

# Zero Waste to Landfill

“The Ultimate Recycling Machine”

Reduce and Reuse



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Sheer  
Driving Pleasure

# Zero Waste to Landfill

## “The Ultimate Recycling Machine”

1. Know your scope
2. The Basics
3. Metrics
4. Identify the Obstacle's
5. Reduction Projects
  - a) Wood/Pallets
  - b) Metal
6. Reuse Projects
  - a) Purge Solvent
  - b) Di Purge Solvent
7. Questions



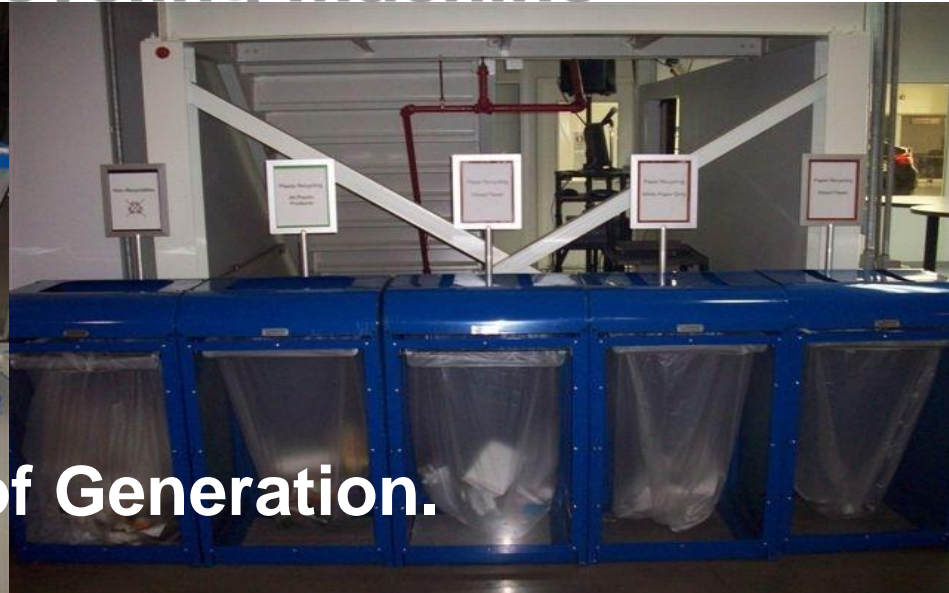
**Know your customers**

## Know your customers



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**Segregate at the Point of Generation.**

Use of X-frames, with sort lids. Each X-frame or blue bin is properly labelled to promote segregation

Green Team: Creation of Assembly management associates to help promote recycling.

- Select responsible team members
- Recycling leaders in their area
- Recycling resource for questions
- Promote segregation in their area
- Kill recycling myths or squash any negative recycling rumours



