

2025

Day 1

Concurrent AM

10:45 AM

Oct 22

Track A

Waste Reduction Strategies in the Medical Industry

Moderator: Erika Kimball

Sarah E. Johnson

Speakers: Kimberly Carroll Steward

Jacquie Hilterman

NATIONAL
ZERO
WASTE
CONFERENCE



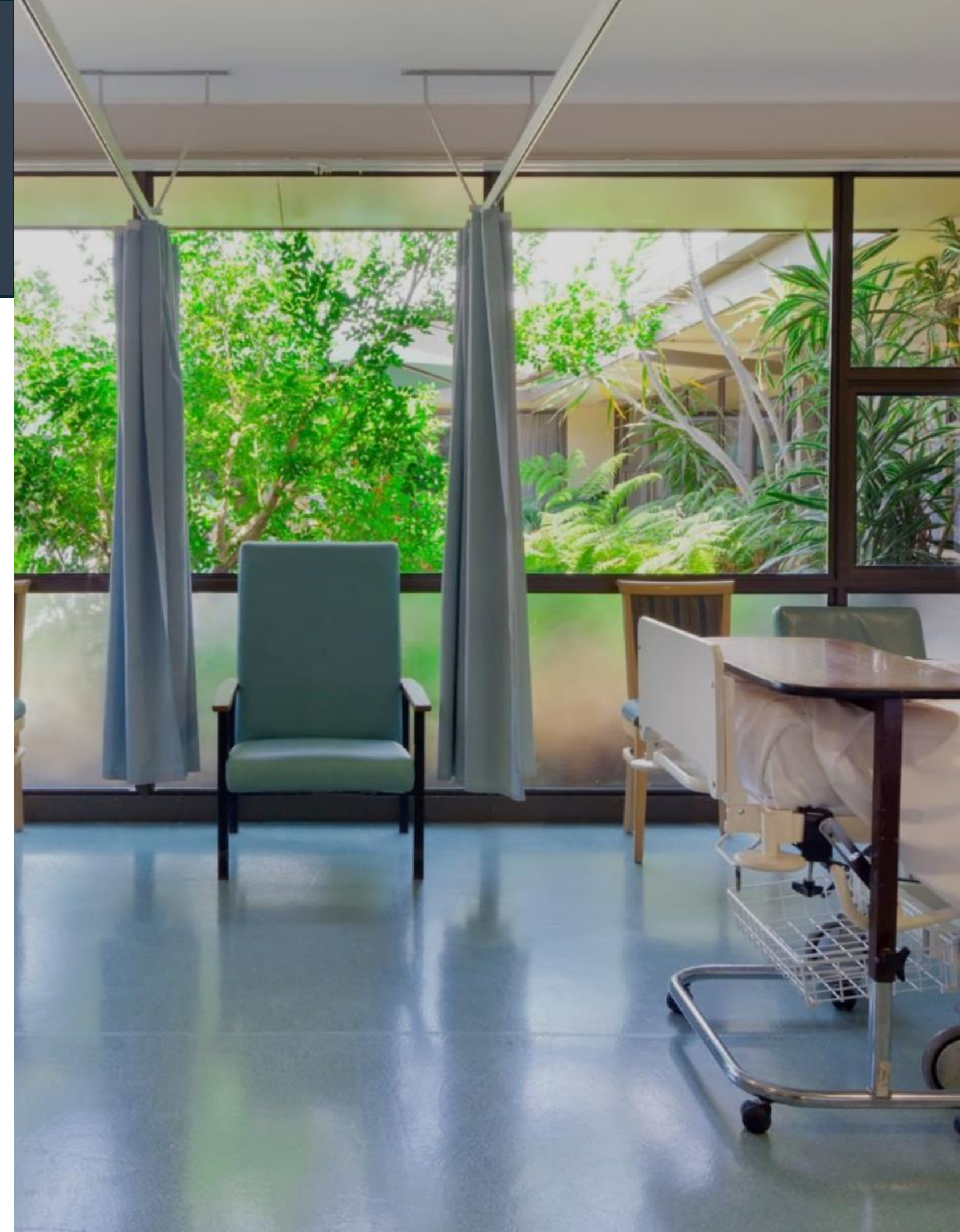
Meet KSH

Healthcare thought leaders, connectors, and change-agents

Kimball Sustainable Healthcare leverages its expertise in a range of areas, including:

- Strategic planning and program development
- Engagement, outreach, and education
- Policy and standards development
- Metrics and reporting

As connectors and leaders in the industry, KSH supports healthcare clients in advancing solutions tailored to their sustainability goals.



The Healthcare Zero Waste Opportunity

Unpacking the hospital waste bin

5.9 million tons of waste generated per year in the U.S.

30 lbs. per patient day

85% is processed as municipal solid waste



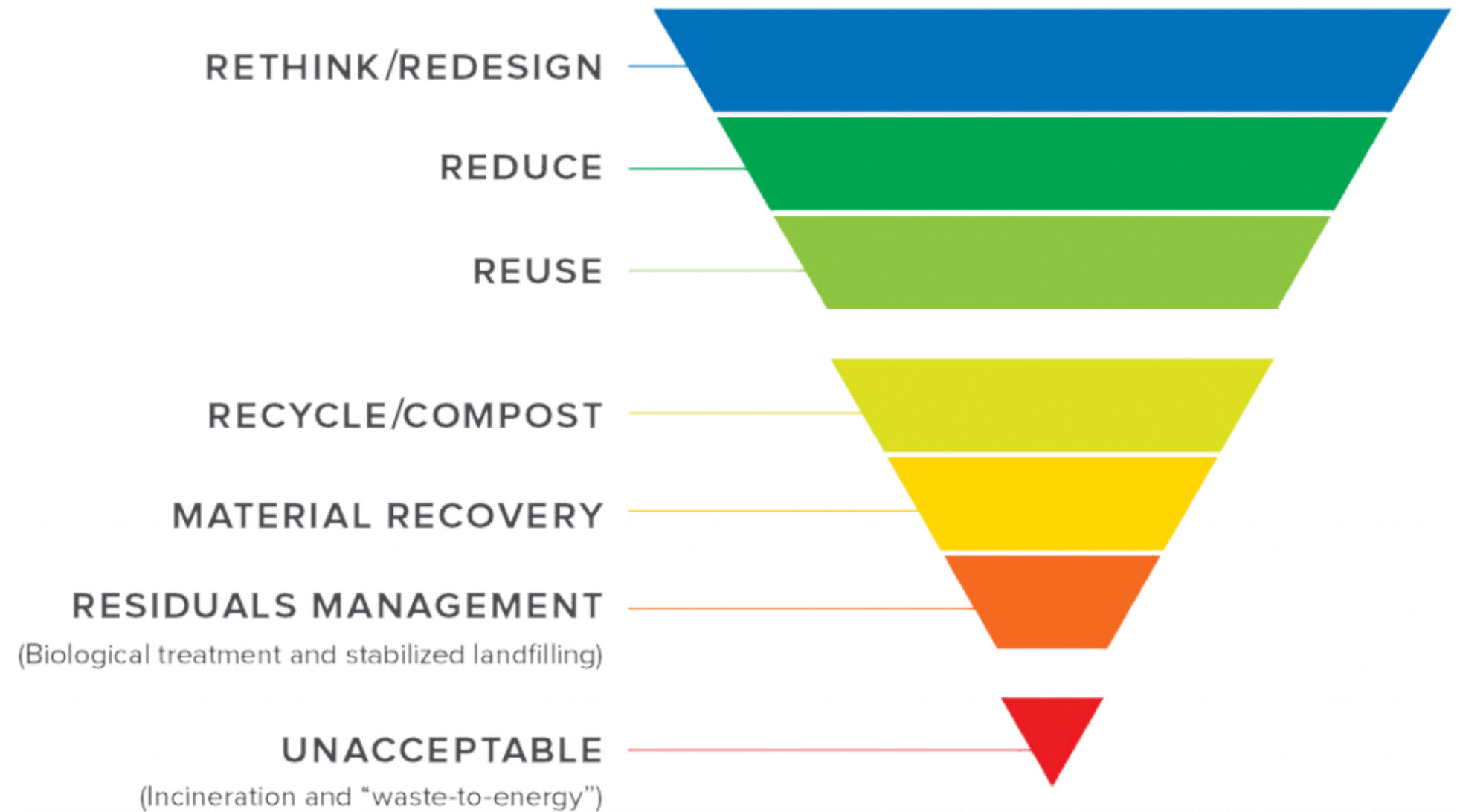
Healthcare and Zero Waste: Shared Values, Shared Success Factors

“Zero Waste is a goal that is ethical, economical, efficient and visionary...”



