
  - up to 189 ft of wood/unit
  - ~26,360 ft of wood/day
  - >5,000,000 ft of wood/year
  - Daily trailer hauls of wood for disposal
  - ~\$400,000 in material cost
- Reduce potential injury opportunities
- Reduce shipping damage
- Labor reductions
  - Eliminate up to 20 minutes needed to build a wood crate
- 4 Year Payback
- 4.8M Impact since 2007



# Benefits – Good Citizenship



## ENERGY

**Energy: Reduce greenhouse gas emissions and energy consumption per ton of production 15% from 2012 through 2018.**



## WATER

**Water: Reduce water consumption per ton of production 15% from 2012 through 2018.**



## WASTE

**Waste: Increase amount of enterprise waste recycled to 75% of total waste by 2018.**



## PRODUCTS

**Products: Use life cycle engineering to create products and services that meet customer needs and reduce their environmental impact.**

# Benefits – Bragging Rights

## Environmental Sustainability



**John Deere  
ENTERPRISE ENVIRONMENT &  
ENERGY AWARD**

**John Deere Turf Care  
Water Conservation & Irrigation  
2012 Winner**



**JOHN DEERE**