

Healthcare Food Waste Management Strategies

CleanMed Conference
May 19, 2009

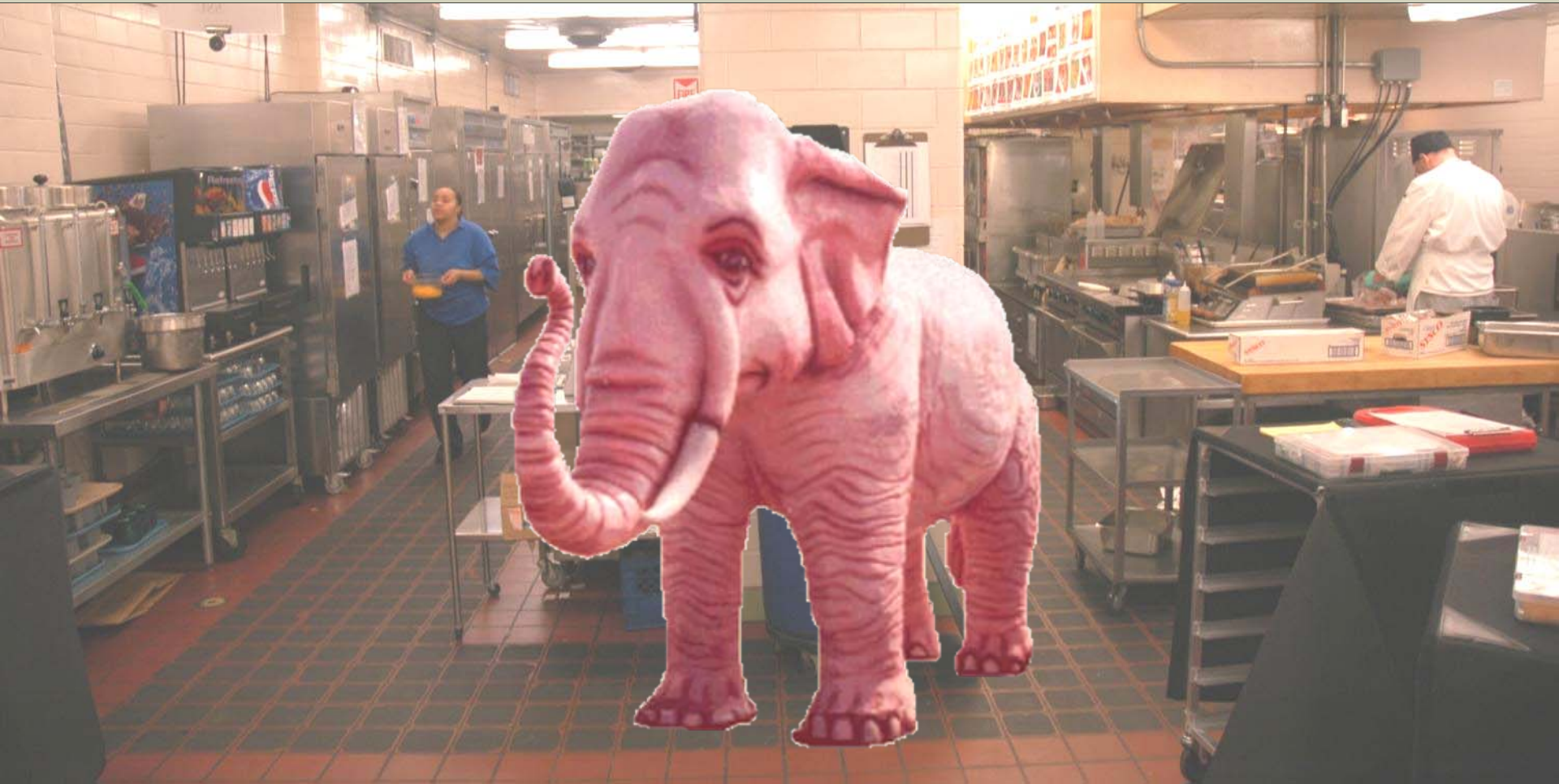
Andrew Shakman
President, CEO – LeanPath



Presenter: Andrew Shakman (ashakman@leanpath.com)

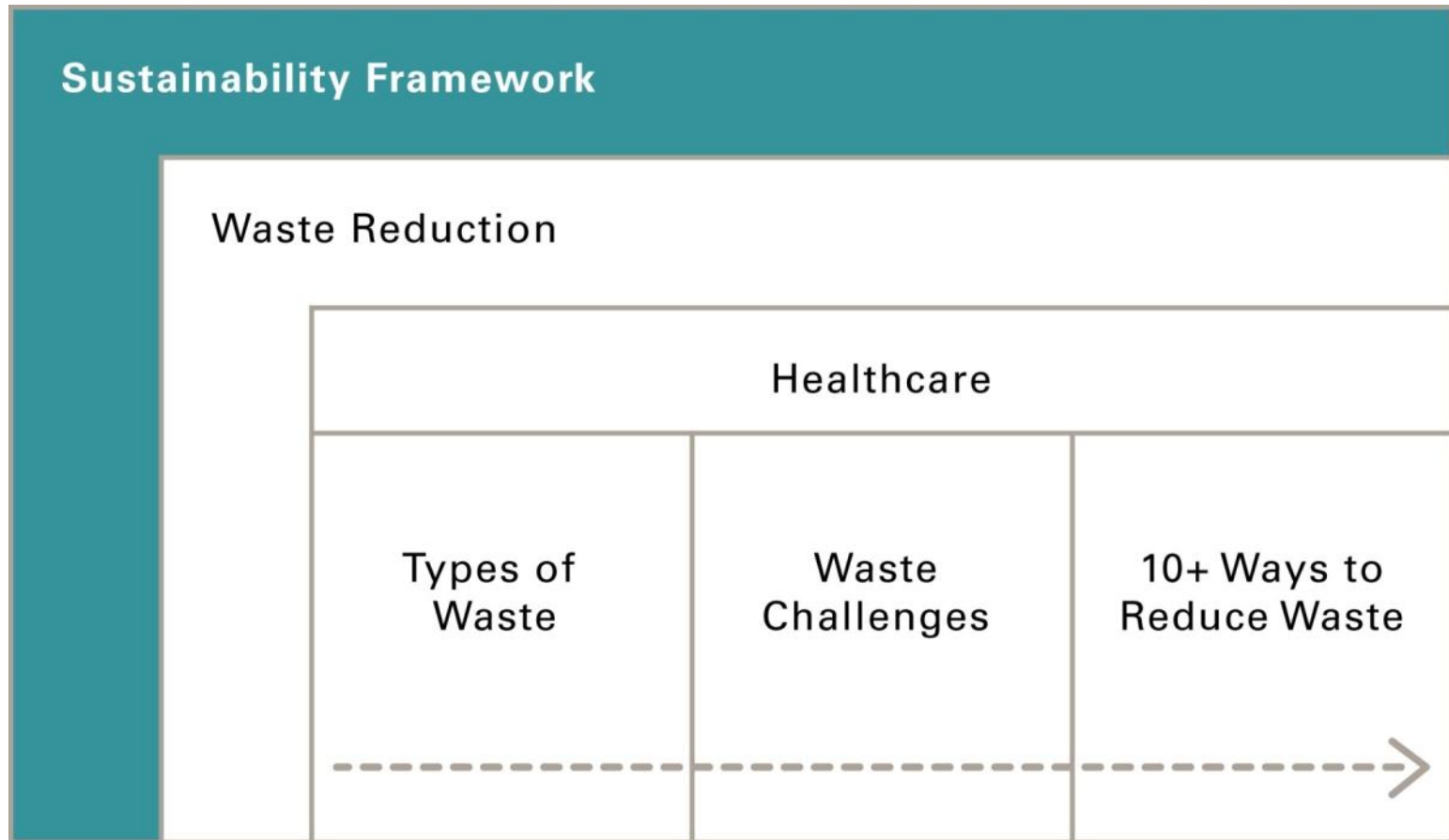
Learning Objectives

1. Why does food waste matter?
2. Why does healthcare foodservice have waste?
3. What are waste management *best practices*?

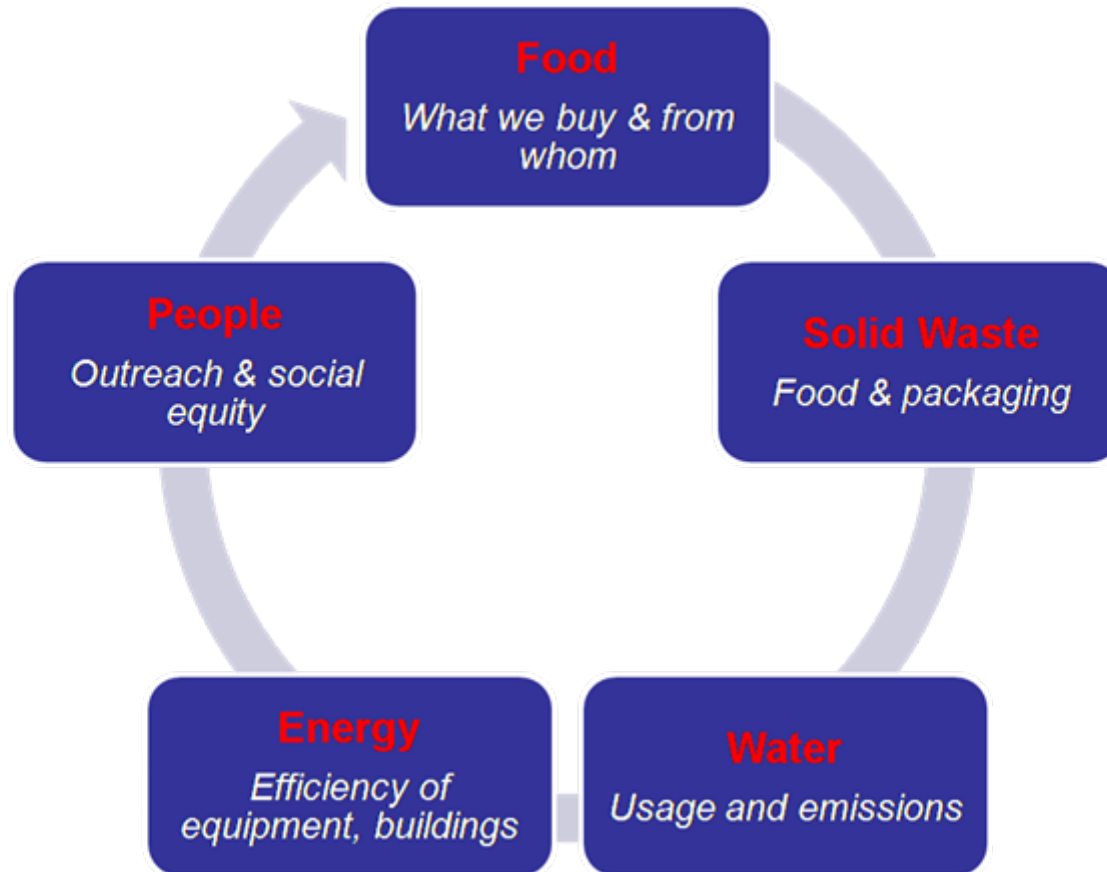


Presenter: Andrew Shakman (ashakman@leanpath.com)