THE ZERO WASTE HIERARCHY 8.0

For detailed version visit www.zwia.org/zwh



The Benefits of Zero Waste Healthcare



Building Resilience

- Localizes supply chain
- Reduces throughput



Saving Money

- Unit purchase cost
- Operational costs
- Administrative costs



Creating Local Jobs

- Remanufacturing creates 30x jobs
- Repair creates 200x jobs, compared with sending to trash



Reducing CO2, Pollution, Waste

- Maximizes useful lifecycle of products and inputs
- Curb proliferation of plastics and waste

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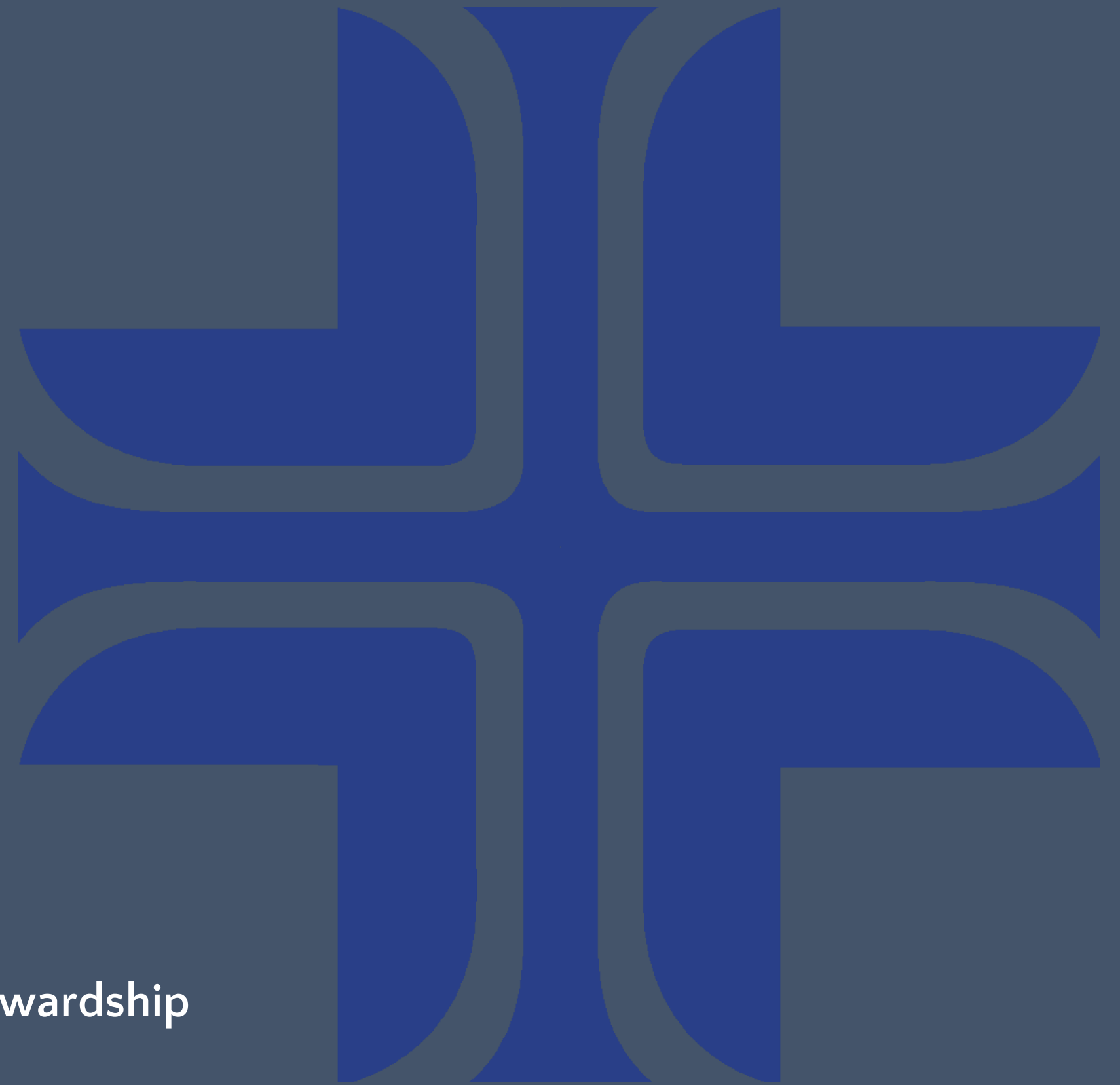


Zero Waste Conference

Oct 2025

Sarah E. Johnson, BSN, BA, RN-BC

Clinical Program Manager RN, Environmental Stewardship





 125K Caregivers	 39K Nurses	 35K Physicians
 \$1.8b Community Benefit	 51 Hospitals	 1014 Clinics
 29m Total Patient Visits	 1.9m Covered Lives	 1 Health Plan
 18 Supportive Housing Facilities	 High School, Nursing Schools & University	

Three Environmental Stewardship Pillars:



