

## Product Life Cycle and Waste

We build business  
eco-systems.

Reduce cost, mitigate risks, build a better brand,  
and protect the planet.

What is a business eco-system?

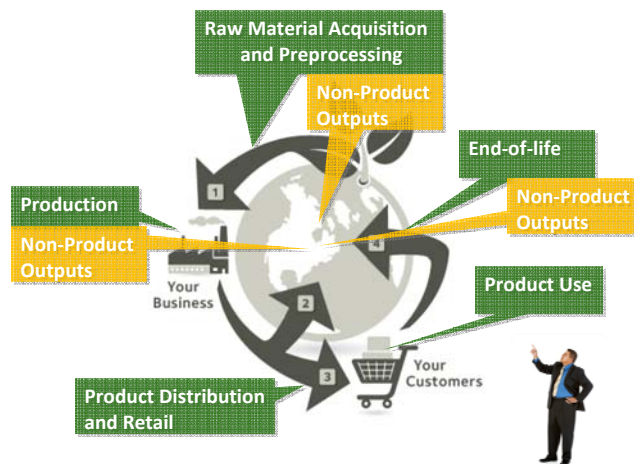


Presented by: Keith Ropchok  
ACCO Conference Portland, OR  
October 19<sup>th</sup> 2010

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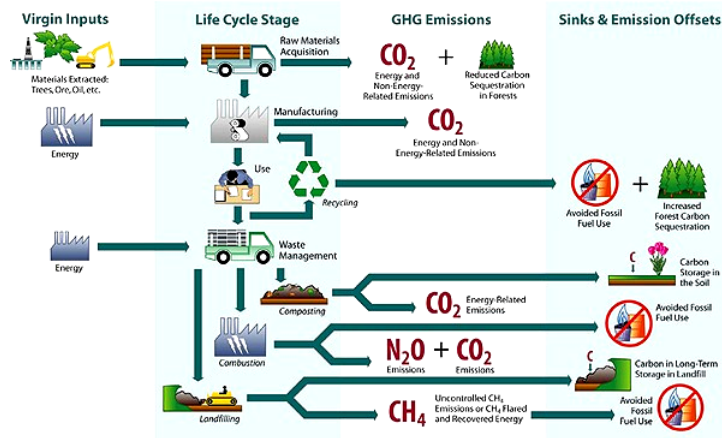
## The Product Life Cycle Non-Product Outputs



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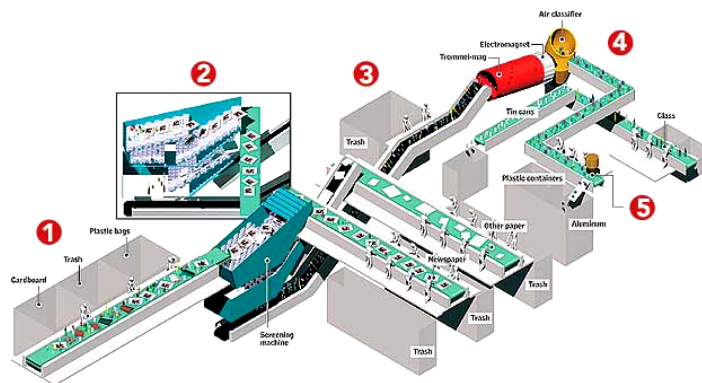
## Lifecycle Waste and recycling



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## Consider Recycling Process Material transportation and energy intensive processes



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## Recycling and Emissions

Who owns the recycling emissions



### Secondary materials

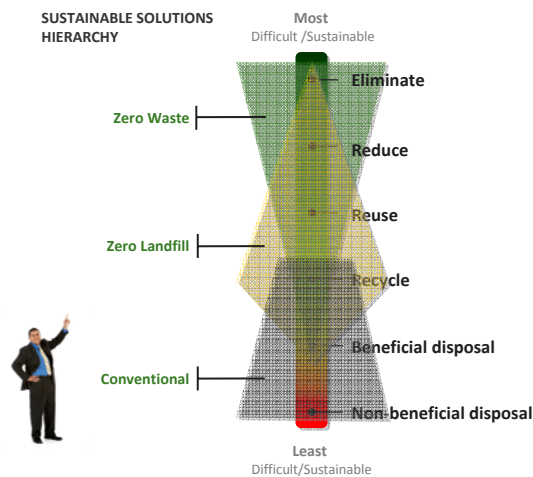
- Must consider the general principals of allocation
- Closed loop recycling
- De-facto closed loop recycling
- Open loop recycling
- Is the recycling process finite?
- Reuse of product
- Embodied energy of recycling is lower than sourcing raw materials resulting in product GHG reductions

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## The Zero Waste Discussion

Sustainable solutions hierarchy



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## The Business Eco-System

A zero-waste approach ultimately leads to a sustainable business eco-system.



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## Waste Management Innovations

How is WM helping reduce scope 3 emissions



### Environmental Performance

- Innovative recycling technologies
- More efficient raw material selection
- Customized recapturing of residuals
- Fuel efficient fleets
- Compaction efficiency services
- Organic programs and technology
- Engineered fuel
- Customized zero waste consulting services



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## Greenopolis Recycling Technologies



Greenopolis Interactive recycling technology that combines recycling with marketing and consumer engagement

### On-Street Interactive Kiosks

- Coupon dispensing
- Loyalty card dispensing
- Rich consumer and product data
- Full motion video
- Minimal operational requirements

### Online Community

- Fresh, cutting-edge, fun and positive content
- Inspiring stories about resource conservation
- Greenopolis TV with large content library
- Viral Marketing through social networks

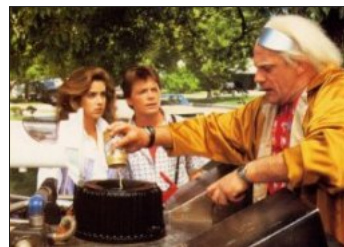
### Robust Rewards Program

- 10,000 Partners / 130,000 locations
- Charitable contributions
- Community-based by zip code

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## Next Generation Services Now

Where is the Flux Capacitor?



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