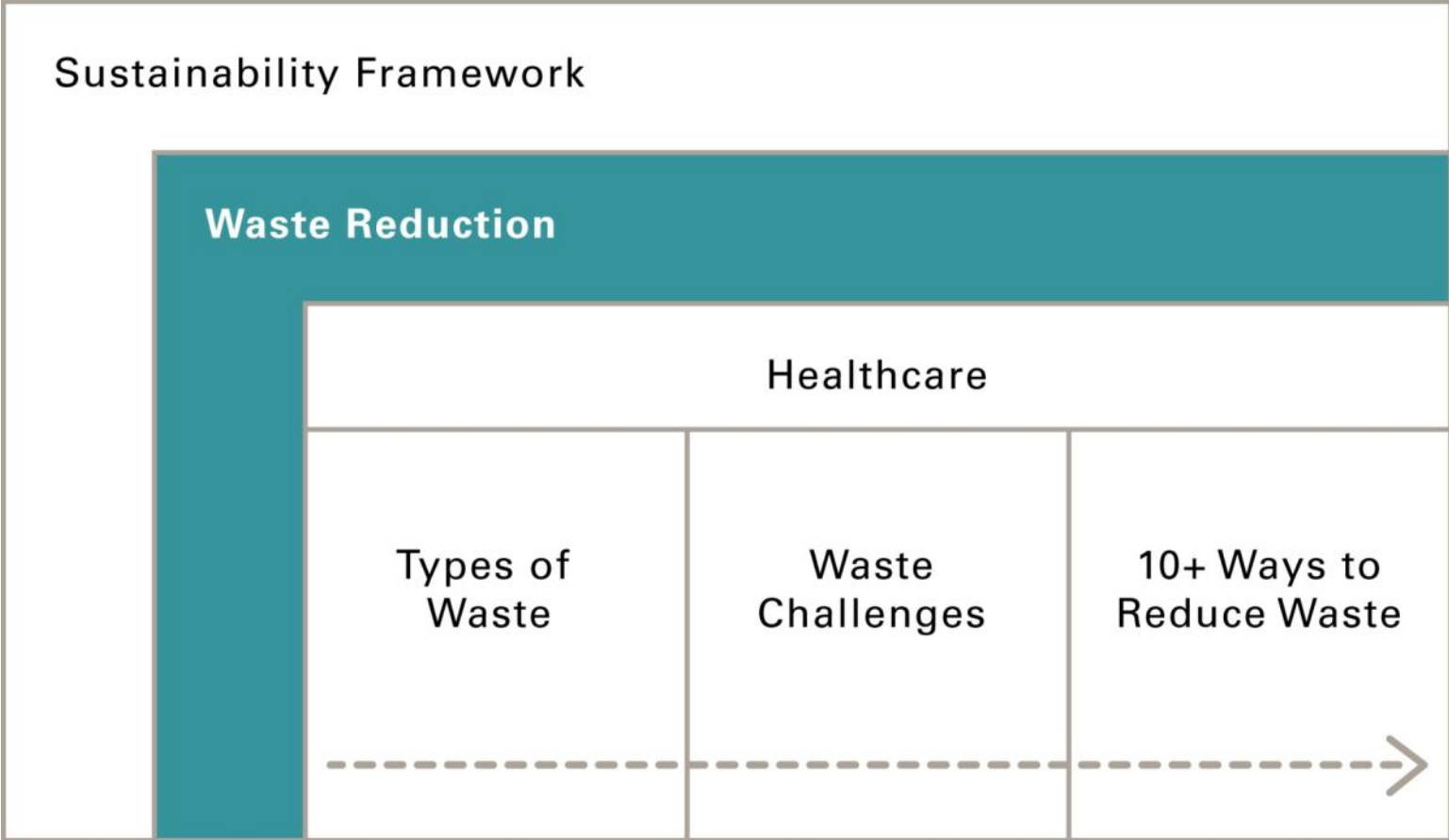
Topics



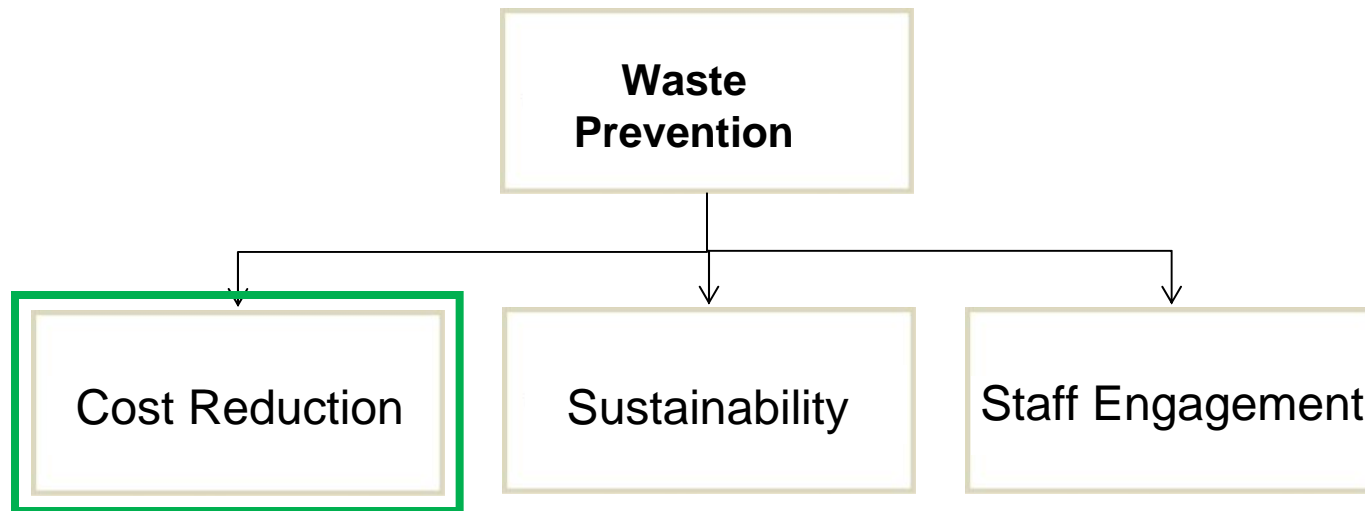
Sustainable Healthcare Foodservice



Topics



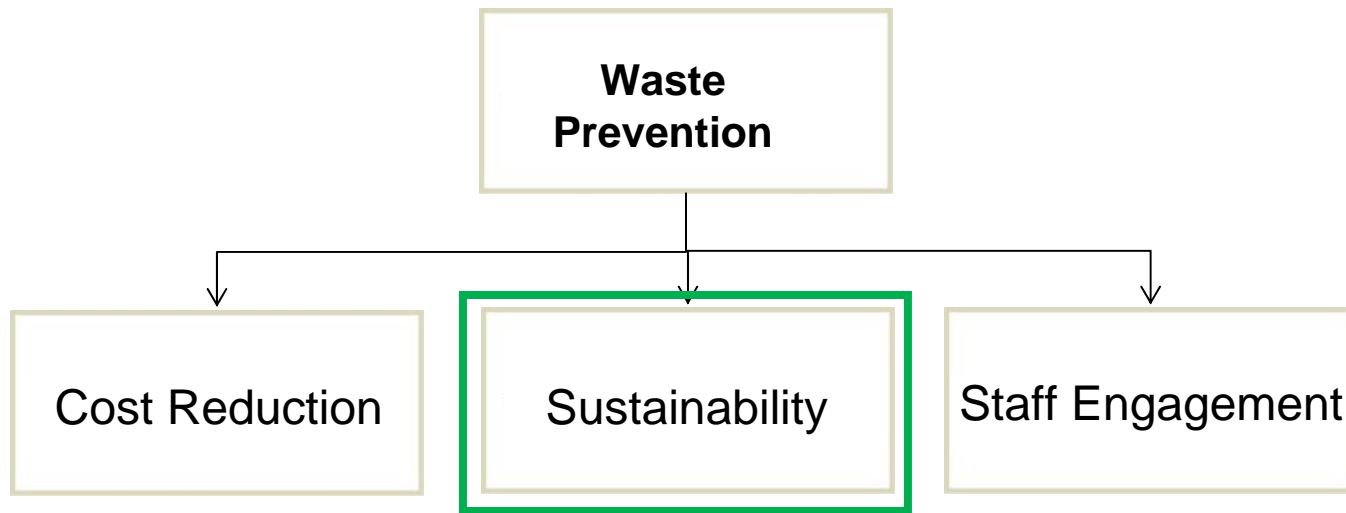
Benefits of Food Waste Prevention



Wholesale food prices rose nearly **13%** over the last two years. ➔

Wasting less food means purchasing less and saving money

Benefits of Waste Prevention



Green priorities are increasingly important to foodservice

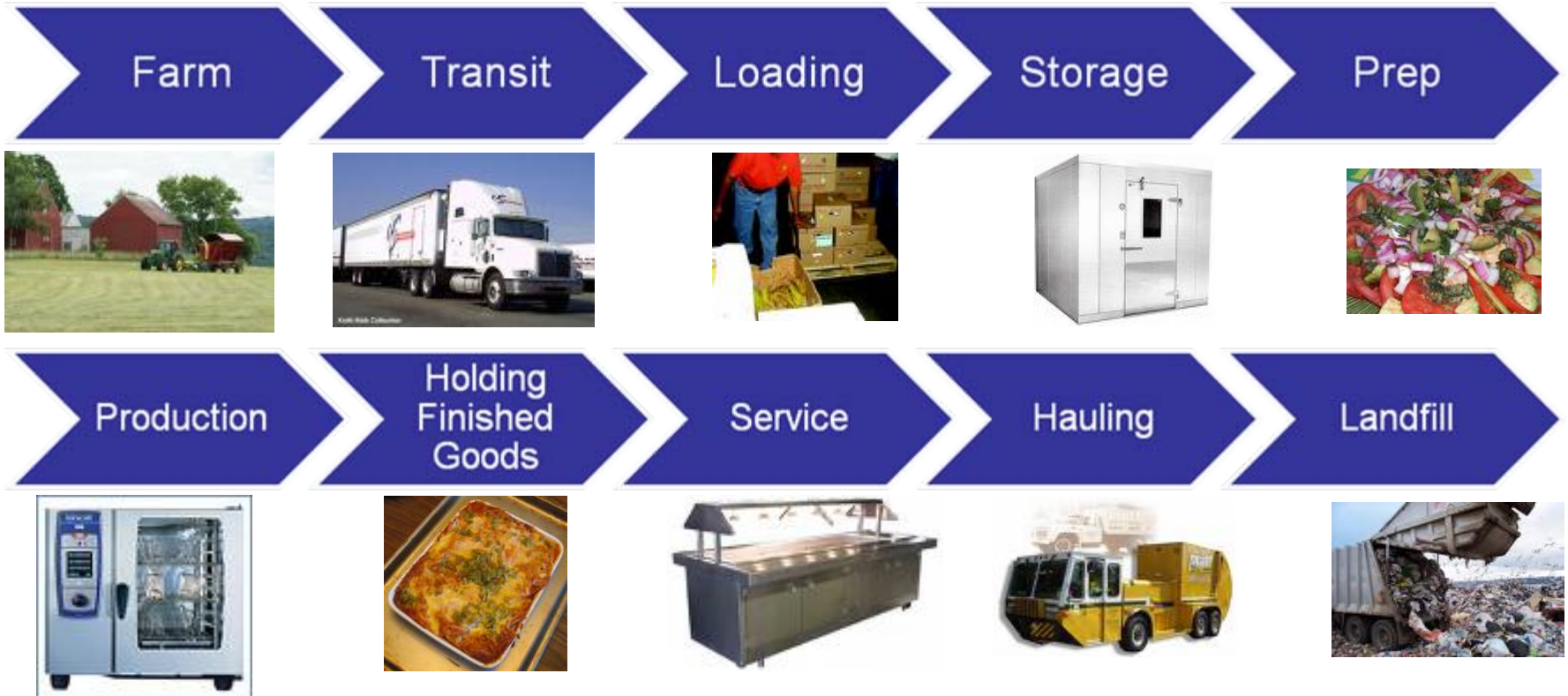


Wasting less food means less upstream impact, less food in landfills and less carbon impact

Food Waste – Upstream Impact

Too Important Environmentally to Ignore

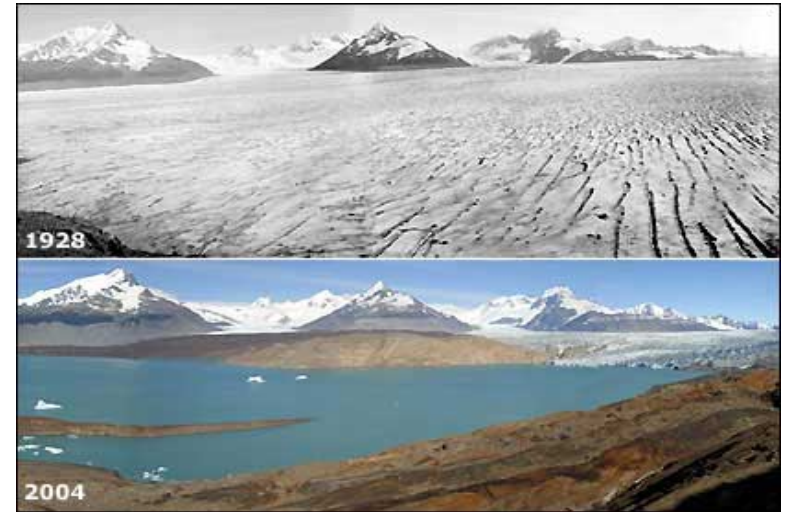
Illustration of food waste journey & carbon footprint



Food Waste – Downstream Impact

Too Important Environmentally to Ignore

- The decomposition of food...under anaerobic (without oxygen) conditions in landfills produces methane, a greenhouse gas (GHG) 21 times more potent than carbon dioxide.
- Landfills are the largest human-related source of methane in the United States, accounting for 34% of all methane emissions.



Food Waste – Downstream Impact

Too Important Environmentally to Ignore

In 2005 the city of Seattle, WA, shipped 485,910 tons of solid waste in 18,000 rail cars to a landfill in Eastern Oregon.

24.9% of Seattle's solid waste is food.