- Describes and Categorizes Mitigation efforts across the system.
- Data Heavy

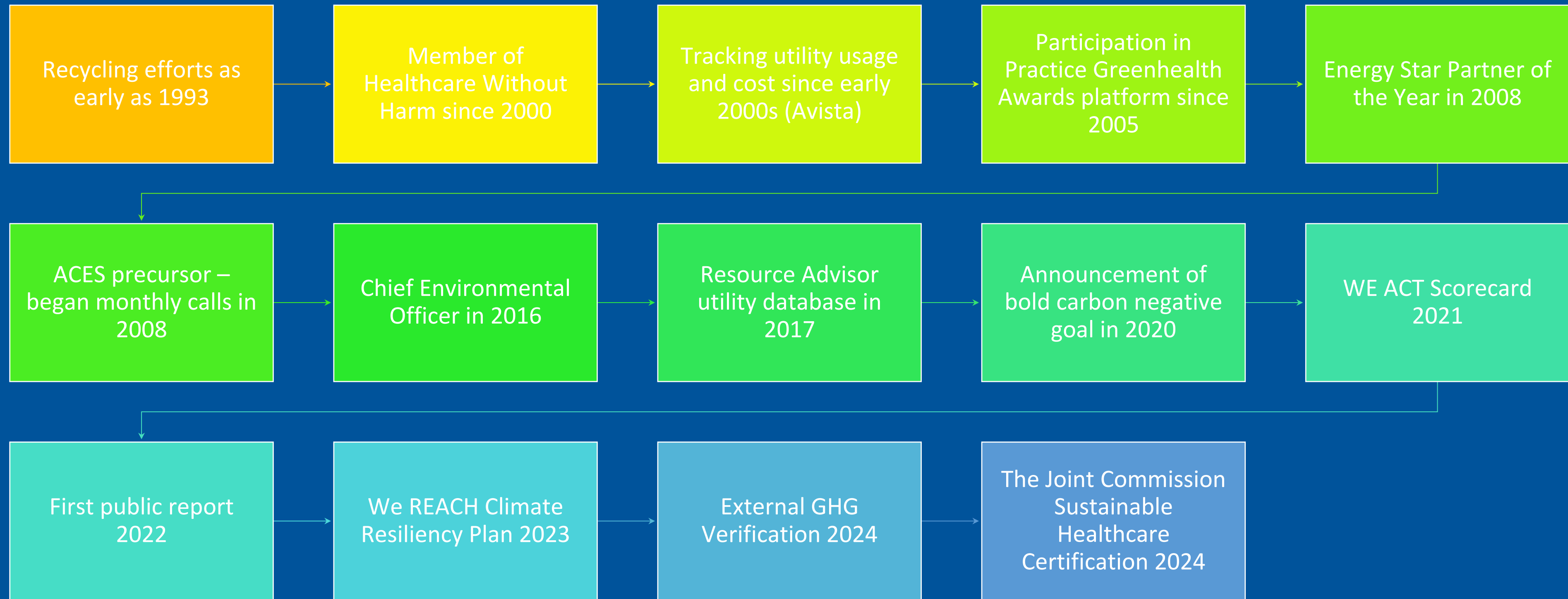


- Advocacy and Leadership are essential components of our program

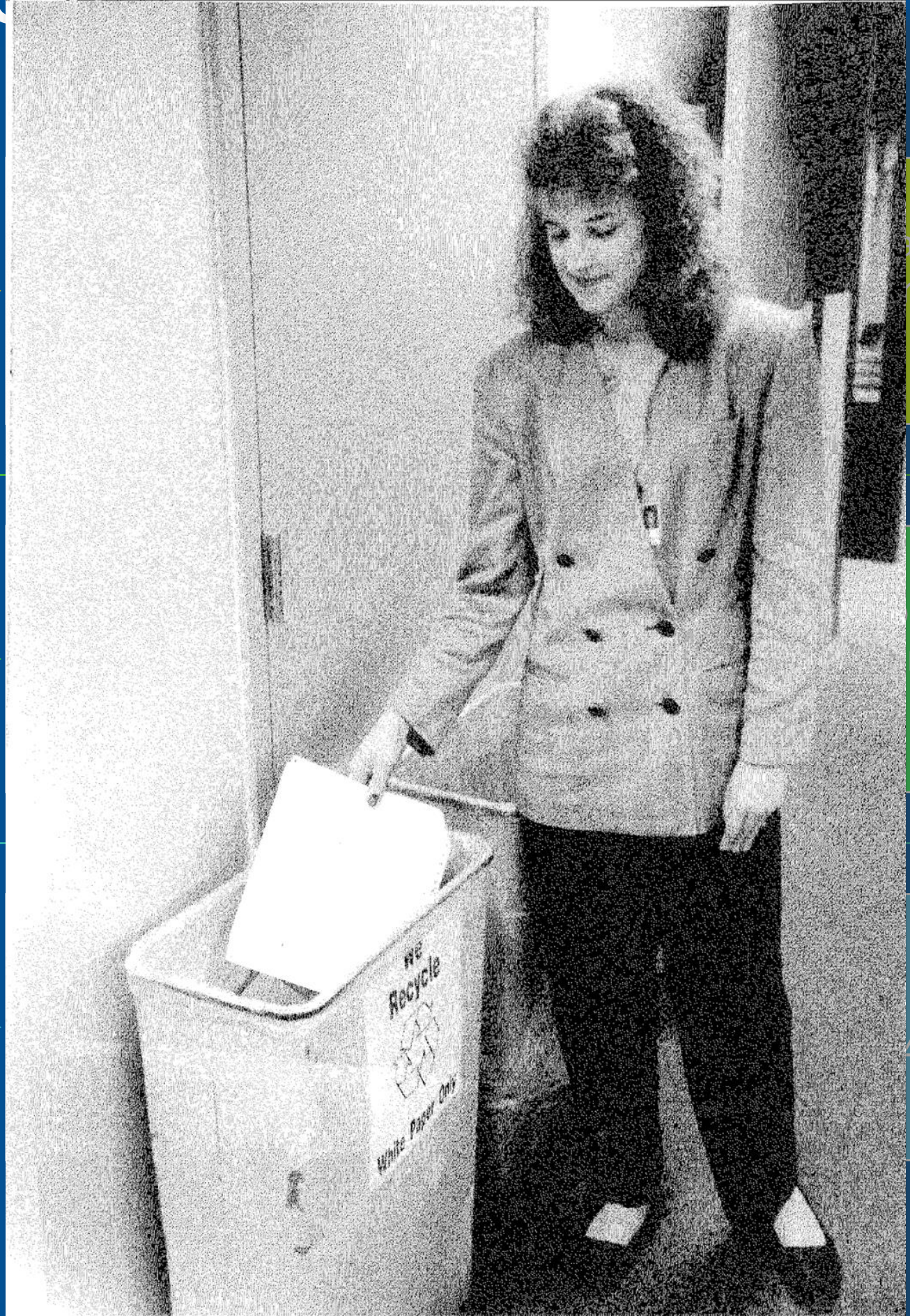


- Adaptation and Resiliency efforts
- Focuses on resiliency in operations and the communities we serve

History of Environmental Stewardship at Providence



History of Environmental Stewardship at Providence



Recycling efforts as early as 1993

ACES precursor – began monthly calls in 2008

First public report 2022

Age ly

Participation in Practice Greenhealth Awards platform since 2005

Energy Star Partner of the Year in 2008

r n

Announcement of bold carbon negative goal in 2020

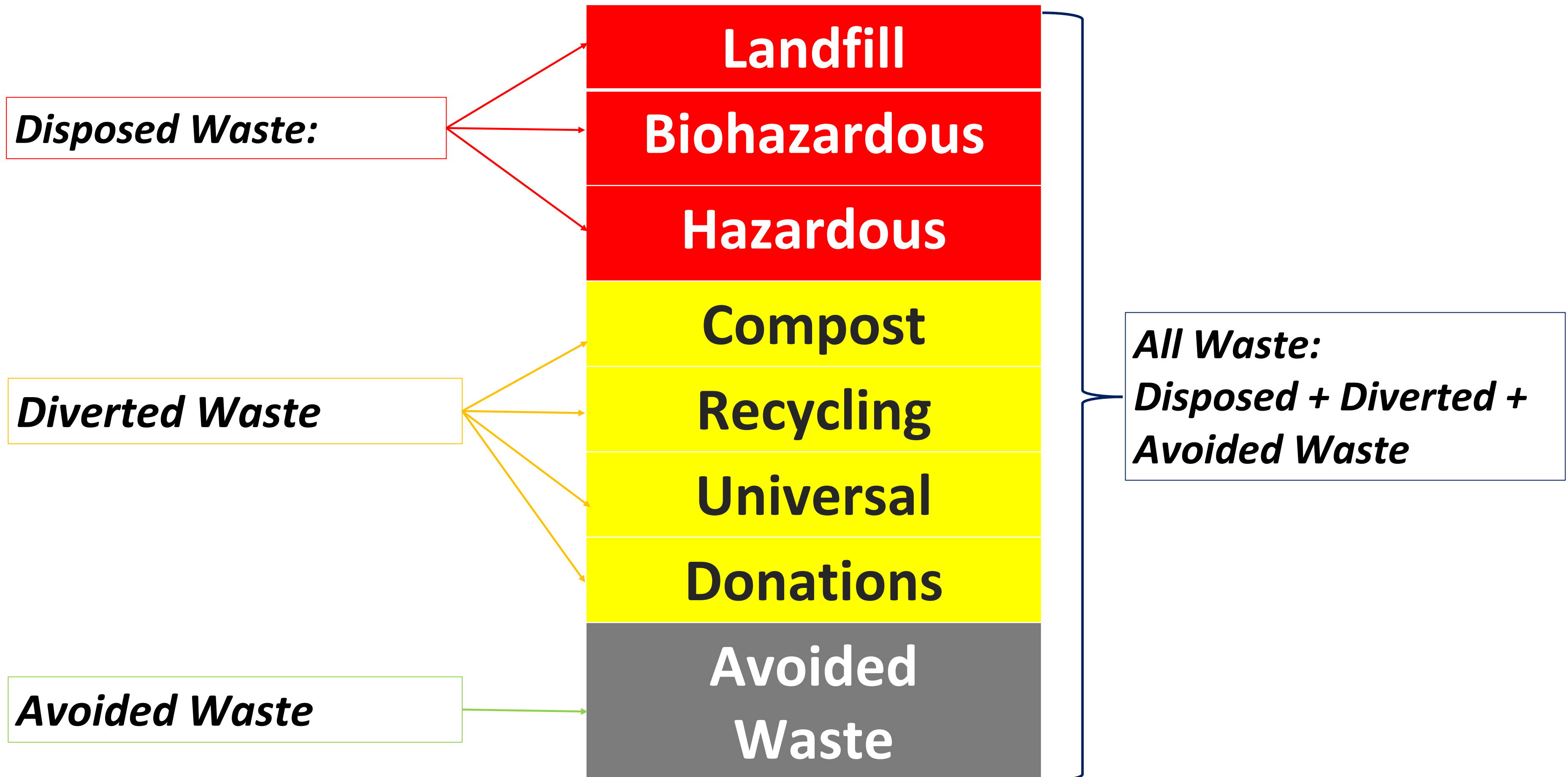
WE ACT Scorecard 2021

4

The Joint Commission Sustainable Healthcare Certification 2024

Waste Goal: Divert more than 50% of waste from landfill and hazardous streams by 2030

$$\text{Waste Optimization \%} = (\text{Diverted} + \text{Avoided waste}) / \text{All waste}$$





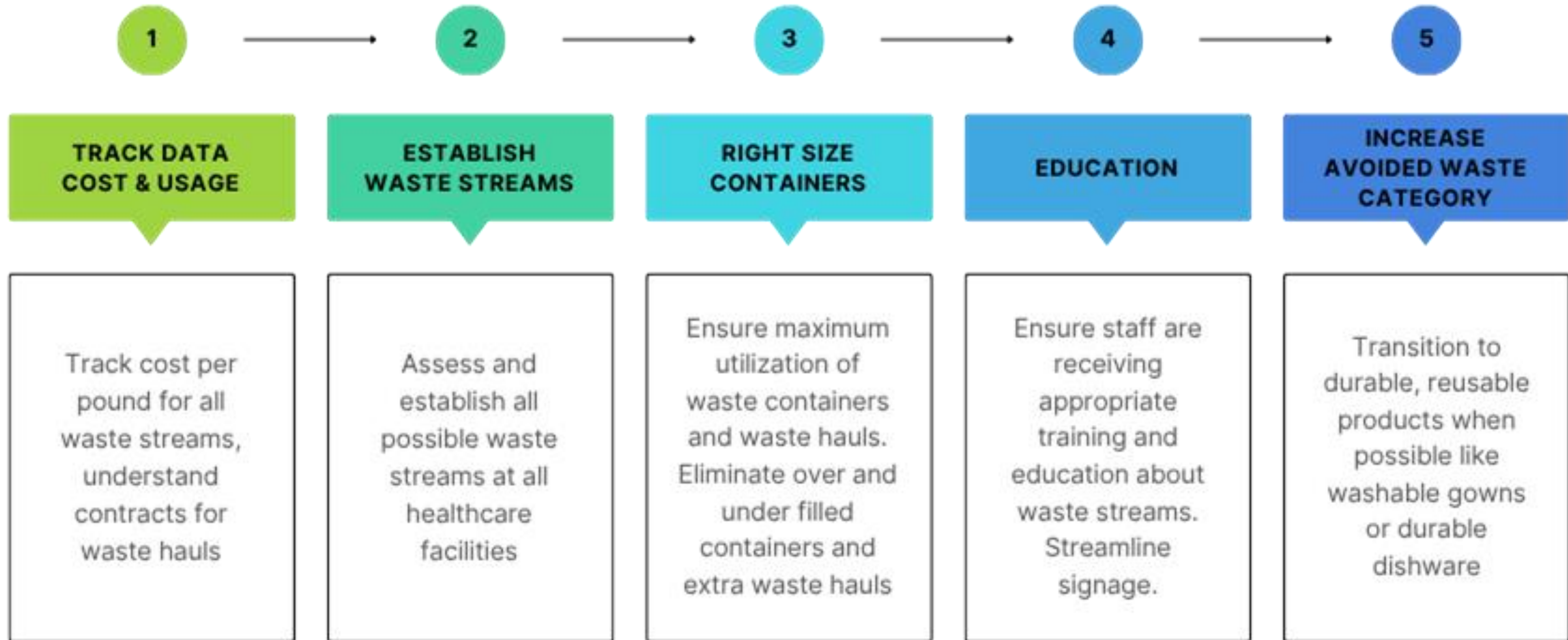
GOAL: To Get The Right Waste, To The Right Waste Stream, At The Right Cost.





