



Stay on Target!
An introduction
toward Zero Waste to
Landfill

Date
Speaker

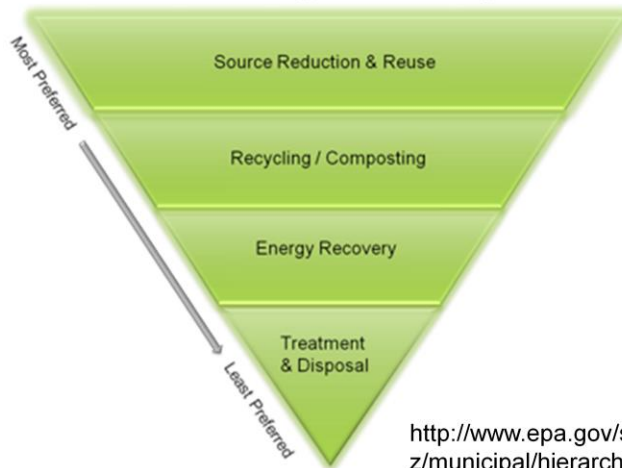
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ENVIRONMENTAL ASSISTANCE
AND CUSTOMER SERVICE

[Introduce self; give CV if needed; Who is DEACS; Ask audience if any are ZWTL or on path]



What is ZWTL?

Waste Management Hierarchy



<http://www.epa.gov/solidwaste/nonhazard/municipal/hierarchy.htm>

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[Go over slide; give a few examples of each layer]

Simply put, nothing goes to the landfill, but the devil is in the details. Here is a waste management hierarchy from the EPA that provides a basic outline of categories for destination of solid waste.



What is ZWTL cont..

- A commonly accepted target of 90% diversion is used to begin the self or third party declaration of ZWTL. (<http://zwia.org/standards/zw-business-principles/b/>)
- UL Environmental supports Three levels of certification: Zero Waste to Landfill 100%, Virtually Zero Waste to Landfill >98%, and Landfill Waste Diversion=>80% (<http://industries.ul.com/environment/zero-waste>)
- Green Circle Certified (Organization that offers third party waste diversion certification; <http://www.greencirclecertified.com/>)

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[Go over slide, read basic definitions]

Ultimately it is up for your organization to define. Some food for thought: do you include hazardous waste and construction waste? What about product returns or kitchen and office waste? Do you only look at production waste, or do you count everything and anything that is within your controllable footprint? Will you use waste to energy? Unless you are using guidance from a trade group or a certification you and your staff will have to define the end goal.



Why Strive for ZWTL?

- Cost Savings
- Sustainability Programs
- Lean Manufacturing
- Supply Chain Drivers
- Regulatory Drivers
- Marketing and Public Relations

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[Comments below are in order as shown]

There are many levels of direct and indirect cost savings when focusing on ZWTL. Any material not captured within a product is lost value, even if it is recycled. Organizations have reported cost savings from reduced waste pick up services, reduced disposal costs, and even possibly reduced procurement costs.

The adoption of a sustainability program/goal/plan is becoming more mainstream in today's economy. Regardless of the source of this inspiration, be it from external or internal forces, ZWTL could be the cornerstone for these activities. Solid waste is very tangible and visible, potentially creating quicker employee buy-in for future sustainability goals.

LEAN is a practice that instills an on-going consideration of waste and how to eliminate it. Waste is considered in all activities and includes expended time, labor, space, and the inefficient use of materials.

Some companies, such as Wal-Mart, Kroger and Daimler, are promoting waste reduction by requiring suppliers to provide sustainability assessments. If a multi-billion dollar company tells you to fill out a survey or they won't carry your product...what are you going to do?

Landfill disposal bans and universal waste management programs are examples of regulations passed to prevent certain materials from entering landfills and potentially impacting groundwater resources. These regulations are covering more materials every year.

Reaching a zero waste to landfill goal is a difficult accomplishment that shows drive and dedication at all levels of an organization.



Guidelines for Success

- Support from Senior Management
- Gather a team
- Create a phased plan
- Establish a baseline: Dumpster Dive
- Set the Goal
- Launch and Train
- Metrics
- Report and Promote
- Continual Improvement

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[This slide gives an overview of the next slides]



Support from Senior Management



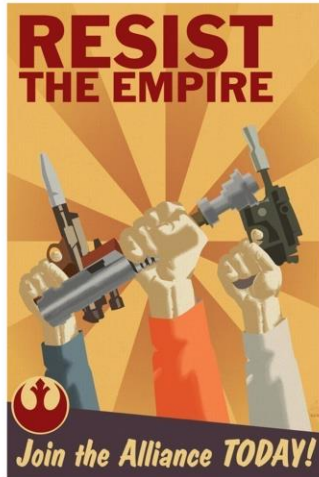
**I find your
lack of
recycling
disturbing...**

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It is important for any company goal to be embraced by all levels of an organization, but support from the top is necessary. Senior management support for a zero waste-to-landfill goal is no exception. The goal should be formally adopted, and all employees and managers should be included in the responsibility of achieving the goal.