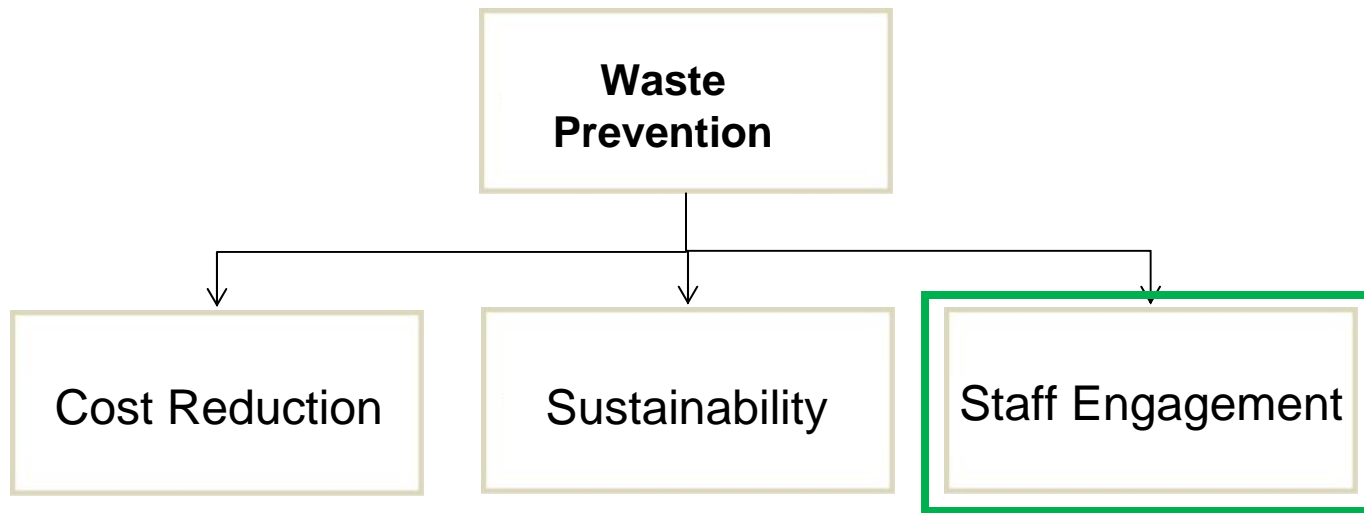
That's the equivalent of 4,482 rail cars filled with food.



Source: Seattle Public Utilities

Presenter: Andrew Shakman (ashakman@leanpath.com)

Benefits of Waste Prevention

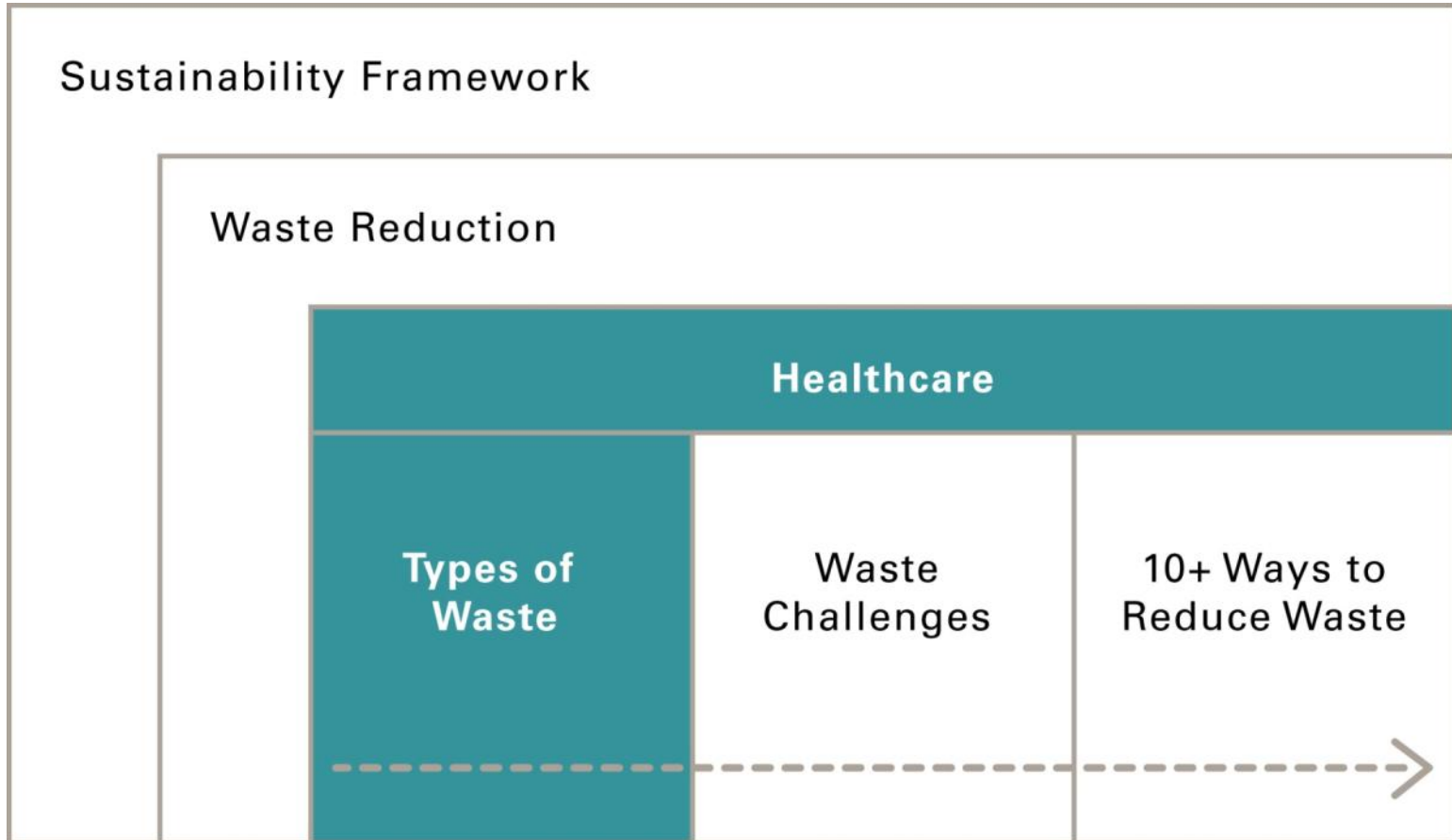


Employees want to do work that matters



Wasting less food reflects how people live at home

Topics



Pre v. Post Food Waste Dynamics

Characteristics	Pre-Consumer	Post-Consumer
Drivers	Overproduction, spoilage, expiration, trim waste, communication, adherence to forecasts/recipes	Guest awareness and behavior, portion sizes, self-service
Reduction leads to lower costs?	\$\$\$\$\$	\$\$
Behavior change by:	Kitchen staff	Guests

Healthcare Pre-Consumer Food Waste

Name	Licensed Beds	% of FC	% without Trim
SMALL GROUP AVERAGE	204	10.4%	8.7%
MEDIUM GROUP AVERAGE	432	6.2%	5.0%
LARGE GROUP AVERAGE	675	4.4%	3.5%
VERY LARGE GROUP AVERAGE	1,033	3.7%	3.0%

Trim equals 15-20% of total pre-consumer waste volume

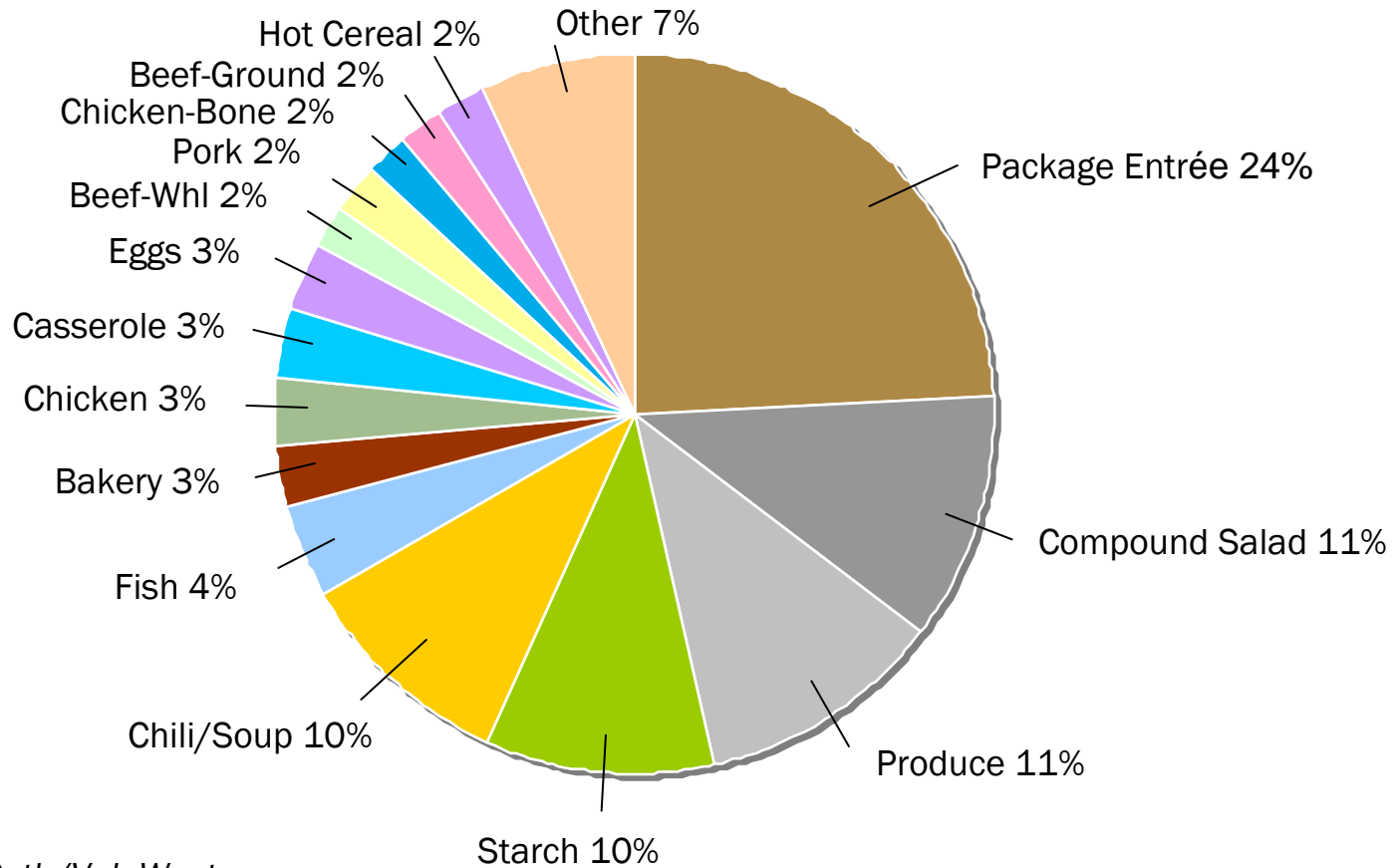
Source: *LeanPath/ValuWaste*

Presenter: Andrew Shakman (ashakman@leanpath.com)

What do we waste?

- Rarely the center of the plate
- “Sneaky waste”
- Standing items

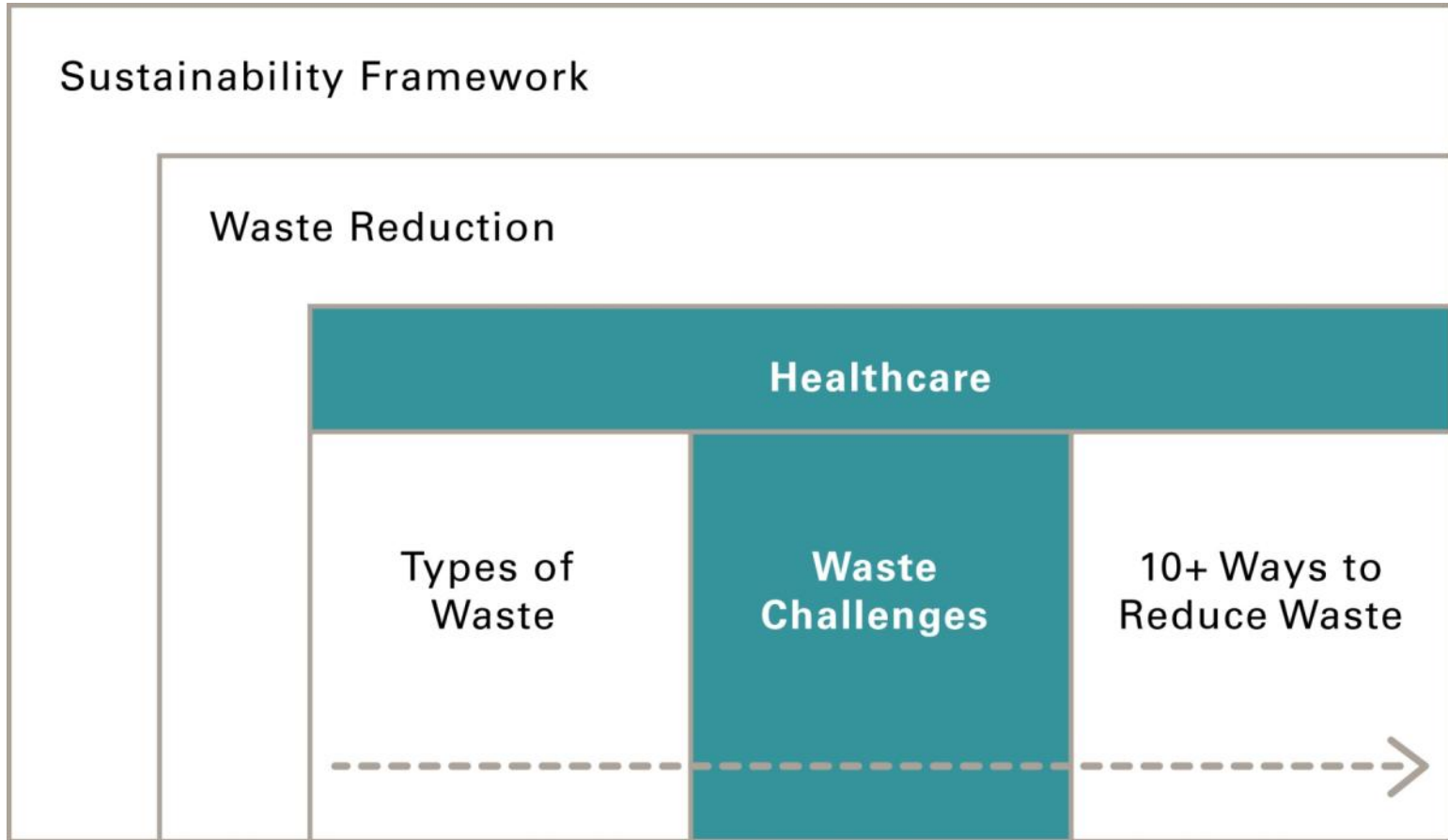
Retail Detail



Source: LeanPath/ValuWaste

Presenter: Andrew Shakman (ashakman@leanpath.com)