Increase Avoided Waste Category

Working toward Waste Optimization





Track Data Cost & Usage

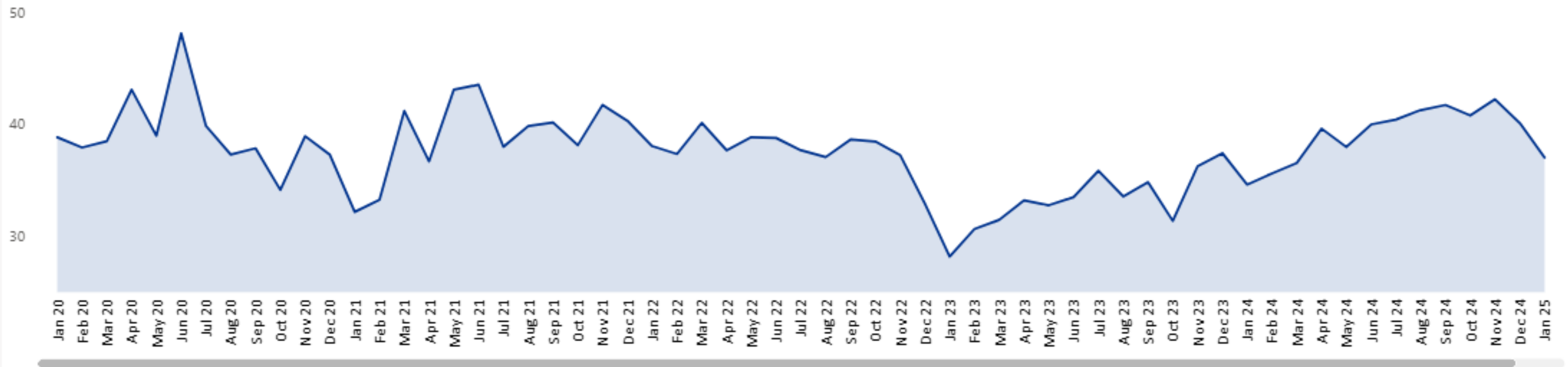
Division:
 Region:
 Facility:
 From Year:
 From Month:
 Through Year:
 Through Month:

- WE ACT Profile Score
- Carbon Emissions
- Engagement Score
- Waste Optimization**
- Electricity Use Efficiency
- Thermal Use Efficiency
- Water Use Efficiency
- Sustainable Food
- Nitrous Oxide Use Efficiency
- Anesthesia Emissions Intensity
- Business Travel

Waste Optimization (%)

Data point trendline: monthly values.

Target >= 50%



Waste Optimization Change **1.29**

Waste Carbon Change (MTCO2e) **(43.64)**

Waste Carbon Change (%) **(8.93)**

Waste Cost Savings (\$) **(42,494)**

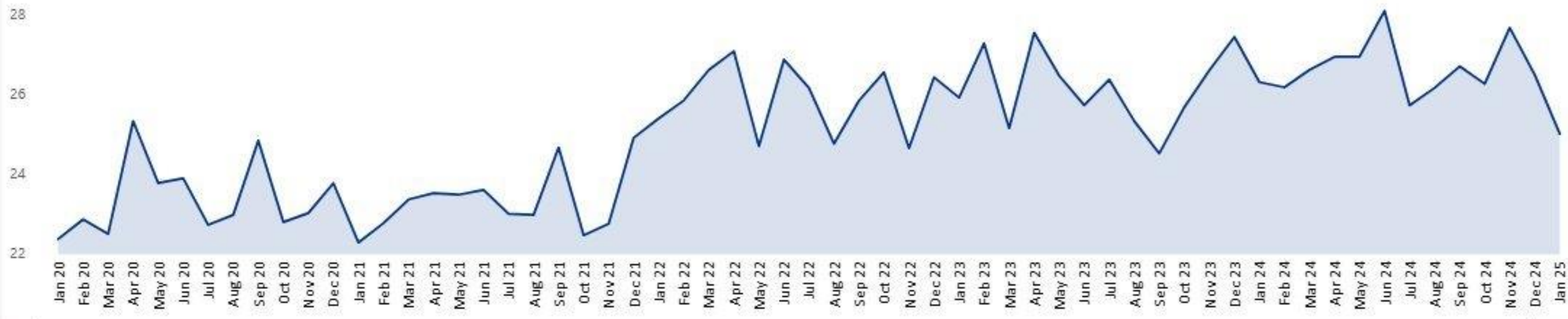
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- Water Use Efficiency
- Sustainable Food
- Nitrous Oxide Use Efficiency
- Anesthesia Emissions Intensity
- Business Travel

Waste Optimization (%)

Data point trendline: monthly values.

Target >= 50%



Waste Optimization Change **4.45**

Waste Carbon Change (MTCO2e) **1,390.75**

Waste Carbon Change (%) **6.20**

Waste Cost Savings (\$) **2,008,616**

Track Data Cost & Usage

**Track Data
Cost & Usage**



Environmental Stewardship
WEACT Scorecard Version: 1.0.0

Please Read This

Feedback






















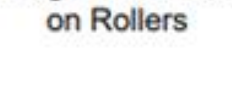
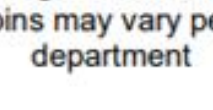
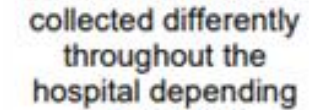

Division:
 Region:
 Site:
 Year:
 Quarter:
 Month:



Waste Usage and Cost	ST JOSEPH - POLSON	ST LUKES REHAB	ST MARY - WALLA WALLA	ST PATRICK	ST PATRICK - PC	ST PATRICK - Together	Total
WASTE							
Usage							
Disposed Waste							
Biohazardous (lbs)							
Autoclaved - RMW (lbs)	9,798.16	1,632.96		5,020.52		5,020.52	50,616.58
Incinerated - Path/Chemo (lbs)	606.95		5,037.40	10,339.20		10,339.20	45,069.25
Incinerated - Sharps/Pharm (lbs)	4,302.13		22,934.13	32,165.39		32,165.39	387,429.57
Hazardous (lbs)							
Incinerated - Narcotics (lbs)	253.00		465.00	1,101.00		1,101.00	8,852.00
Incinerated - RCRA (lbs)				18,325.00		18,325.00	38,633.00
Incinerated - RCRA Pharmaceutical (lbs)	69.00		192.00	858.00		858.00	5,701.00
Municipal Solid Waste (MSW) (lbs)							
Landfill (lbs)	290,400.00		663,942.00	1,347,437.75	120,944.00	1,468,381.75	4,765,719.75
Waste to Energy (lbs)		251,109.00					6,117,091.00
Diverted Waste							