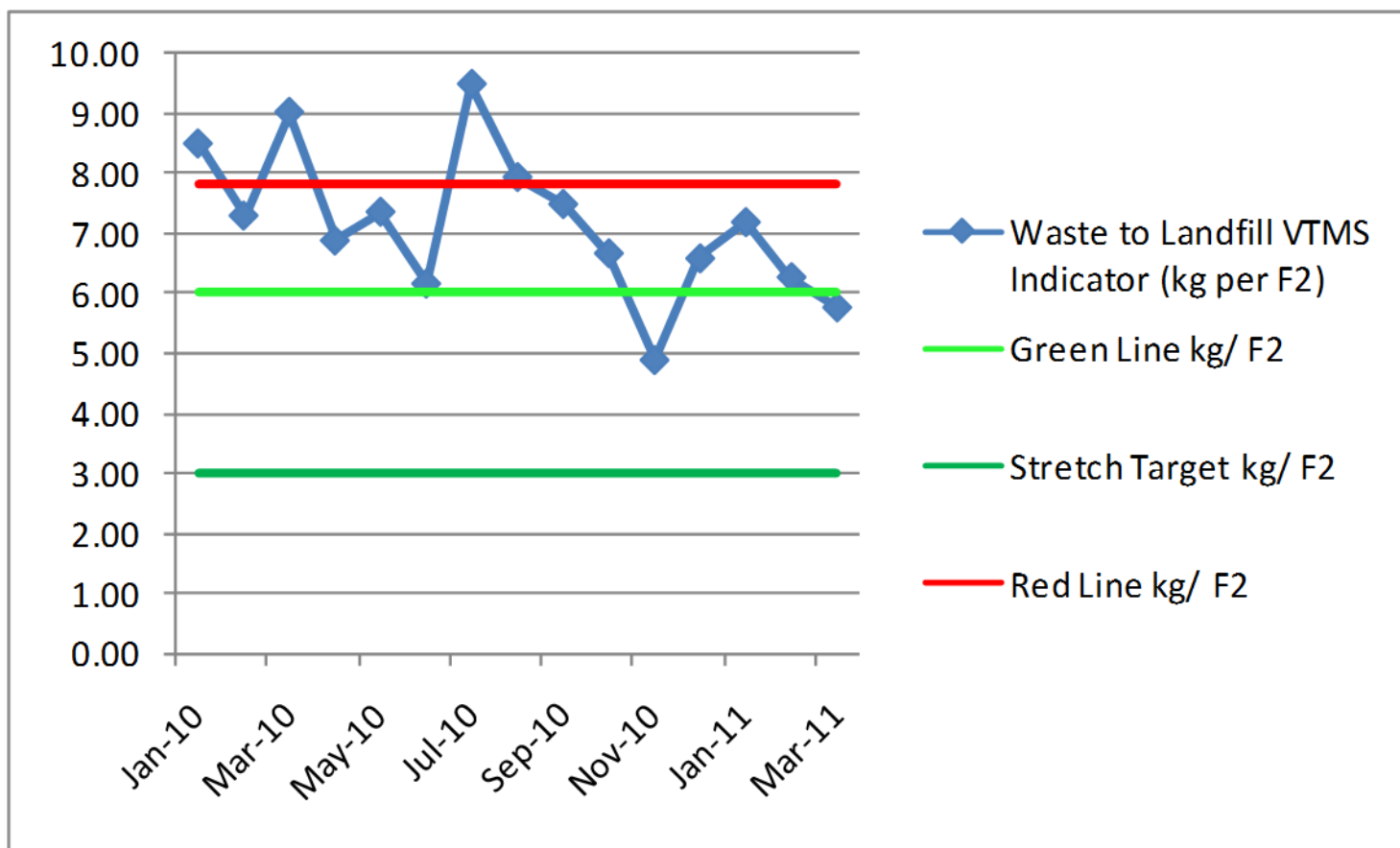


# Zero Waste to Landfill

## “The Ultimate Recycling Machine”

You have to know where you are in order to know where you want to go.

Create a base line....