Topics



Healthcare foodservice is not easy

- Complex operations
 - Patient, retail & catering
 - Need for accuracy
 - Fluctuating census
- Difficult to hire and retain culinary workforce
- Limited resources



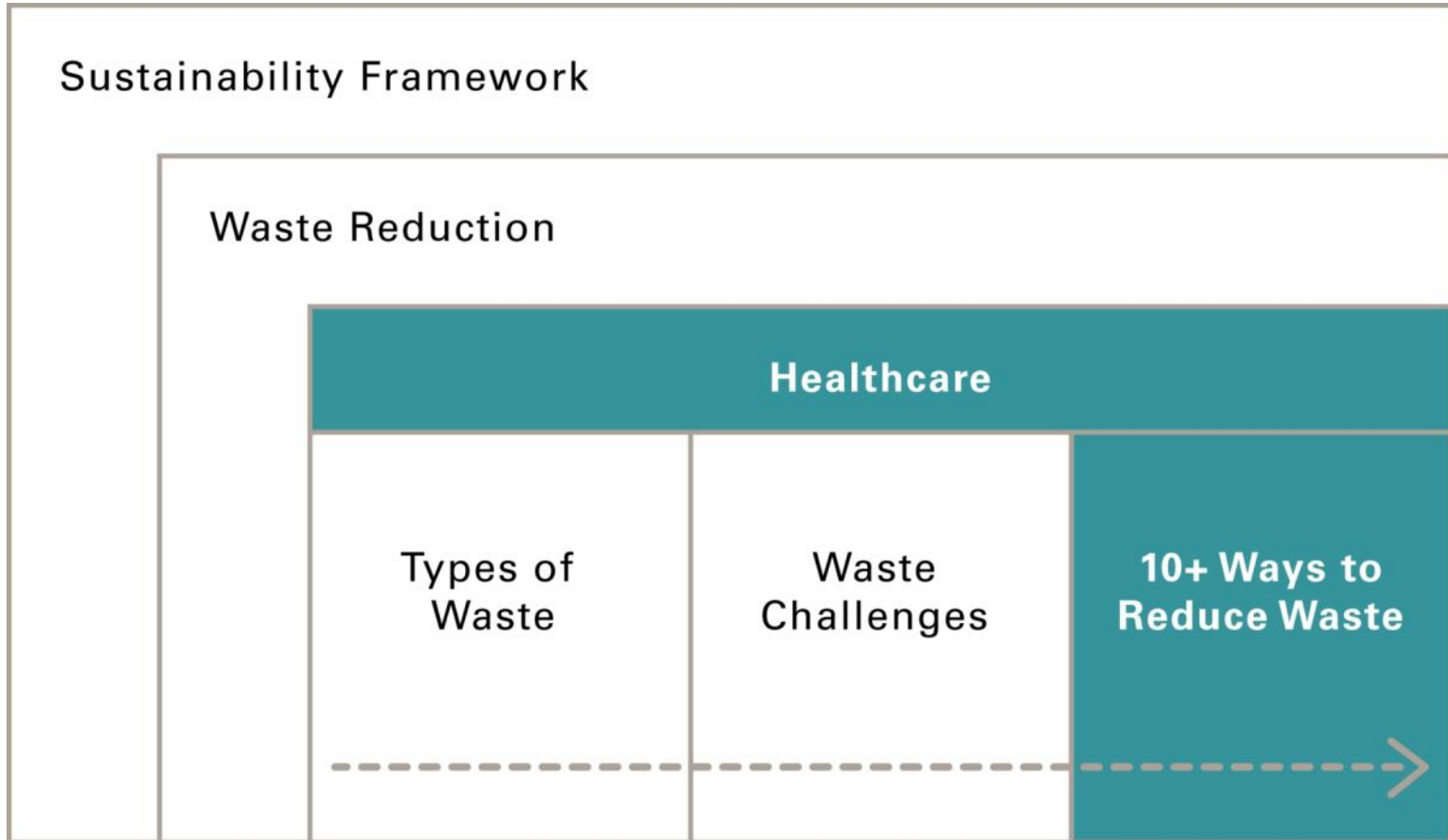
How can this lead to waste?

- We make sure patients receive the right meal even if it requires several trays
- We don't want to run out -- so we justify retail padding
- We fulfill catering requests in good faith regardless of actual attendance

Myths that Hold us Back

- We believe we don't have much waste
- We believe only poor operators have waste
- We believe we can't do anything more to control waste.
- We believe we need to make more to avoid running out
- We rely on software rather than people to control waste

Topics



Waste Management Hierarchy

**Best Practice
Order of
Priority**

1.

Reduce

2.

Reuse

3.

Recycle/Compost

4.

Dispose

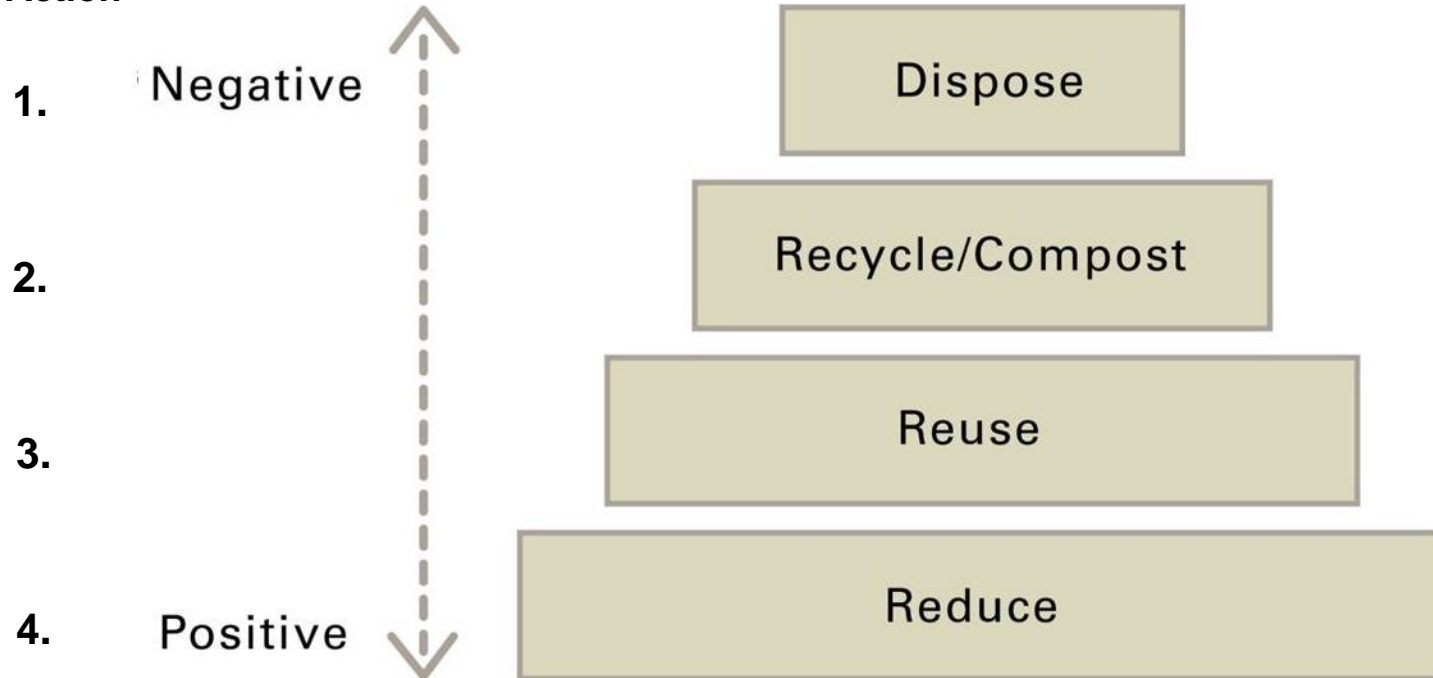


Positive

Negative

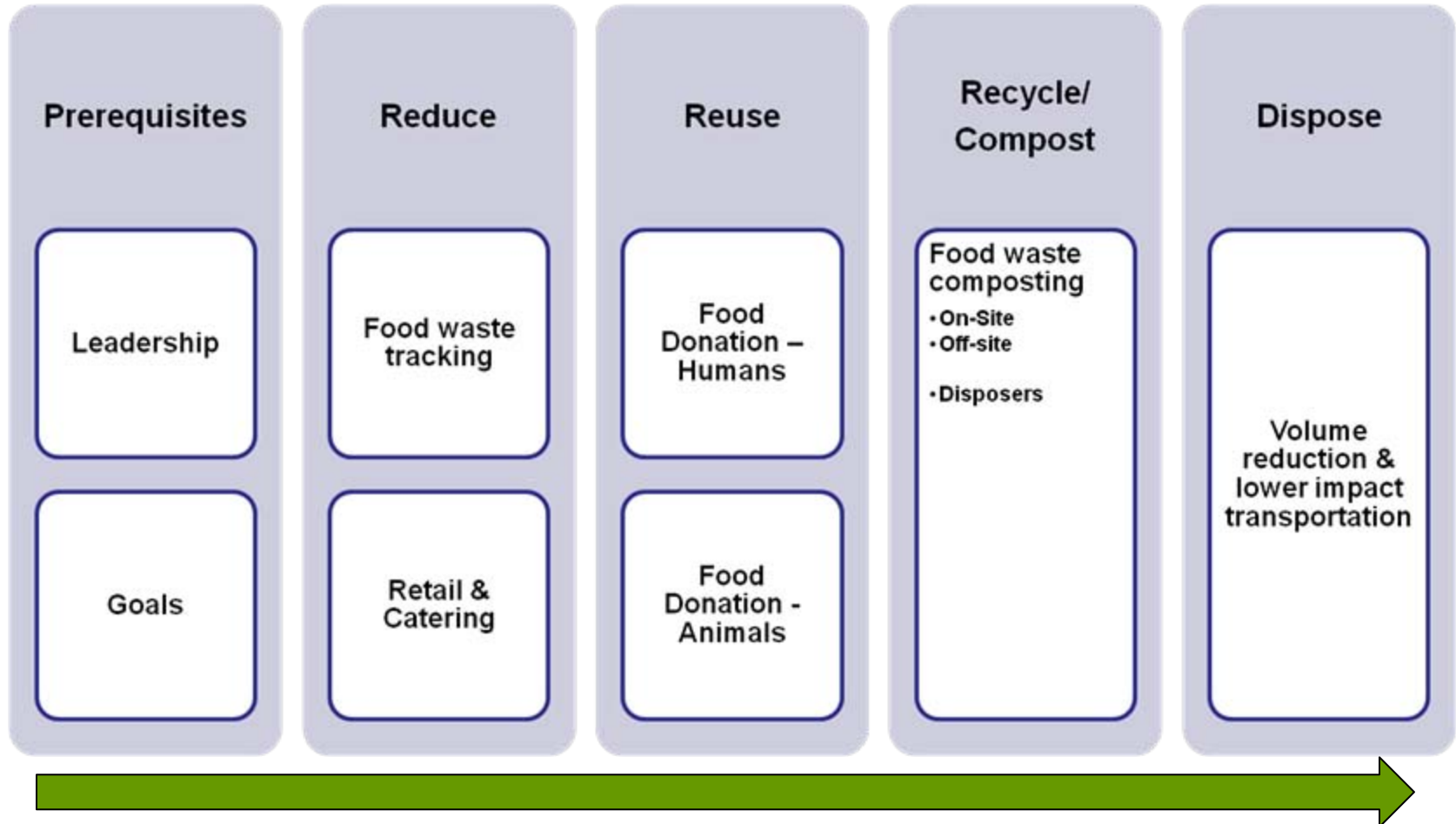
Waste Management Hierarchy

Typical Order
of Action



Why are we starting with the clean-up rather than the leak?