Establish Waste Streams

Providence Western Montana Waste Stream 2024 Costs per Pound Overview

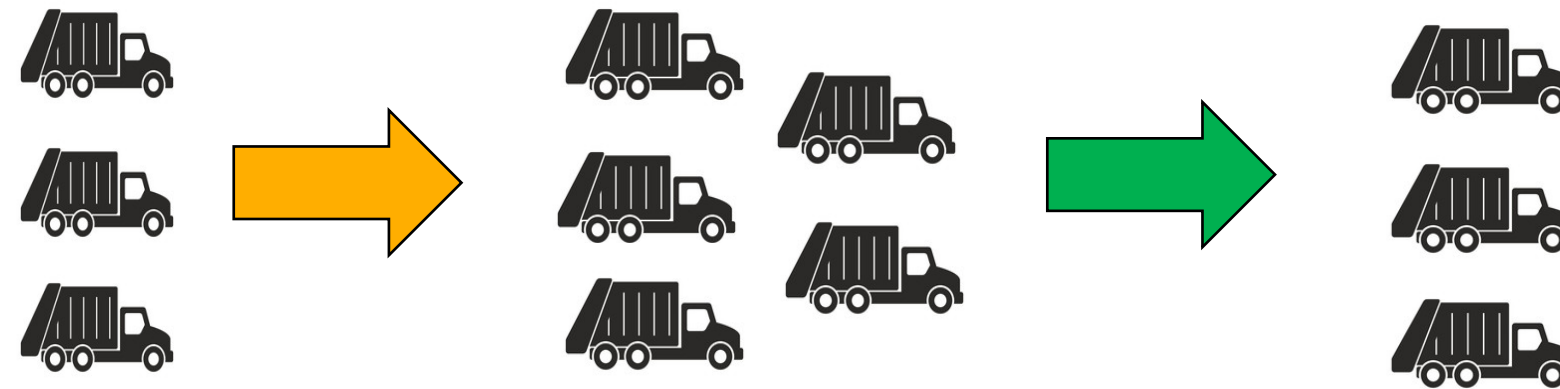
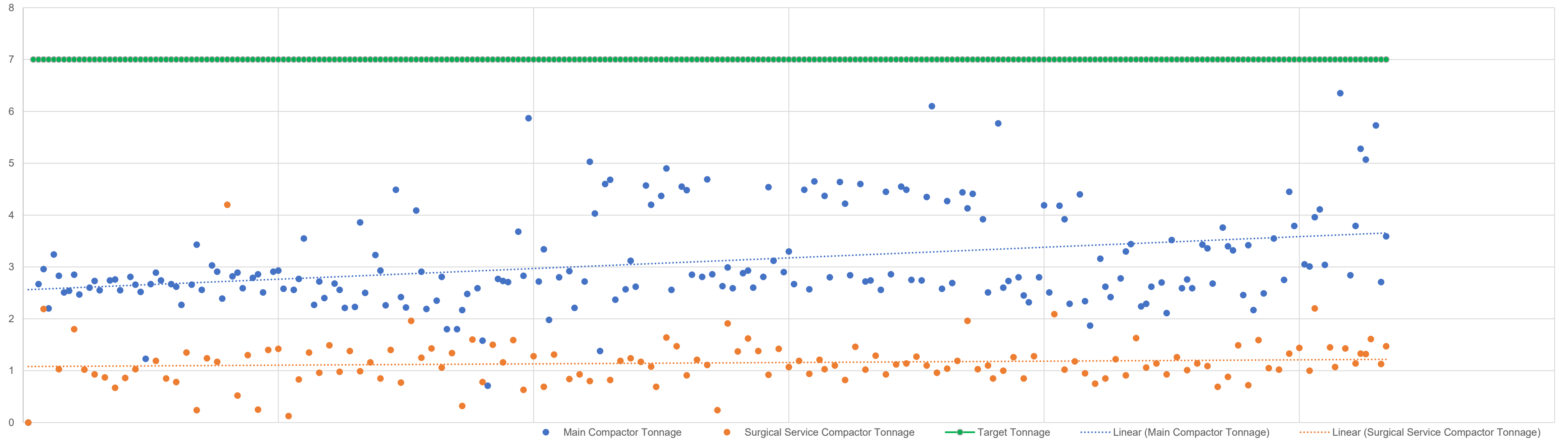
\$1.65 /lb		\$3.19 /lb		\$27 /lb	\$6.36 /lb	\$2.48/lb	\$0.08/lb	\$0.08/lb	\$0.03/lb	\$0.00/lb	
											
Biohazardous Waste	Pathology Waste	Sharps Waste	Non RCRA Pharmaceutical	Narcotics Waste	Trace Chemotherapy	RCRA Hazardous	Recycling	Landfill Waste	Compost	Donations	Universal Waste
Red Biohazard Bag 	Labeled Container 	Blue & White Container 		Narcotics Containers* 	Yellow Container 	Black Container 	Single Stream Containers/ Blue Bags 	Clear Plastic Bag 	Large Green Bin on Rollers 	Large Green Bin, bins may vary per department 	No central location, collected differently throughout the hospital depending on the item 
<ul style="list-style-type: none"> Blood & ALL Other Potentially Infectious Material (OPIM) Blood Tubing & Bags Hemovacs Pleur Evacs Suction Canisters with Bloody Fluid or OPIM All Disposable Items Soaked or Dripping with Blood or OPIM Waste Specimens Intact Glass or Plastic Bottles with Bloody Fluid or OPIM 	<ul style="list-style-type: none"> Human and Animal Body Parts Tissues (Placentas, etc.) Animal Carcasses <p style="text-align: center;">RADIO-ACTIVE WASTE  CAUTION RADIOACTIVE MATERIALS Contact Radiation Safety Officer</p>	<ul style="list-style-type: none"> All Sharps: Needles, Pins, Blades, Scalpels, Razors, Staples, Staple Gun All Empty Carpujects, Tubexes, Syringes without Residual (Pourable) Amounts of Medication Trocars Introducers, Guide Wires Sharps from Procedures or Specimen Devices 	<ul style="list-style-type: none"> All Non-Chemotherapy Medications & Containers Glass & Plastic Vials, Ampules, Syringes, Tubexes, Carpujects with Residual Amounts of Medication IV Solution Bags, PiggyBacks & Tubing with Medications All non-RCRA Tablets, Capsules, Liquids, Creams, Ointments, Eye/Ear Drops, Suppositories: Partially Used or Wasted Medication Patches (Folded with sticky sides together) 	<ul style="list-style-type: none"> All Controlled Substances (Narcotics, etc.) Liquids & Injectables Squirted or Poured into containers Tablets/ Capsules removed from packaging and dropped into containers Controlled substance patches (DO NOT FOLD IN HALF) 	<ul style="list-style-type: none"> Trace Chemotherapy (<3% OF ORIGINAL AMOUNT) All Supplies Used to Administer Chemotherapy: Tubing, Gloves, Empty Bags/Bottles/Vials, Syringes, Pads, Gowns, Masks, Wipes, etc. Bulk Chemotherapy (>3% OF ORIGINAL AMOUNT) <p style="text-align: center;">!! DISPOSE IN BLACK RCRA CONTAINER: Chlorambucil Cyclophosphamide Daunorubicin Mitomycin</p>	<ul style="list-style-type: none"> Place in Black & White Container: <ul style="list-style-type: none"> -Nicotine Gum & Patches (Folded in half with sticky sides together) -Chloral Hydrate - Formaldehyde -Reserpine -Phenol -Warfarin (Coumadin) -Acetone -Syrups with More Than 24% Alcohol -Anesthesia Containers (Soda/Lime) <p style="text-align: center;">Return to RX: Aerosols MDIs/HFAs Silver Nitrate Oxidizers Corrosives</p>	<ul style="list-style-type: none"> Paper Cans Metal Rigid plastic 1-7 <p>NO</p> <ul style="list-style-type: none"> Styrofoam Film Plastic Medical plastics Glass 	<ul style="list-style-type: none"> Non-recyclable Trash Food / Formula Gloves (Not Containing Blood) Disposable Patient Items Sanitary Napkins Diapers Empty Glass Bottles Empty Foley & Other Drainage Bags Empty IV Bags Empty Plastic Medication Bags <p style="text-align: center;">REMOVE ALL PATIENT INFORMATION</p>	<ul style="list-style-type: none"> Food scraps from kitchen prep Food scraps left on trays returned to dish room from the cafeteria Compostable packaging material Compostable dishware (plates, napkins, utensils, etc) 	<ul style="list-style-type: none"> Clean, unused medical supplies may go into our Global Partnership bins Open, partially used supplies may go into our Animal Control Bins Through sorting items are removed for donation to the Poverello Center <p>NO</p> <ul style="list-style-type: none"> Partially used hygiene products (lotion, toothpaste, mouthwash, etc); partially used wipes OK No visibly soiled or used items! 	<p>E-waste:</p> <ul style="list-style-type: none"> aka electronic waste such as laptops, stereos, cellphones, microwaves & more E-waste: send to IS and they send to an external company for recycling <p>Batteries:</p> <ul style="list-style-type: none"> Lithium-Ion batteries are collected and recycled by Biomed <p>Fluorescent Lights:</p> <ul style="list-style-type: none"> Collected by facilities and recycled with a local company Or send to facilities if collected by non-facilities staff <p>We do NOT recycle alkaline batteries, but many departments have bins for partially used batteries that can be taken home by employees.</p>

← Increased Environmental Impact ----- Decreased Environmental Impact →

Right Size Containers

Underfilled Compactor:

Compactor Tonnage: Jul 2022- Oct 2023



Education



Medline Renewal

Place Items in Blue Medline Bin



Landfill

Safe waste that cannot be recycled



Recycling

Paper

Newspaper, magazines, brochures, cardboard, paper towel rolls, mail, phone books



Metal

Aluminum and metal cans, jar lids



Plastics

Clean rigid plastics: bottles, jars, jugs, trays, grey bins and other numbered plastics



NO!

Gloves, medical plastics, flimsy plastics, foil, food, coffee cups, Styrofoam, tissues



Global Partnerships

Accepted Items



Animal Control



Restock Bedside Items

Use or restock within your shift

YES – Restock!

Clean, unopened items that have been under your control, including:

- Items you got from core or cabinet during your shift
- Items you can verify are clean and safe

NO – Discard!

- Unneeded items in the patient room longer than your shift
- All items from contact isolation rooms

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One glove takes ~100 years to break down in the landfill! Please consider the impact on the planet when reaching for gloves!



Every Glove Counts For Patients & the Planet

DO I NEED TO USE GLOVES?