Gather a Team



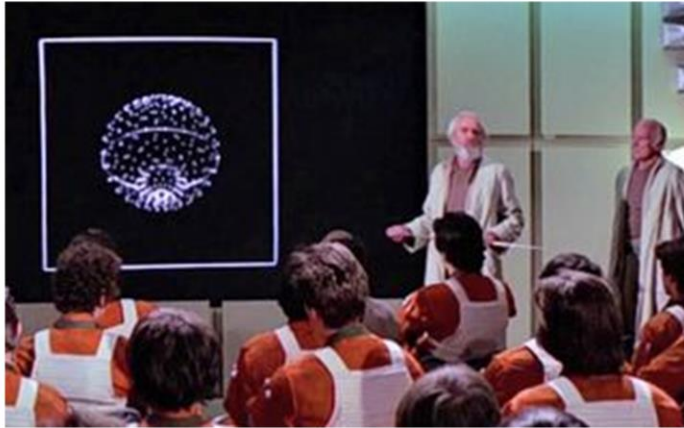
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Since the successful implementation of facility wide waste reduction to zero waste requires cooperation on all levels of a facility, the formation of a “green team” and the establishment of a corporate ZWTL mission is recommended. By including representatives from cross functional areas, the green team promotes cooperation throughout the company. This program of inclusive representation helps ensure that all employees are stakeholders in the process. Ideally members should represent different aspects of waste generation (i.e. procurement, stockroom, production, packaging, shipping, etc)

A function of the green team will also be to develop briefing materials for contractors and other site visitors on the facility's recycling program and zero waste to landfill objective. Also, the green team will monitor the facility's metrics and work collectively to find effective solutions to problems identified along the way.



Create a Phased Plan

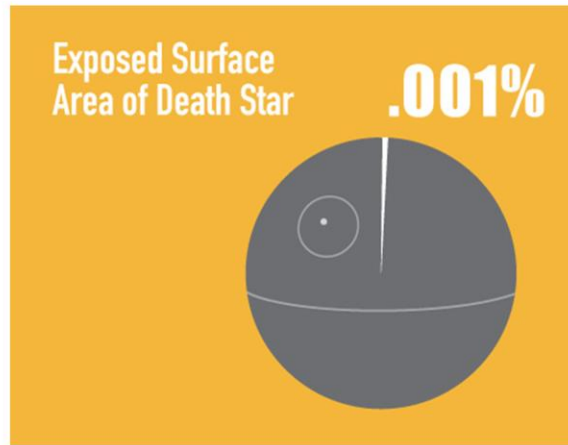


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With your team created start to formalize a calendar or sequence of events. Keep in mind who will assist or lead a dumpster dive, training, data collection and reporting to upper management. This might be the whole team or just a single individual. Are you ready to manage sub-committees? Will HR, maintenance or purchasing need to be involved?



Establish a Baseline



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From the data collected on waste creation, a current state or baseline can be created. Recent waste reduction efforts should be analyzed to form a long term stretch goal, as well as milestone goals to realistically guide future reduction efforts. In addition to recording the number of waste pick-ups or “pulls”, as well as waste volumes, consider tracking the cost of waste as part of the baseline. This will allow for cost savings, or at least cost avoidance to be reported.



Dumpster Dives



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Whether you call them dumpster dives, waste sorts or audits, or resource assessments, the goal is to collect, sort and analyze a volume of waste from your organization. The volume and duration of collection depend on your operational constraints. Including your waste or recycling haulers in the planning process is an excellent key for a successful event.



Set the Goal



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As mentioned earlier, unless your organization decides to follow a third party model, a 90% or greater waste diversion is an acceptable goal to declare zero waste to landfill. There are many factors to consider such as exclusions, limitations due to regulations, supply chain demands, and traceability.



Launch and Train



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Now that your path and destination are in plain view, it is time to lift the curtain and collaborate with your fellow employees. Get them involved in the movement. Let everyone know why this effort is being done and how it will affect their job. Most importantly, listen to the feedback for improvements. New training or equipment might be needed to accomplish the next milestone.



Metrics



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On the journey to a ZWTL operation, the adage “You can’t manage what you don’t measure” rings soundly. Milestone accomplishments gained through new projects, programs or equipment should be validated by data.



Report and Promote



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Senior management should be updated on progress and challenges toward the organization's goal. It is vital at this stage to communicate to the stakeholders the progress of the project.