Summary: Waste Best Practices



Prerequisites

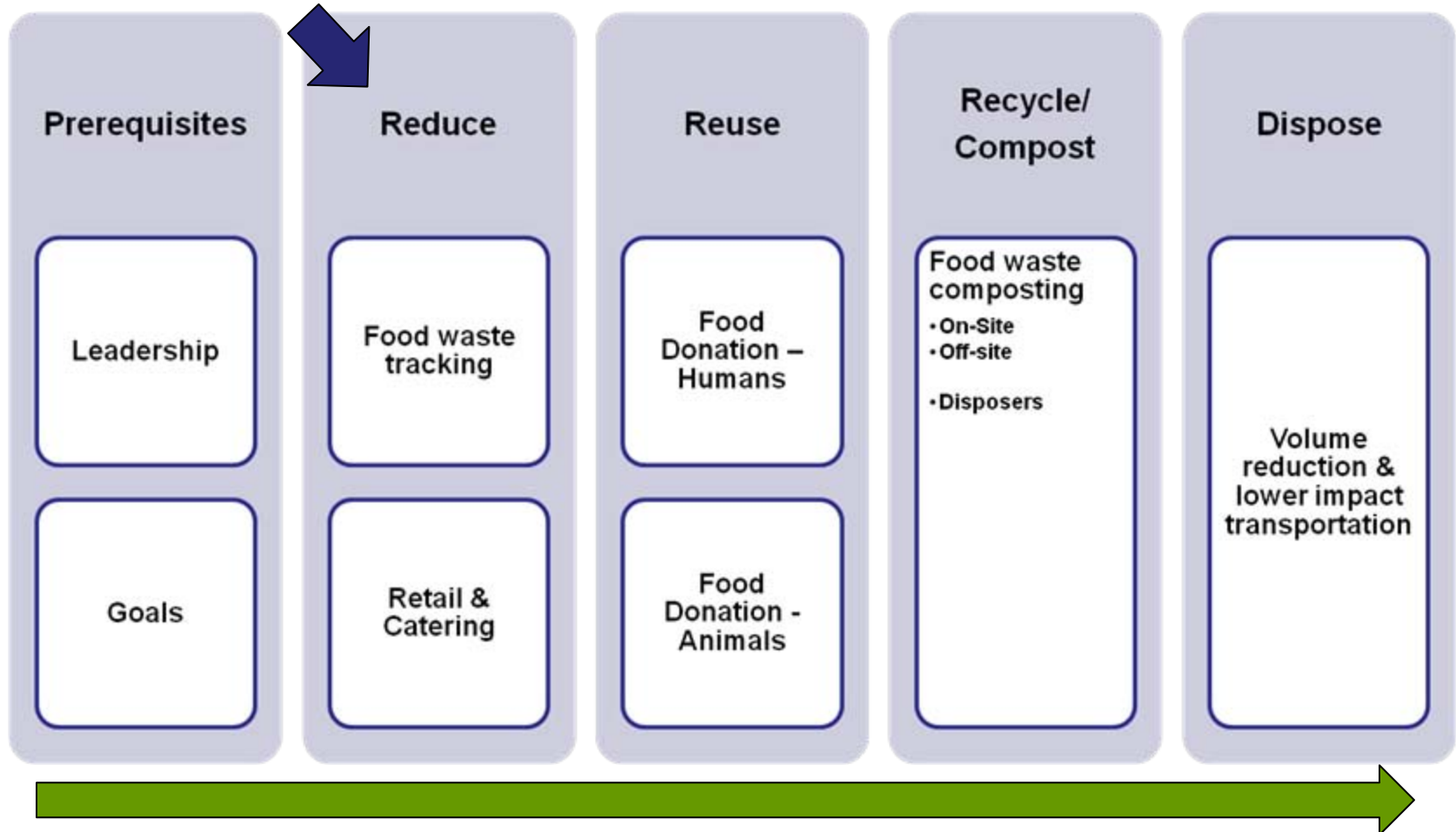
1. Leadership

- Executive sponsorship
- Waste champions at front line

2. Goals

- Meaningful goals

Summary: Waste Best Practices



Reduction:

Food Waste Tracking

- What happens when we receive our electric or gas bill?
- Food waste tracking is a key step toward reduction of pre-consumer food waste
- Continuous tracking allows you to establish baselines, benchmark and monitor progress

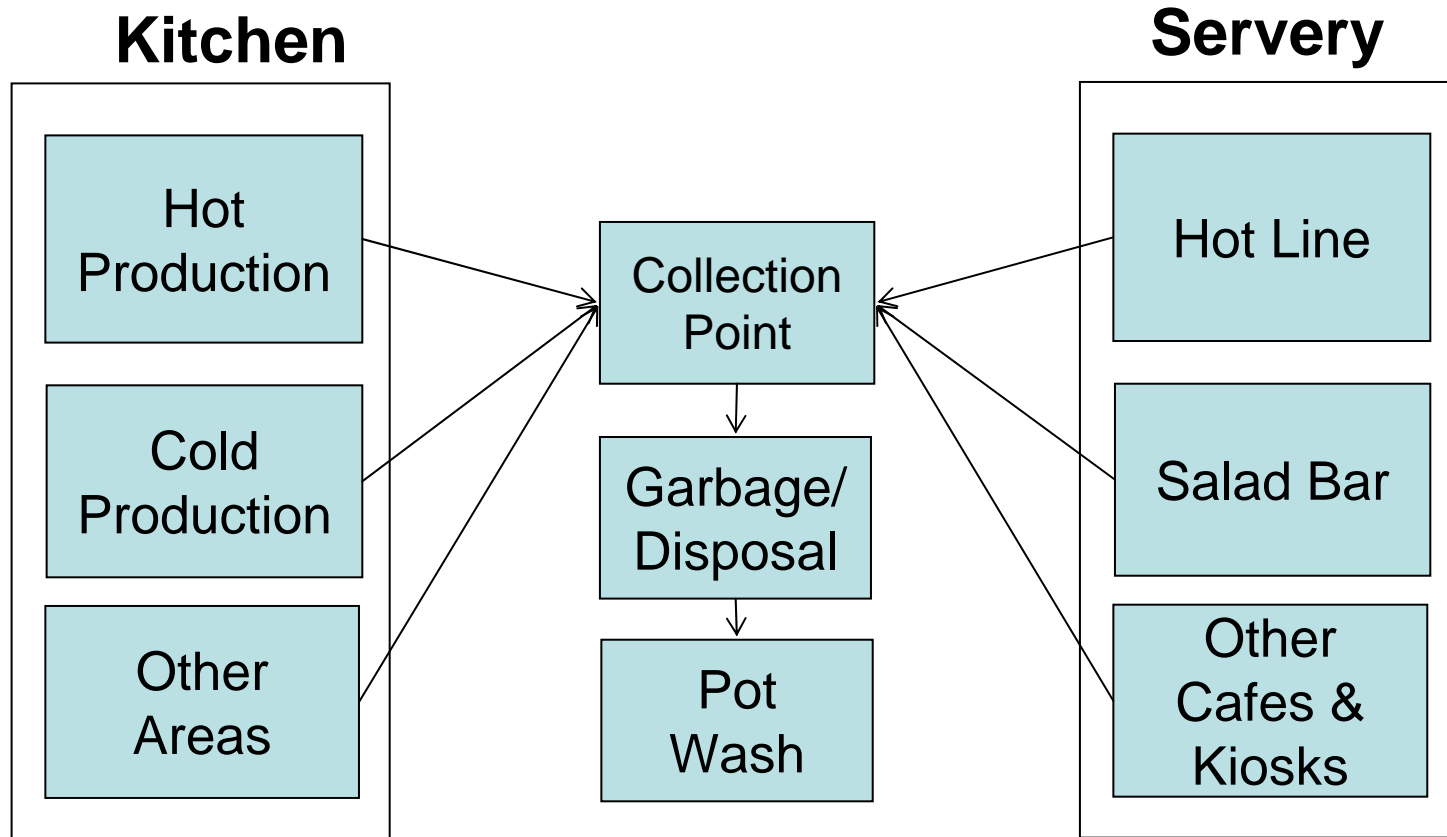


Reduction:

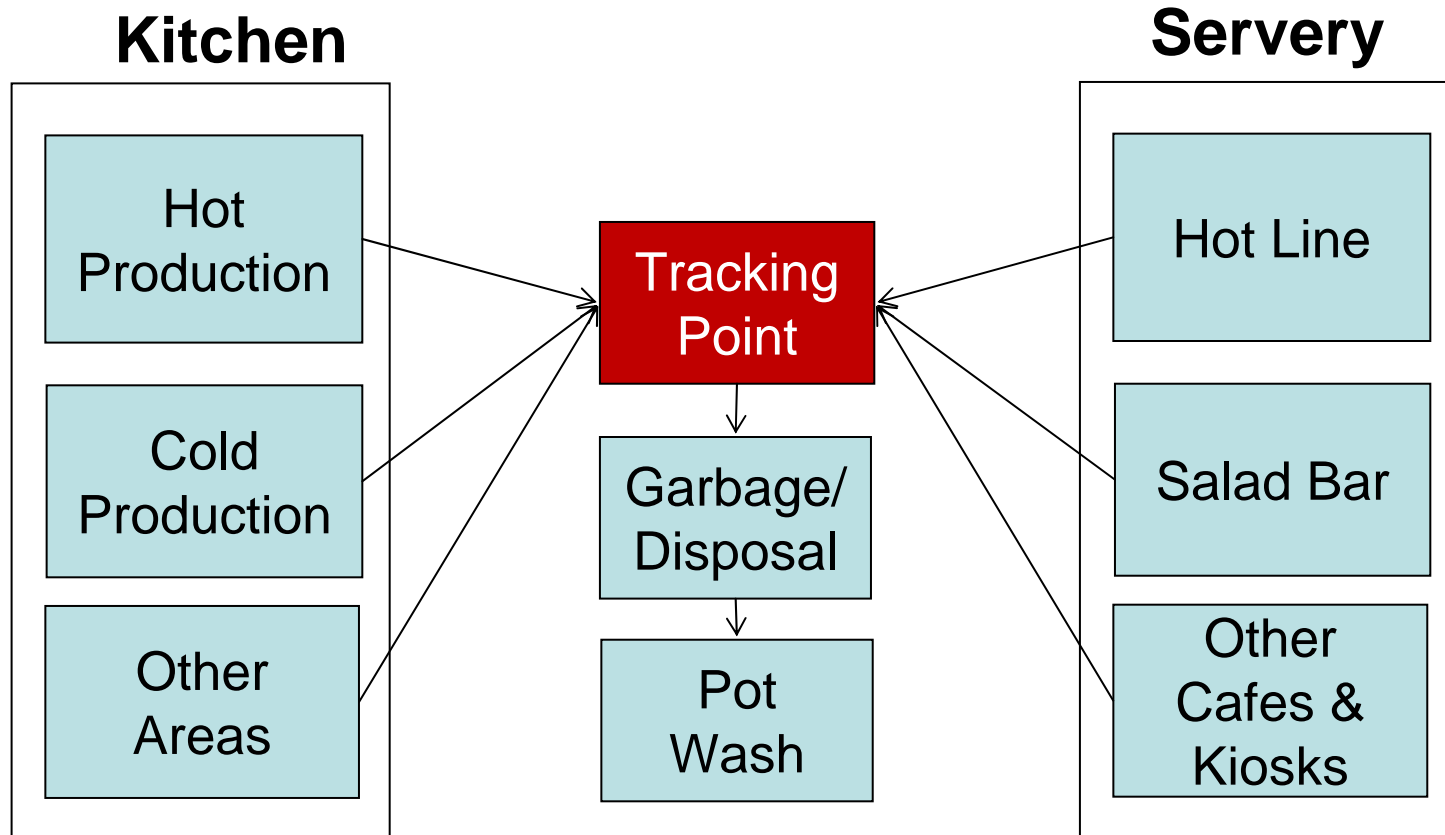
Food Waste Tracking

- Which **food** was discarded
 - **Why** was it discarded
 - **Who** threw it away
 - **When** was it discarded
 - Which **area** did it come from?
 - **How** was it discarded?
 - Was it connected to a **specific event**?
 - How much did it **cost**?
 - Trends
- **Awareness**
 - **Accountability**
 - **Information**