➤➤➤ Step 1: decide if you need gloves according to standard precautions



YES

- Possible contact with:
 - Blood & Other body fluids
 - Mucous membranes
 - Non-intact skin
- IV insertion and removal
- Drawing blood
- Handling & cleaning instruments
- Cleaning up bodily fluid spills
- Contact isolation
- Using disinfectant wipes

NO

- No potential for exposure to blood or bodily fluids
- Taking blood pressure
- Taking temperature
- Taking pulse
- Helping patients get dressed
- Transporting patients
- Giving food to patients
- Changing bedding

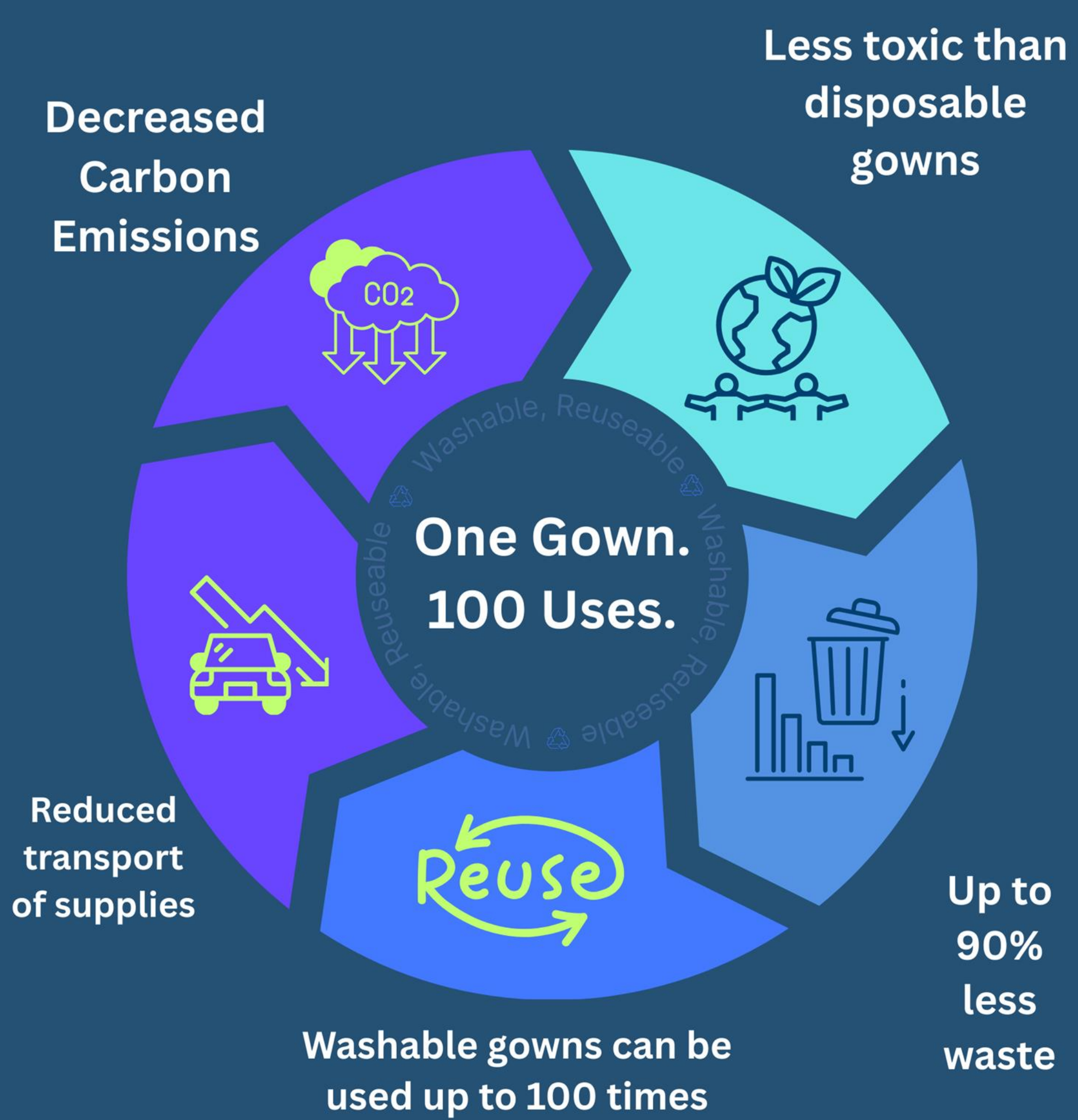
➤➤➤ Step 2: clean your hands after patient care

Contaminated Gloves Spread Germs

- Once used, glove surfaces carry germs.
- Avoid touching clean areas or surfaces with dirty gloves.
- Always remove gloves and perform hand hygiene to prevent transmission.

After caring for your patient, **always clean your hands!** Hand hygiene is the most effective method for preventing the spread of germs. Glove use does not replace the need for hand hygiene!

Increase Avoided
Waste Category



Please Restock Washable Gowns First!



28% Reduction
In natural resource energy consumption

30% Reduction
in Greenhouse Gas Emissions (MTCO₂e₂)



41% Reduction
in total water consumed (blue water)

30,000+
Single Use disposable gowns could be kept out of landfill each year



COST SAVINGS
Washable gowns cost over a dollar less than single use disposable gowns and can be used for 2+ years

*GOWNS MAY BE WORN INTO AN ISOLATION ROOM ONCE AND THEN MUST BE WASHED FOR REUSE

Rescue and Reuse: Durable Medical Equipment

Kimberly Carroll Steward, Ph.D.

Executive Director

Nebraska Recycling Council



NEBRASKA RECYCLING COUNCIL



NEBRASKA RECYCLING COUNCIL

-waste nothing-

Our mission is to maximize the economic and environmental benefits of resource recovery in Nebraska.

Our vision is a future in which all materials are reserved for their highest and best use and landfill disposal is the last resort.



Our work

- Technical Assistance
- Recycling Equipment Grant Program
- Research
- Legislative advocacy and support
- Education and events

Rescue & Reuse

A recycling/rehome event for durable medical equipment

- **Recycle/rehome durable medical equipment diverting it from the landfill**
- **Assist people with disabilities and their families by providing an accessible and cost-effective option to recycle/rehome**

What Happens in Each Community?

- Designated days/times for equipment drop-off
- Assess equipment: recycle or clean/repair for rehome event
- Rehome event day for equipment pick-up for free

Moving assistance offered



We will accept the following items:

Lift Chairs in good condition (no fabric rips)

Steel Frame Hospital Beds

Power Wheelchairs

Hoyer Lifts

Portable Ramps

Wheelchair Lifts

Stair Lifts

Seated Wheeled Walkers

Tub Chairs and Benches in good condition (please clean before donation)

Power Scooters

Manual Wheelchairs

Regular Aluminum Walkers w/rubber feet or slides on back

Crutches

Canes

Unopened, non-expired basic medical/first aid supplies



We will NOT accept the following items:

Oxygen Concentrators/Tanks

Medical Gas Cylinders

CPAP Machines

Prosthetics

Medical Boots and Braces

Blood Pressure Cuffs

Mattresses

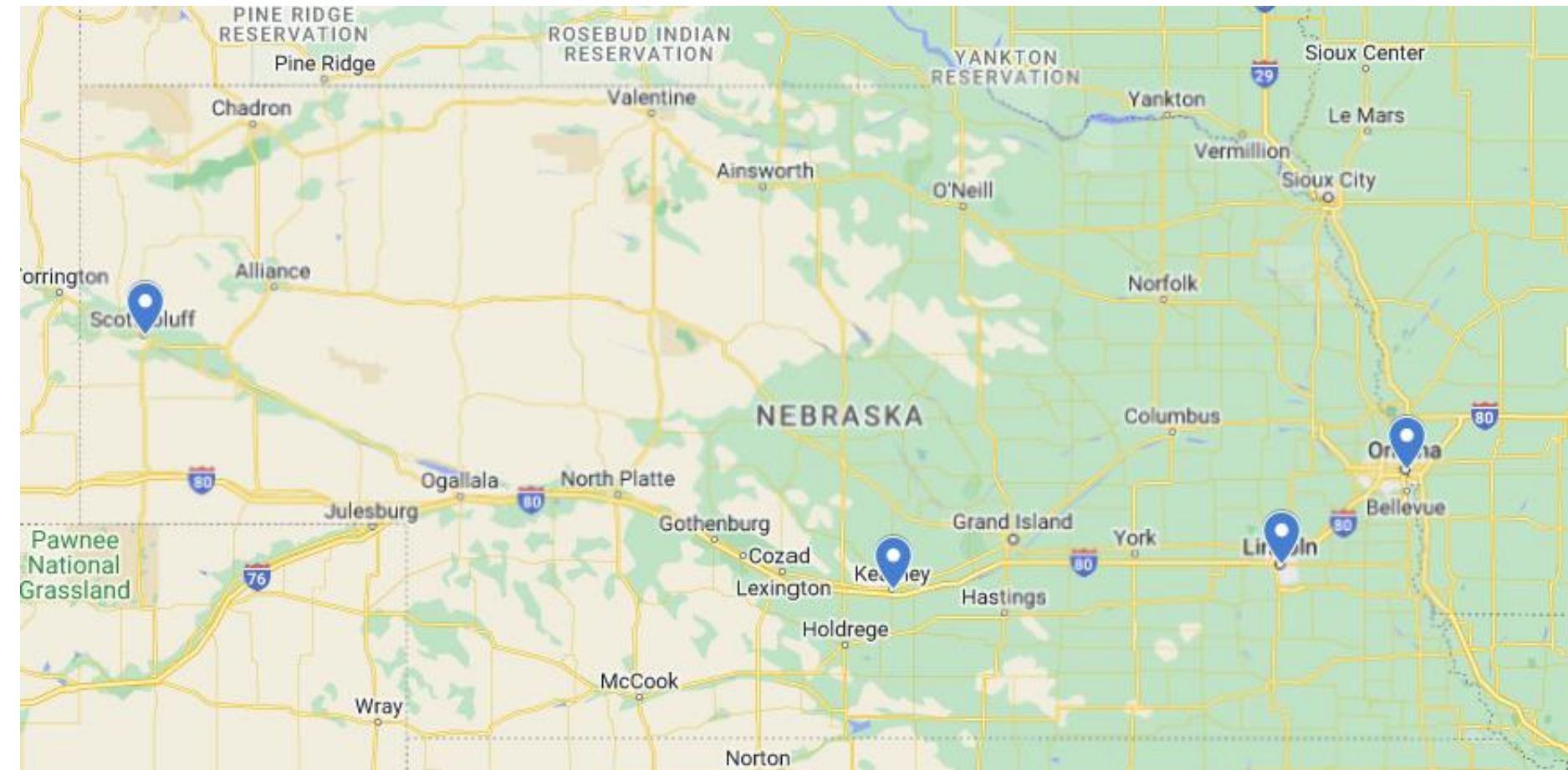
Expired, opened medical supplies

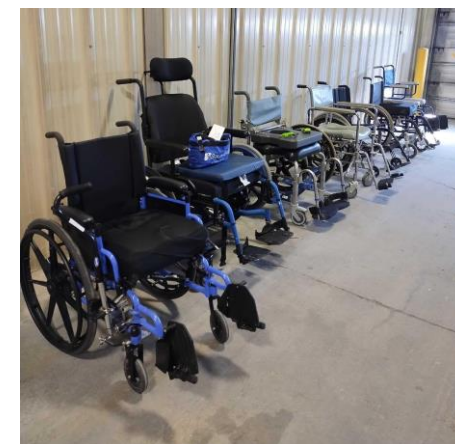
Partners and Funding



Events

- Lincoln: July 22-27, 2024
- Scottsbluff: August 8-10, 2024
- Kearney: March 17-19,21, 2025
- Omaha: April 8-12, 2025





Results

Lincoln (July 22-27):

- 84 individuals donated equipment
- 20 individuals received equipment
- 26 items rehomed
- Waste diversion: 142 pounds in steel case batteries and 6,240 pounds in sheet iron diverted from the landfill

Scottsbluff (August 8-10):

- 24 individuals donated equipment
- 42 individuals received equipment
- 130 items rehomed
- Waste diversion: 350 pounds in steel case batteries and 1,540 pounds in sheet iron diverted from the landfill

Kearney (March 17-18 & 21):

- 19 individuals donated equipment
- 8 individuals received equipment
- 15 items rehomed


How to do this in your community

- Partner with someone knowledgeable about durable medical equipment
- Decide what equipment you will accept
- Find a space for event, plus equipment storage and preparation
- Find a scrap metal/battery recycling vendor
- Community Outreach and promotion
- I'm happy to consult!



Kimberly Carroll Steward, Ph.D.
Executive Director

 director@nrcne.org

 (402) 436-2384 Ext. 101

 3800 VerMaas Place, Suite 102
Lincoln, NE 68502

nrcne.or

[g](http://nrcne.org)

Waste Reduction Strategies in Veterinary Hospitals:

*solutions for **many unique** problems!*



Jacquie Hilterman

TRUE (Zero Waste) Advisor and
Sustainability Excellence Associate

National Zero Waste
Conference 2025


Veterinary Industry

Introduction

Problems

Solutions

Conclusions

- 
- Vet hospitals contribute to climate change
 - Pollution and climate change causes more harm to pets

Greenhouse Gas Inventory

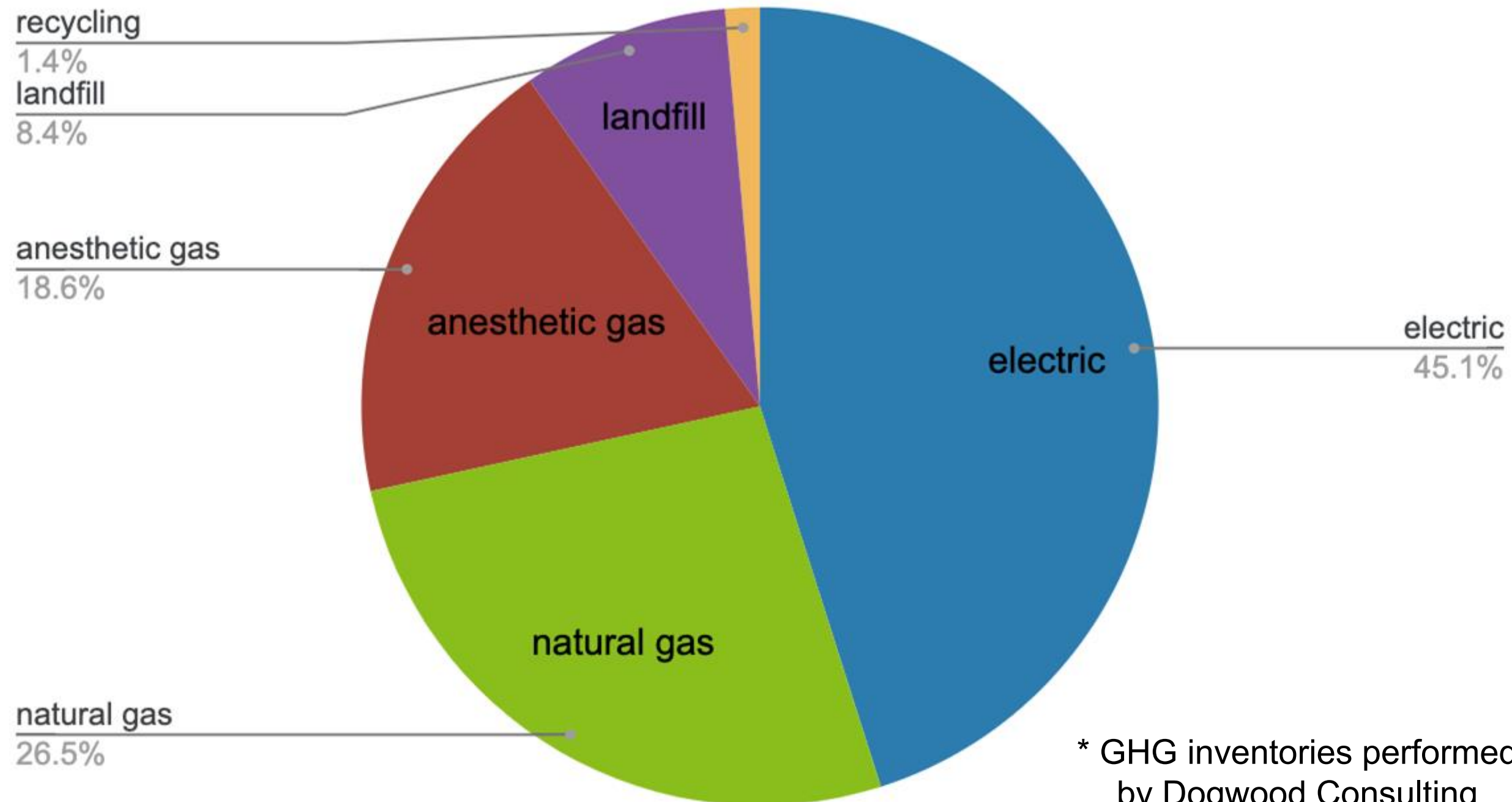
Introduction

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Conclusions

Average Annual GHG Emissions (CO₂e) for a small animal veterinary hospital (5 FTE vets) *