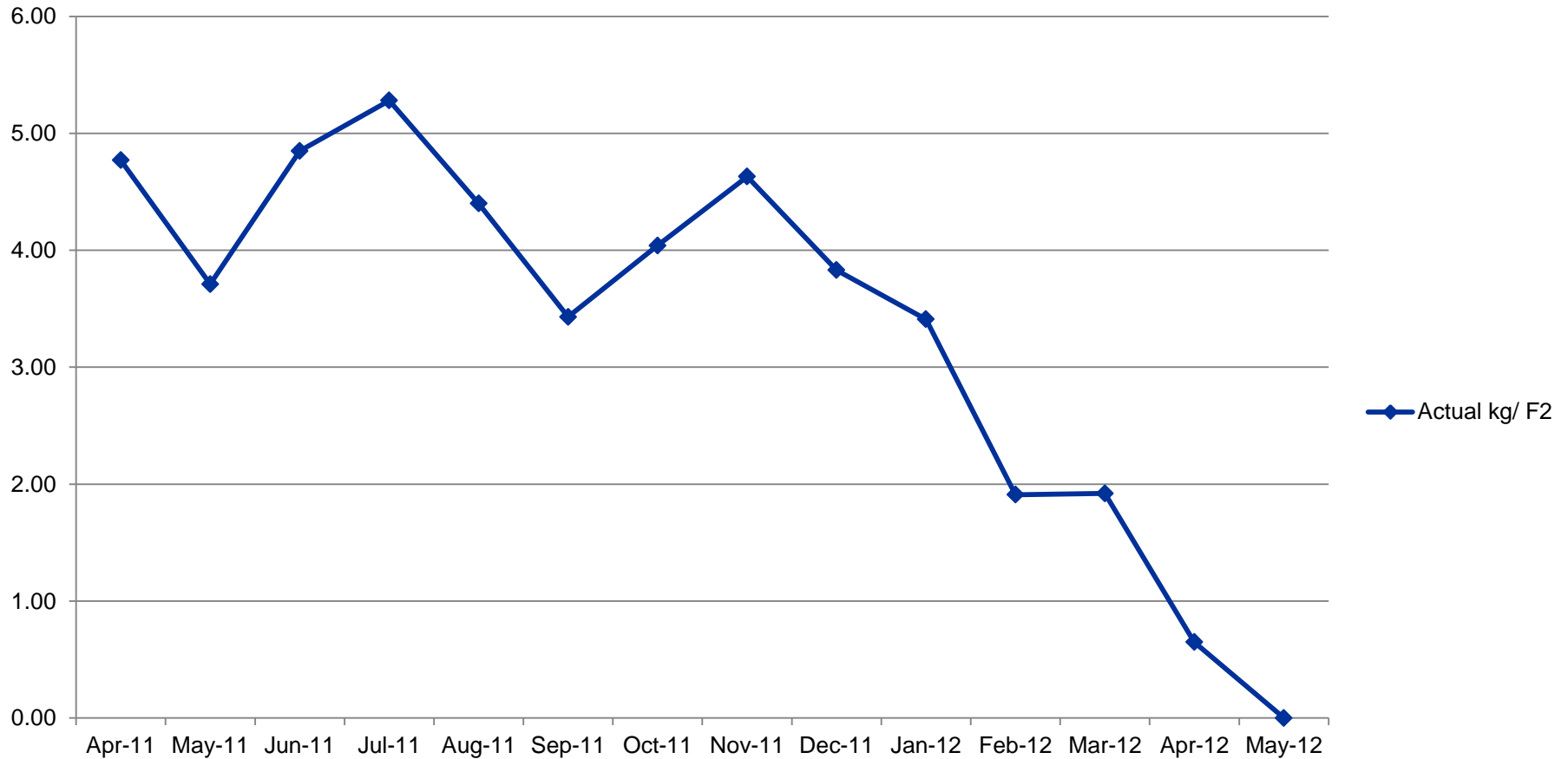


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## “The Ultimate Recycling Machine”

Track your success!

TS-4 Waste to Landfill  
kg/ F2 vehicle



# Zero Waste to Landfill

## “The Ultimate Recycling Machine”

Identify your road blocks for reducing or reusing your waste.

Packaging changes pushed down from AG: Munich or the suppliers

- *More or less content, type of content, effects*
  - *% returnables vs one way packaging*
  - What if any can be recycled
  - Collection method
  - Available recycling markets for new content

Internal guidelines or policies

- Speak with colleagues and industry connections
- Get associate feedback from shop floor



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### Reduction Project: Wood waste

- Current wood waste operations
  - *Utilizing data from a 4 month sample period in 2012 the following information was extrapolated to represent an average 12 month operating cycle*
    - BMW currently pays Nexeo \$75.60 for each trailer of wood pallets removed from production-Nexeo incurs \$18-\$25 loss on each pull
    - Approximately 20 pallet trailers/week
    - 1000 trailers per year-BMW cost \$75,600
    - 13m lbs of wood waste generated
    - Major opportunity for cost reduction and balanced relationship





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### Future

- Stationary wood grinding option
  - *Potential benefits, cost reduction, and sustainability*
- Pricing remains static for BMW@ \$75.60 for each trailer of wood pallets removed from production-The total number of trailer pulls would be reduced by approximately 33-50%.
- 500-650 trailers would net a cost savings for BMW from \$26,460-\$37,800
- Source for ground material
  - Boiler fuel
  - Fuel cubes
  - Mulch product (will require additional investment for colorization)
  - Current vendor supply plan is well established in the local area-sources are awaiting material



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### Trial



### SOP



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Reduction project; metal waste

Metal recycling program

- Maximize loads for transportation efficiency.
- Increase refund through better segregation.
- Create a knowledgeable team to carry out the plan
- The starting point:
  - Initial cost: \$95,000.00
  - ROI: Completed in 6 months



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### Metal Recycling program

Never settle for the current process, look for optimizations.

– Utilize networking and vendors to create a better program, do not hesitate to call in an expert.

– The Next level:

- Total cost: Refund deduction
  - \$2500 a month
- Increased revenue by 60%
- Decreased trans by 50%



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### Reuse options

#### 1. Purge Solvent

#### 2. Di Purge

- Several projects were kicked off to see if there was a possible way to reuse the waste streams on site.
- Explored external uses, for Beneficial reuse.
  - ✓ Better option, does not reflect negatively on amount of waste generated.
  - ✓ Ships out as product with a chance to generate revenue.



Thank you for your attention.



Questions? Perguntas? Fragen?  
¿Preguntas? 问题吗?