Tracking Process



Tracking Process



Tracking with Technology

Collect Pre-Consumer Food Waste



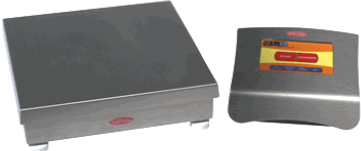
Overproduction

Trim

Dated/Spoiled



Enter Data

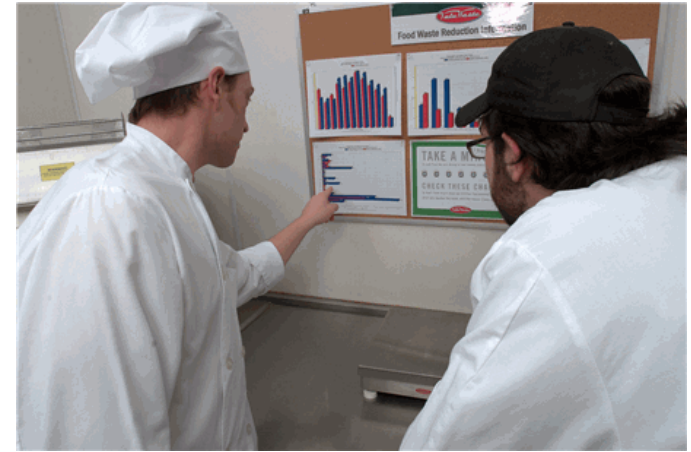


Transfer to PC for Reporting



Using Tracking Data

1. Information posted for all to see
2. Team sets goals for improvement.
3. Managers recognize key staff members.



Business Case

1. Reduce food purchases/costs 2%+
2. Reduce disposal costs
3. Reduce energy costs
4. Increase labor efficiency
5. Improve employee satisfaction



Tracking Case Study

Look at data every week...	Soup waste is \$850/week
Set specific goals...	Reduce soup waste by 75%
Engage your team...	Change batch cooking procedures
Communication & recognition....	Soup waste is now \$250/week!

Reduction:

Retail Focus: Production Management

- Common challenges
 - Soup
 - Salad bars
 - Breakfast (eggs, meat, cereal)
 - Desserts
 - Starches
- Planning and execution gaps are a significant problem



Reduction:

Retail Focus: Merchandising

- Grab & go par levels
- Last pans



Reduction: *Patient Focus*

- Late trays
- Tally items
- Service type
 - Room service
 - Tray line

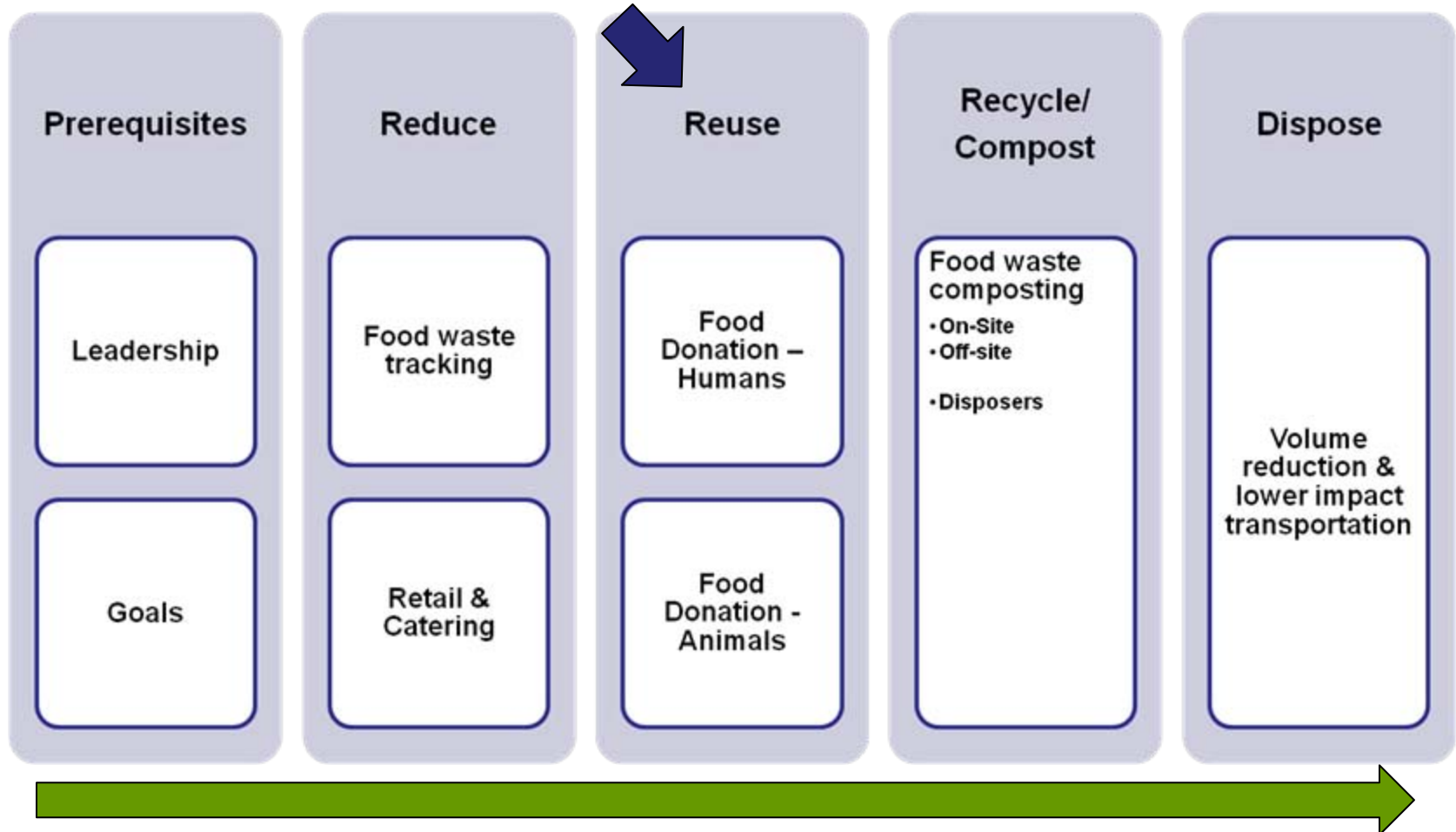


Reduction: *Catering Focus*

- Large waste area
- Myths:
 - “It’s been paid for”
 - “We have to produce to guarantee”
- Significant room for improvement



Summary: Waste Best Practices



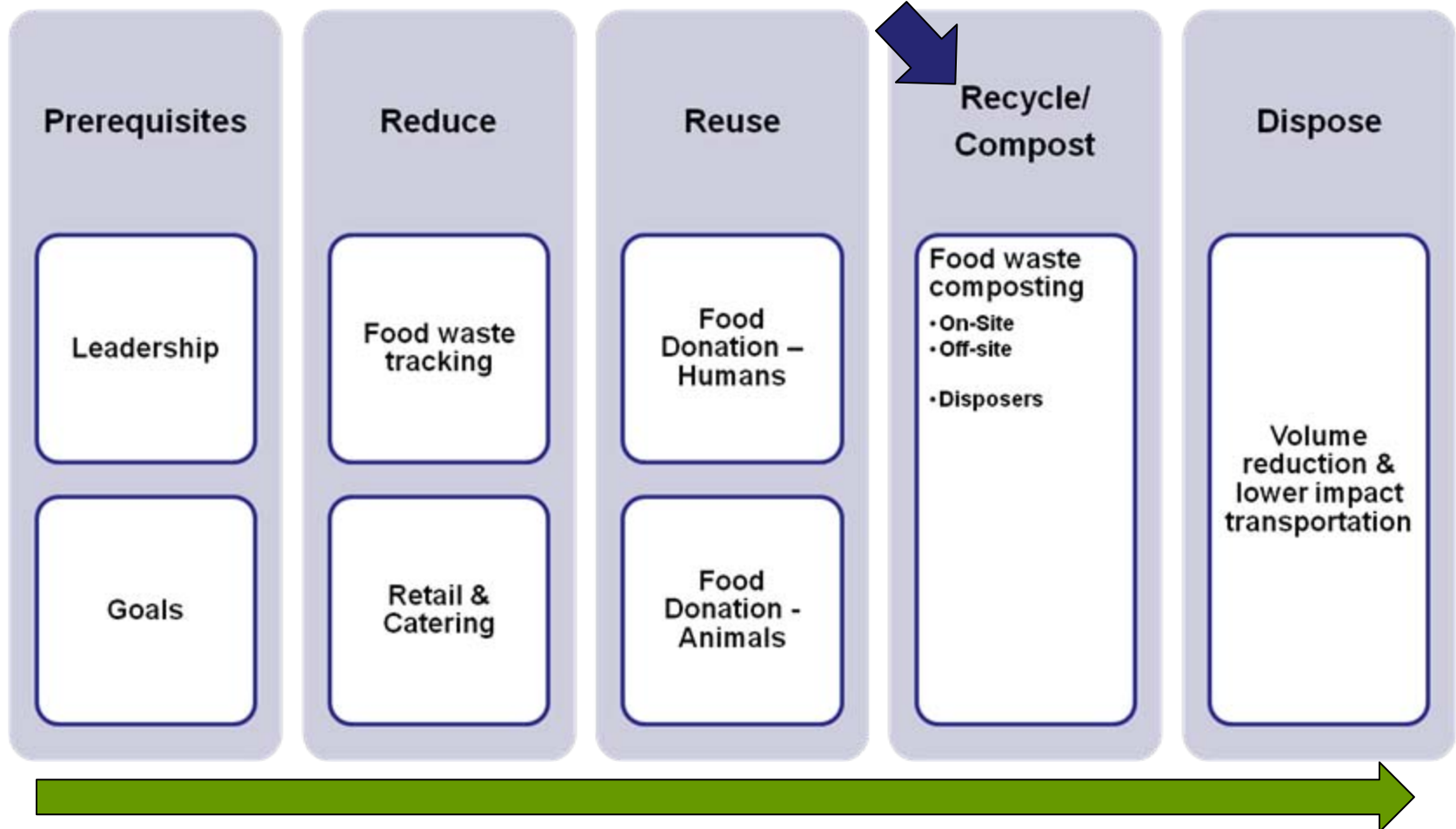
Reuse:

Food Recovery

- Human use
 - Re-use review policy
 - Food Donation Connection
 - www.foodtodonate.com
- Animal use
 - Farms may be a viable option