Continual Improvement

DEATHSTAR I
MANUFACTURER: IMPERIAL DEPARTMENT OF MILITARY RESEARCH
SIENAS FLEET SYSTEMS
MODEL: DS-1 ORBITAL BATTLE STATION
CLASS: DEEP-SPACE MOBILE BATTLESTATION

TECHNICAL SPECIFICATIONS
SPHERICAL: 120 KILOMETERS IN DIAMETER
MGLT: 10 MGLT

ARMAMENT
CONCAVE DISH COMPOSITE BEAM SUPERLASER (1)
RANGE: 47,060,000 KILOMETERS
TWIN 8 BAK DS1 TURBOLASER BATTERIES (8,000)
TWIN 8 BAK XX-9 HEAVY TURBOLASERS (8,000)
SP-15 N-1 LASER CANNONS (2,800)
BORSTEL MS-1 ION CANNONS (2,500)
SB-120 LASER CANNONS
PHYLON TRACTOR BEAM GENERATORS (768)
CHARGED-PARTICLE BLASTERS
MAGNETIC SHIELDS
PROTON TORPEDO BANKS
SURFACE CANNON

DEATHSTAR PROTOTYPE
MANUFACTURER: IMPERIAL DEPARTMENT OF MILITARY RESEARCH
MODEL: DEATH STAR PROTOTYPE BATTLESTATION
CLASS: BATTLESTATION

TECHNICAL SPECIFICATIONS
SPHERICAL: 120 KILOMETERS IN DIAMETER

ARMAMENT: CONCAVE DISH COMPOSITE BEAM SUPERLASER

DEATHSTAR II
MANUFACTURER: IMPERIAL DEPARTMENT OF MILITARY RESEARCH
MODEL: DEATH STAR II BATTLESTATION
CLASS: BATTLESTATION

TECHNICAL SPECIFICATIONS
SPHERICAL (INCOMPLETE): 160 KILOMETERS IN DIAMETER
MGLT: 20 MGLT

ARMAMENT
CONCAVE DISH COMPOSITE BEAM SUPERLASER (1)
TURBOLASER BATTERIES (8,000)
HEAVY TURBOLASER BATTERIES (8,000)
LASER CANNONS (7,500)
ION CANNONS (8,000)
TRACTOR BEAM GENERATORS (768)

(DEATH STARS SHOWN TO SCALE)

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Once the celebration of the current milestone or even the goal itself is complete, re-evaluate the baseline and work with senior management on the next milestone, or develop a new goal. Are your teams working effectively? Do you need more training? Are you collecting too much or too little data? What is your next challenge?

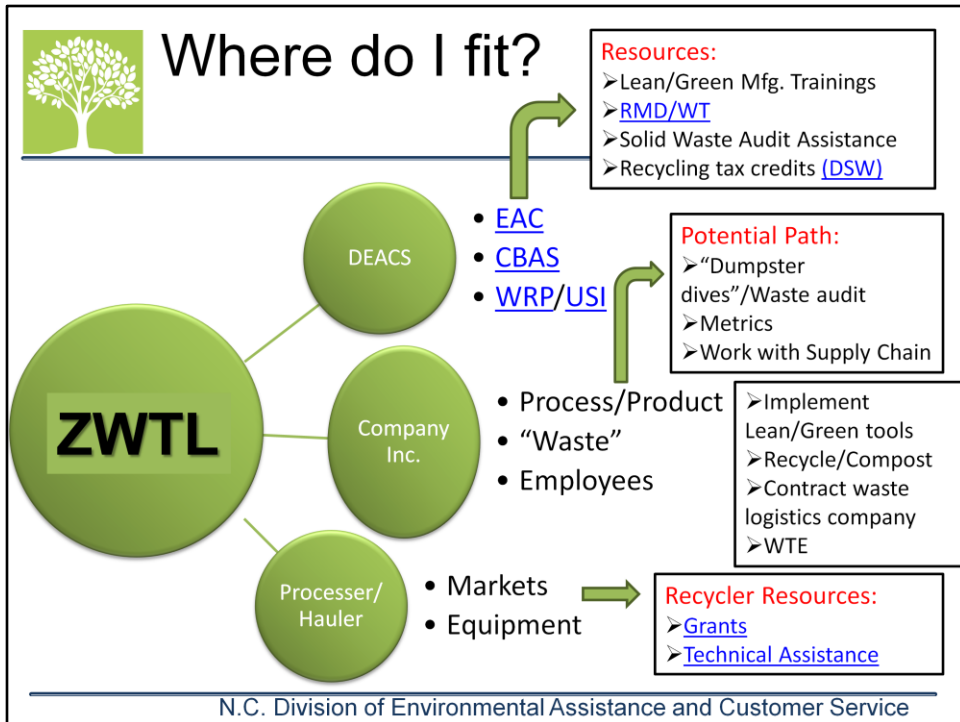


Service Providers



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A company's existing recyclers or even waste haulers may be able to play a role in the goal of zero waste-to-landfill. Approach the companies that you already have a relationship with first. However, keep in mind that there are now a number of waste service companies who help facilities find markets for materials and find waste-to-energy services for materials without markets. They can provide a comprehensive resource management service rather than an average recycling service provider.



Whether your organization is new to the state or established, there are services and staff members within DEACS and DENR that can provide varying levels of assistance to help you on your path to ZWTL.



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Contact information slide