Summary: Waste Best Practices



Recycling/Composting: *Yellow Grease*

- Fats and oils as biofuels
- Electricity production – Vegawatt



Recycling/Composting: *Food Waste Composting*

Solutions for Pre & Post Consumer Food Waste

On-Site

Off-Site

Waste
Dehydrators



Anaerobic or
Aerobic
Digesters



Windrow or In-
vessel
composting;
Vermiculture



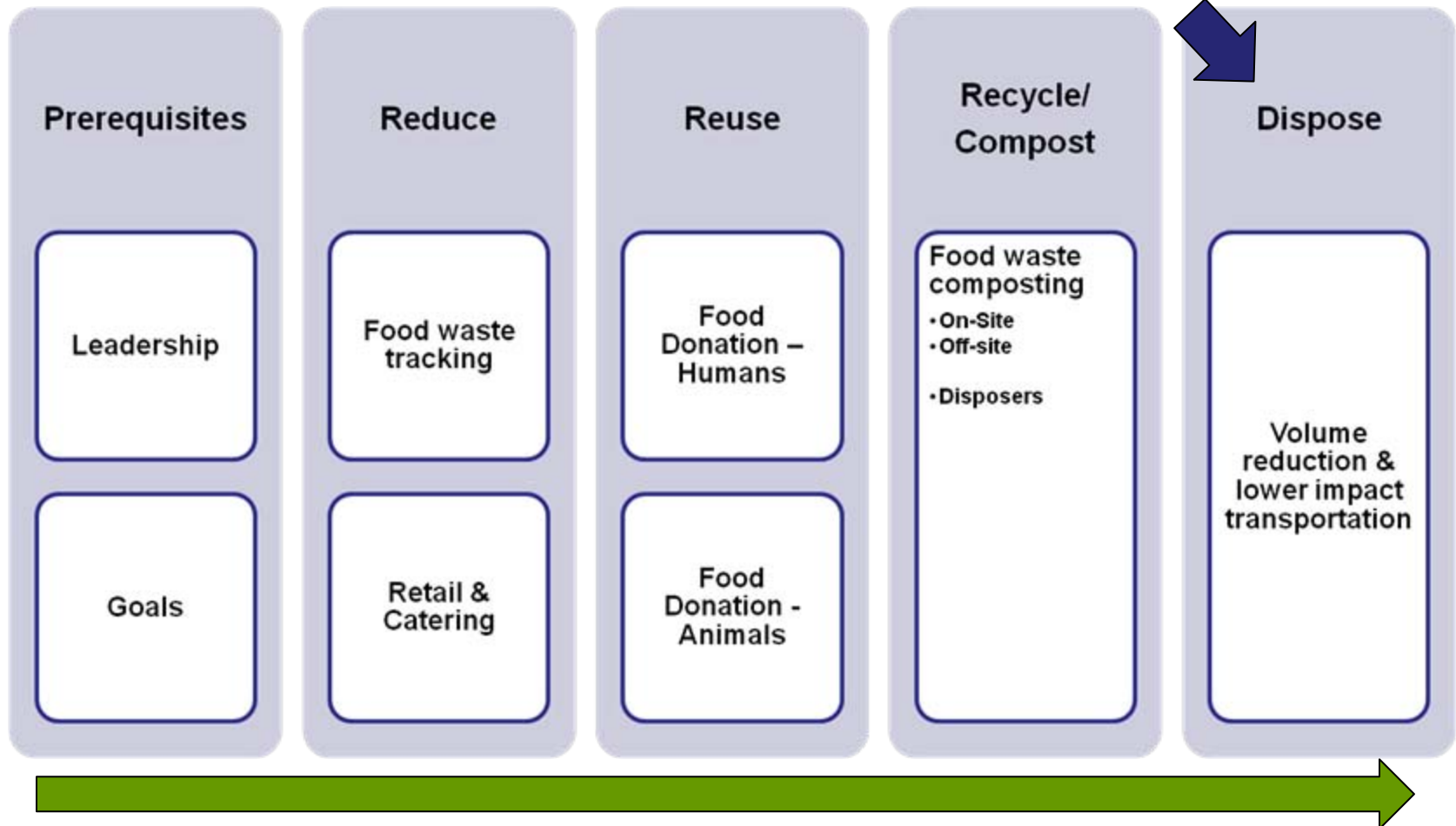
Commercial
Composting
Facility



Food Waste Disposers

- Excellent alternative to composting in certain areas, depending on WWTP infrastructure
- Leverages existing waste water treatment infrastructure
- Food waste can be processed at the WWTP to produce energy and biosolids

Summary: Waste Best Practices



Disposal:

Reducing Volume / Lowering transportation impact

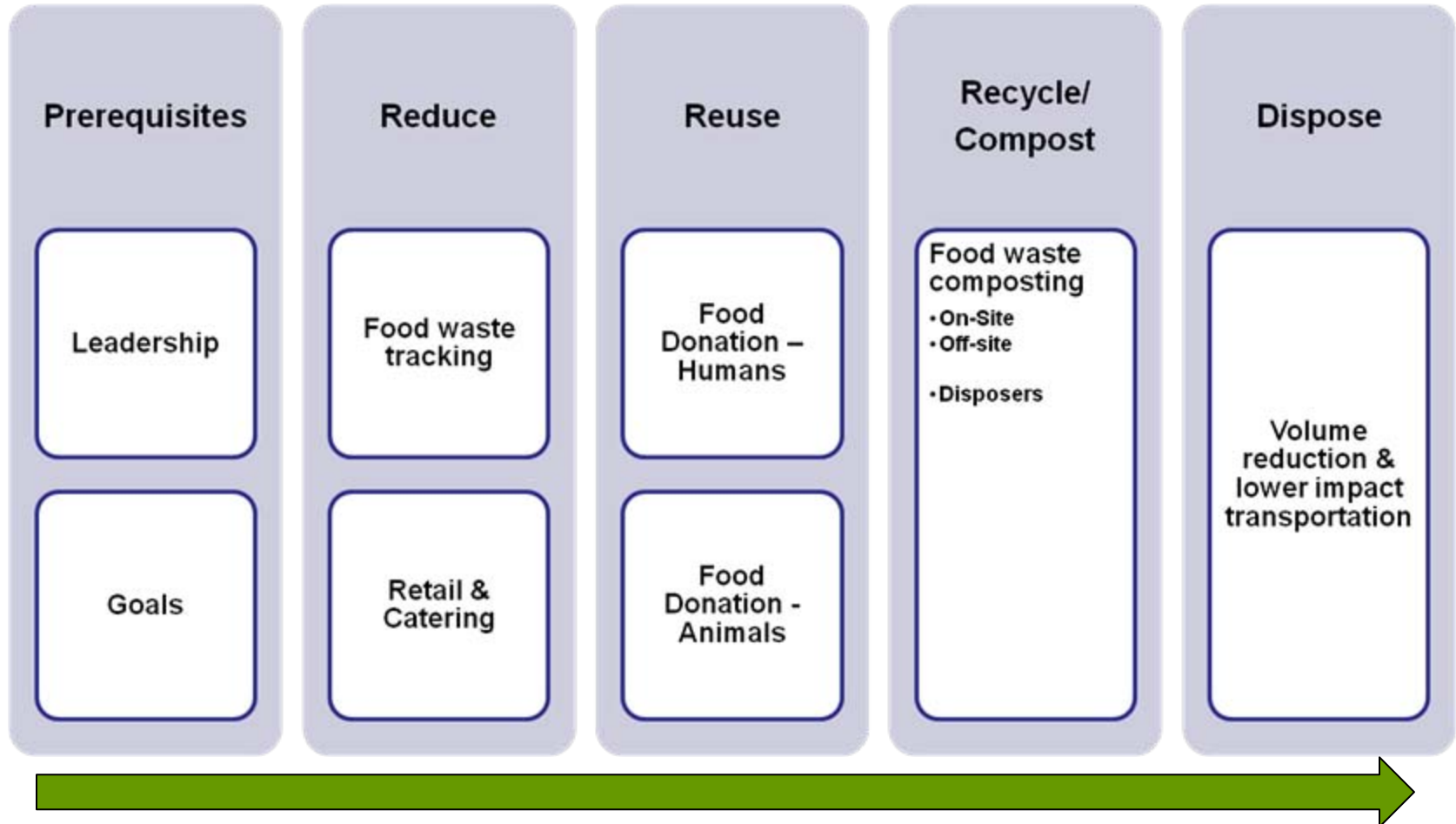
Equipment

- **Compactors**
- **Collectors**
- **Pulpers**

Impact

- Reduced waste volume
- Lower waste disposal costs

Summary: Waste Best Practices



How Much Waste Is Acceptable?

- No set rules
- All operations can improve
- Aim for “zero food waste”

Recommended Resources

<http://www.practicegreenhealth.org>

Waste management information

<http://www.greenseal.com>

GS-46 Standards for Green Foodservice
Operations

<http://www.leanpath.com>

Waste Management Guide, Food Waste
Flyer newsletter, Food Waste Focus blog

Questions?

Andrew Shakman

President, CEO

LeanPath, Inc.

ashakman@leanpath.com

(877) 620-6512 x100



Case Study – Providence Health & Services – Portland Service Area

- Source Reduction through Room Service
- Donation of Usable Leftovers
- Composting

ROOM SERVICE – Why make a change?

- Higher patient satisfaction
- Patients eat more of what they order resulting in less food waste.
- We were doing a lot of room service already; in fact we were operating two systems and patients still weren't happy.
- It is more patient centered instead of process centered.

FOOD WASTE STUDY, 2006

One meal = 130 lbs food, 124 lbs of liquids

In a year, total would be 277,000 lbs
or 138 tons

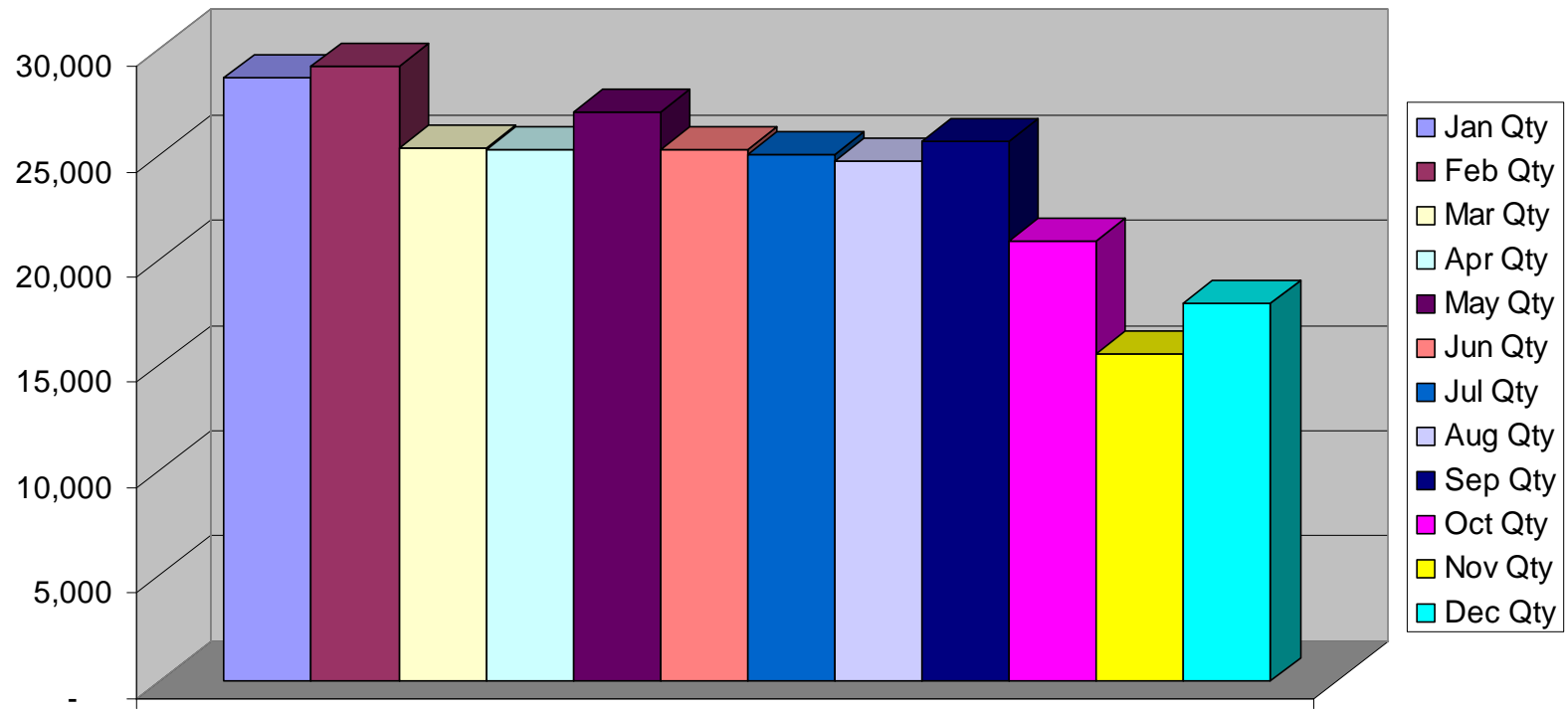
(equals weight of 87 PT Cruisers)



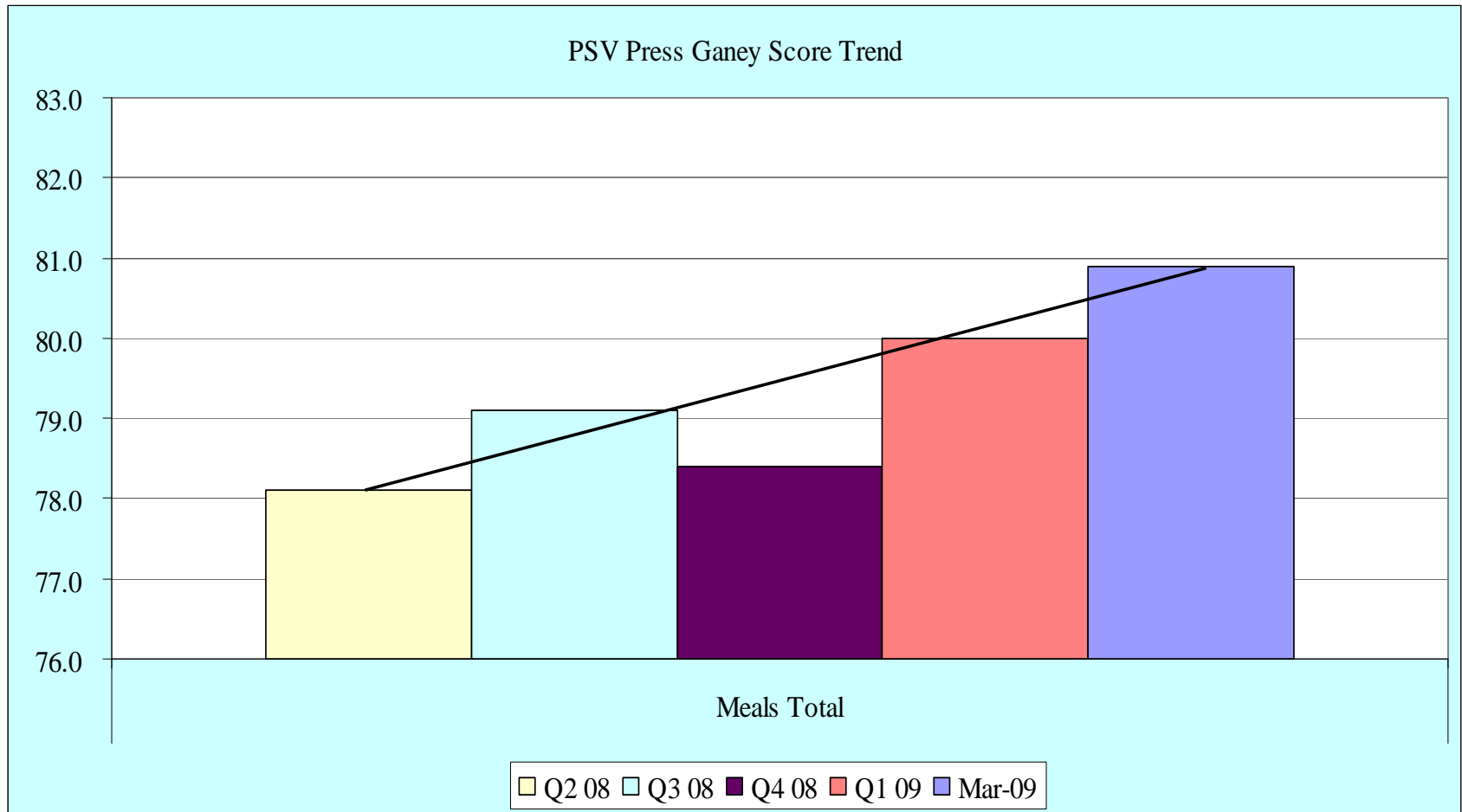
Food Cost Savings

- Chicken Breasts - \$23,600
- Bran Muffin - \$3,108
- Napkins & Tray Covers - \$15,540
- ½ pints of milk - \$ 28,200

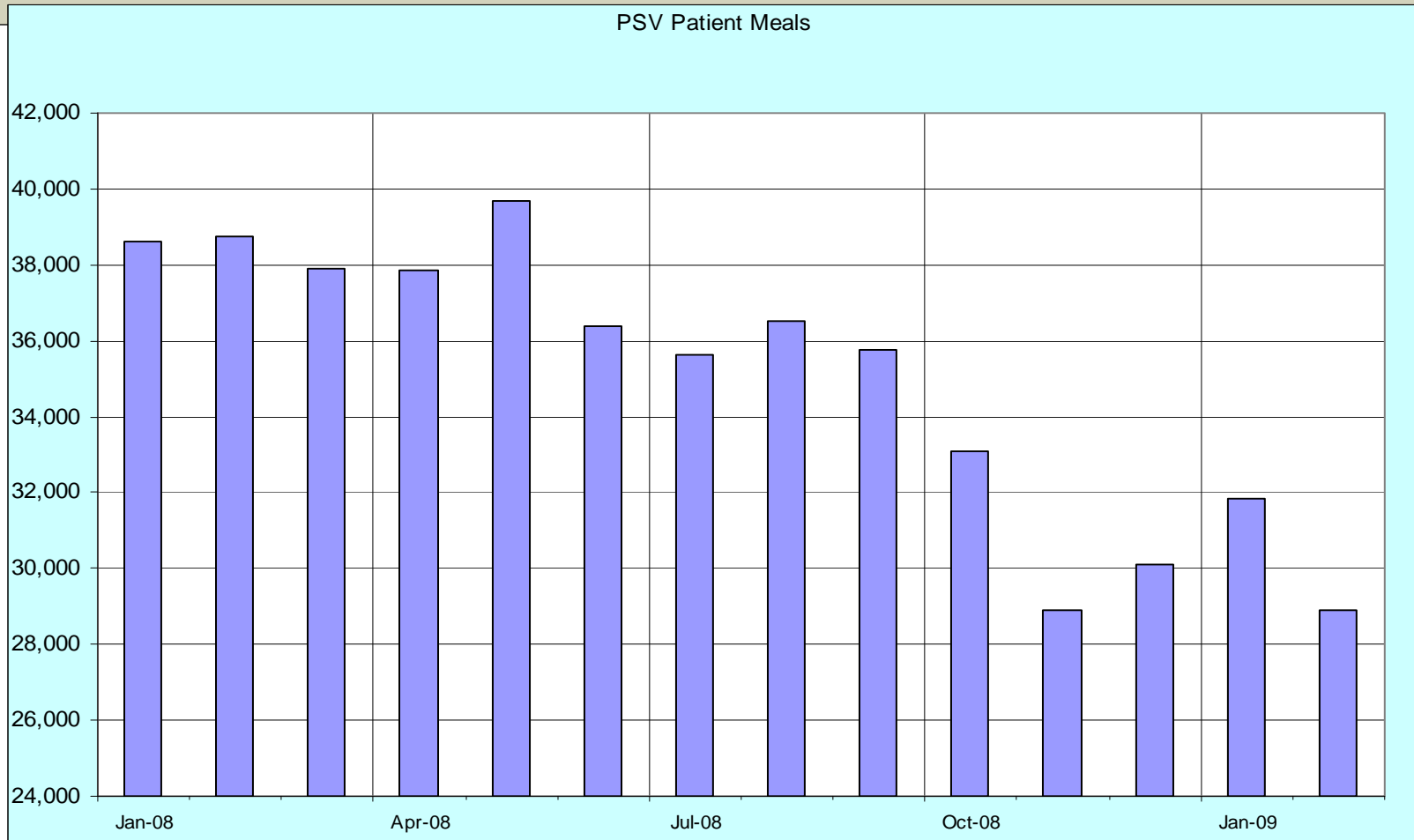
1/2 Pints Milk - PSVMC 2008



Improved Satisfaction



Reduction in Trays



Food Donations

- St. Vincent de Paul picked up 12,832 pounds of food for their Food Recovery Network. It is picked up weekly in containers provided by St. Vincent de Paul.
- In addition we provide meals twice per month to Transition Projects meal program which feeds homeless men.

Composting Benefits

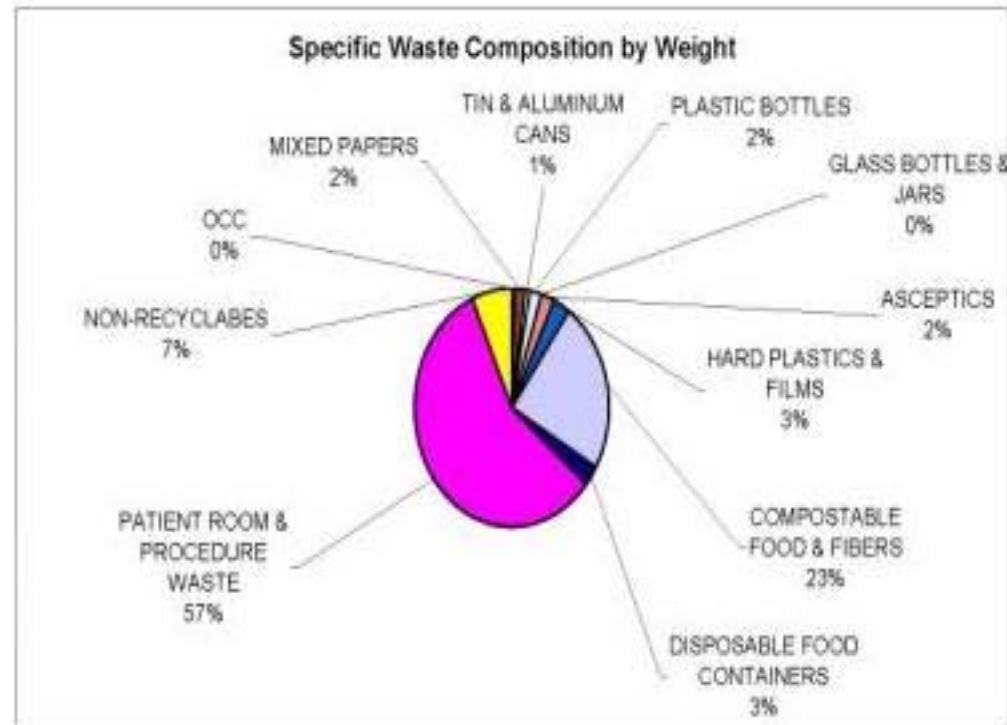
- Reduced solid waste stream
- Reduced cost associated with waste handling
- Water conservation
- Improved public relations
- Model for other businesses and institutions



*With permission from presentation by Emma Sirois of Oregon Center for Environmental Health & HCWH

Setting the Stage ... Why Compost?

- Started as 'byproduct' of a project with Wash. County Recycle at Work program
- Waste sort revealed 23% was food waste and compostable fiber
- Food waste compactor was required to comply with regulatory environment.
- Grant funding was made available by the Portland Metro region. Funded 75% of total project cost.



Project Cost

Project Budget and Summary		Grant Funds Requested	Matching Resources	Total Costs						
Capital outlay List all items of equipment to be purchased as part of this project below and attach all applicable bids, product specification sheets, brochures, etc.		\$	\$	\$						
1.) MPT SC 10 Compactor		\$ 14,101	\$849	\$14,950						
2.) Side Load Hydraulic Cart Lifter		\$4,000	\$0	\$4,000						
3.) Tow Cart		\$1,050	\$0	\$1,050						
4.) Steel Runner Plates		\$2,000	\$0	\$2,000						
5.) Electrical Service		\$1,256	\$898	\$2,154						
6.) 15 65-gallon Rollcarts		\$490	\$485	\$975						
Labor directly associated with capital improvements Grant dollars cannot be used for labor expenses. These resources will be considered part of your match.		N/A	\$3900.87	\$3900.87						
Services and supplies (e.g., printing, postage, delivery fees, etc.) Grant dollars cannot be used for services and supplies. These resources will be considered part of your match.		N/A	\$1500	\$1500						
<table border="1"> <thead> <tr> <th>Supply</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>BioTuf Bags</td> <td>\$1000</td> </tr> <tr> <td>Printing</td> <td>\$500</td> </tr> </tbody> </table>		Supply	Cost	BioTuf Bags	\$1000	Printing	\$500			
Supply	Cost									
BioTuf Bags	\$1000									
Printing	\$500									
Total grant funds requested		\$22,897								
Total matching resources committed to the project			\$7632.87							
Total project cost				\$30,529.87						

Composting Process

Pulper – One in kitchen and one in cafeteria tied to a common extractor

- Takes the place of a garbage disposal
- Increasing efficiency
- Dewateres and shreds
- Up to 80% water is removed + reused
- Manufacturers: Somat and Hobart



*With permission from presentation by Emma Sirois of Oregon Center for Environmental Health & HCWH

Composting Process

- Preparation areas utilize green recycling containers
- Retail Cafes segregate compostable plates, food and fiber into green recycling bins.
- Cans are lined with compostable can liners.
- Have implemented use of compostable take out containers.



*With permission from presentation by Emma Sirois of Oregon Center for Environmental Health & HCWH

Composting at Providence

- Team formed: Nutrition, EVS, Garden and Grounds.
- Hands-on training and signage
- Currently putting 3+ tons of pre and post consumer food waste, compostable fiber and yard debris per week in our compactor.

Compactor and Roll Can



We Compost!

Businesses Dig It

All Food

Fruits, vegetables, meat, poultry, seafood, shell fish, bones, rice, beans, pasta, bakery items, cheese and eggshells

Nuestra Región (Incluye el Abasco)
Países periferia, Nacional

Toda la Comida

Frutas, verduras, carne, pescado, mariscos, huesos, arroz, frijoles, fideos, pastales y panes, queso, y cáscaras de huevo

Food-soiled Paper

Waxed cardboard, napkins, paper towels, paper plates, tea bags, coffee grounds/filters and wooden crates

Papel Manchado por Comida

Cartón encerado, servilletas, toallas de papel, platos de papel, botellas de té, papeles/filtros para el café y cajas de madera

Plants

Floral arrangements, tree trimmings, leaves, grass, brush and weeds

Plantas

Arreglos de plantas, podas de árbol, hojas, pasto, maleza y otras hierbas

NO!

- Liquids, grease, cooking oil
- Plastics or styrofoam
- Glass
- Metals

¡NO!

- Líquidos, grasa, aceites de cocinar
- Plásticos o estirofoam
- Vidrios
- Metales



Recycle or Work
San Mateo and the neighboring County
Coordinated Recycling Program

PROVIDENCE
Recycling & Solid Waste

© 2008 City of Providence
Providence County Public Works Department

Composting Benefits

- Increased recycling
- Financial gains, savings on disposal cost of \$47 per ton @ 3 tons per week = \$564 per month.
- Reduction of material going to a landfill that creates methane (a green house gas).

Contact Information

- Providence Health & Services, Portland, OR
- Michael Geller
- Sustainability Coordinator, Portland Service Area
- (503)216-4099
- Michael.Geller@providence.org

Play 2:00 minute PH&S Compost Video