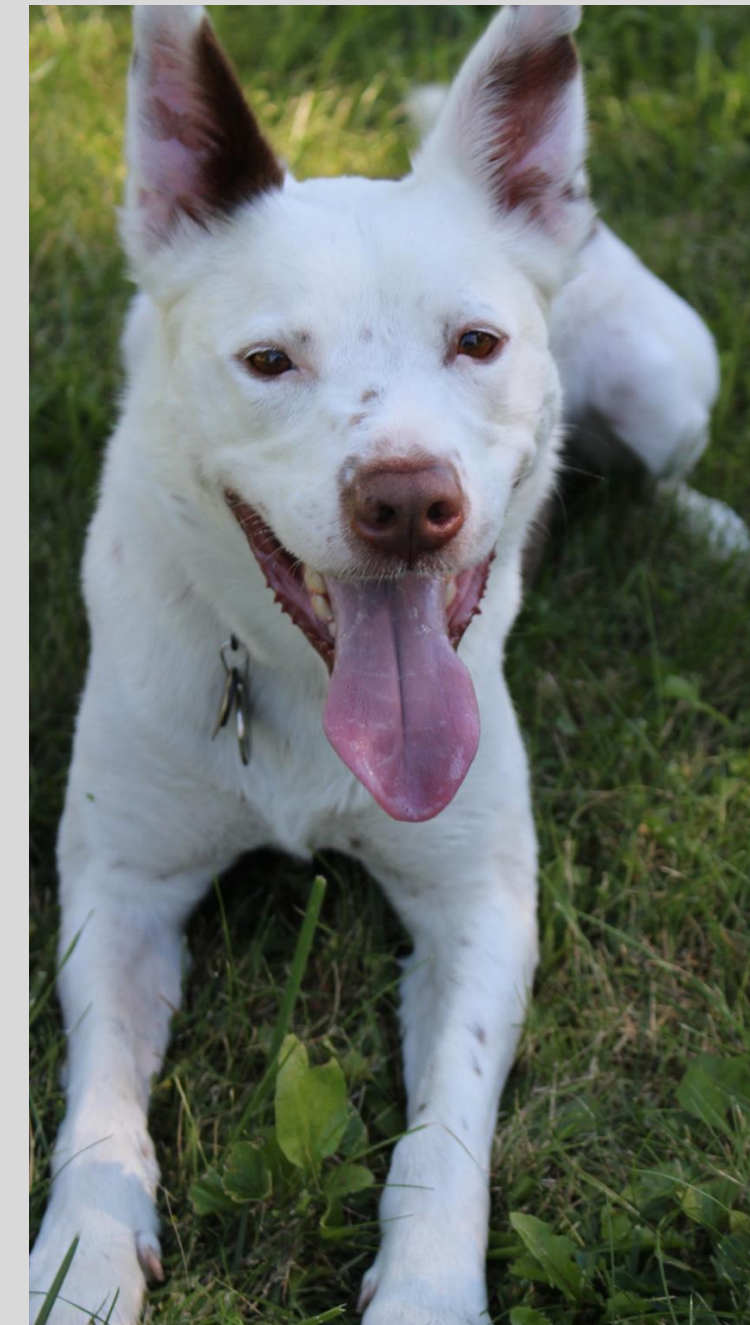
Priority Matrix

Introduction

Problems

Solutions

Conclusions



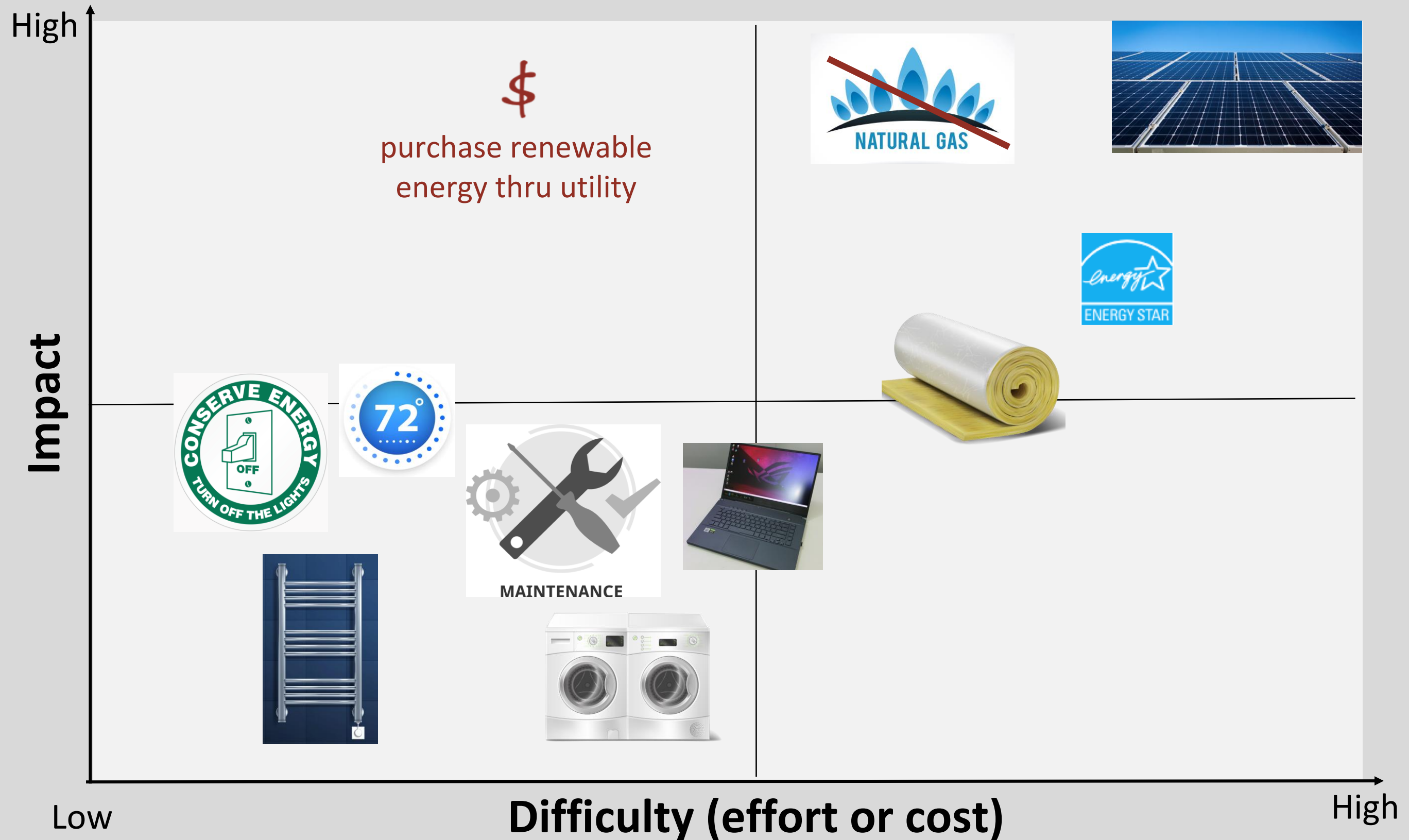
Energy

Introduction

Problems

Solutions

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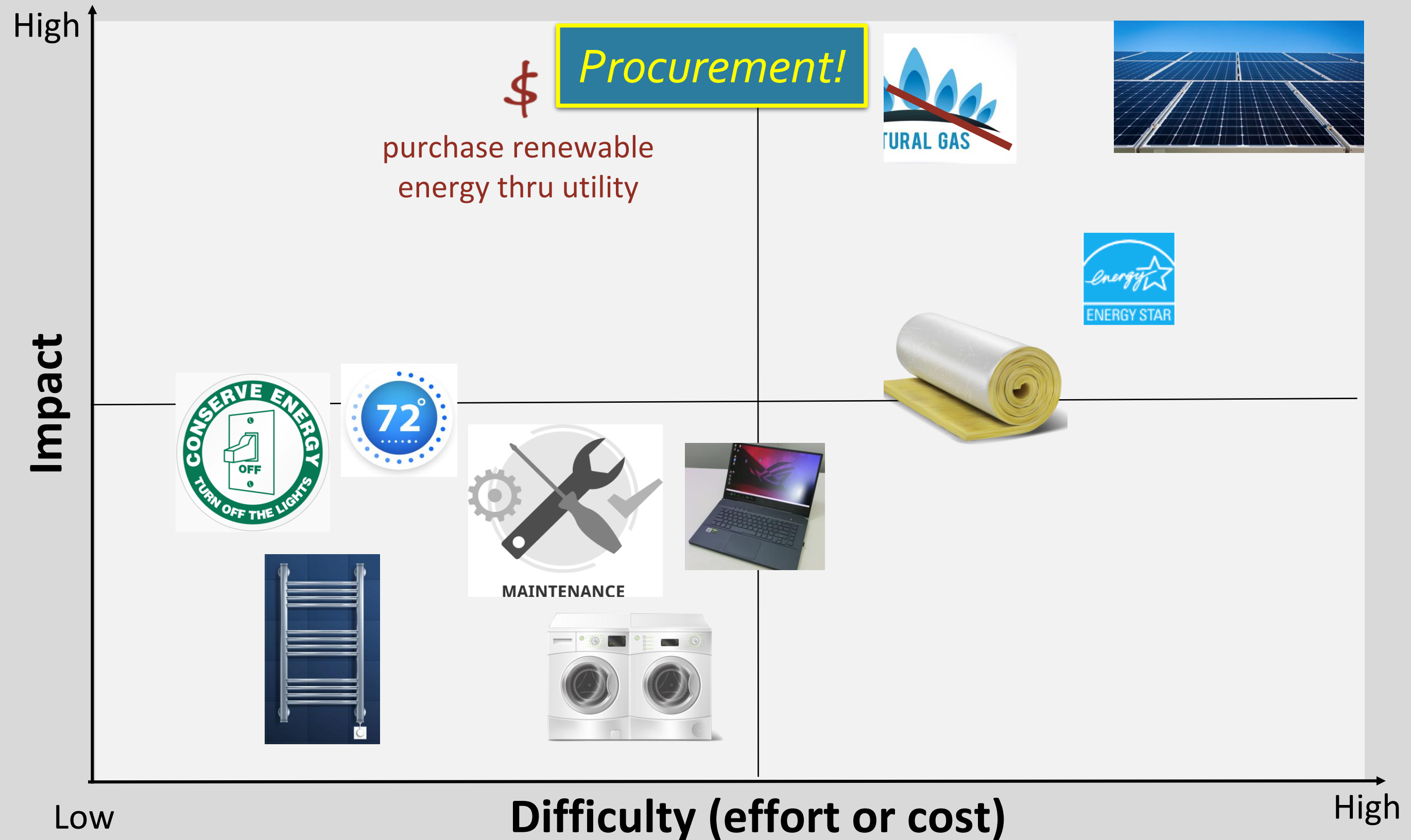
Energy

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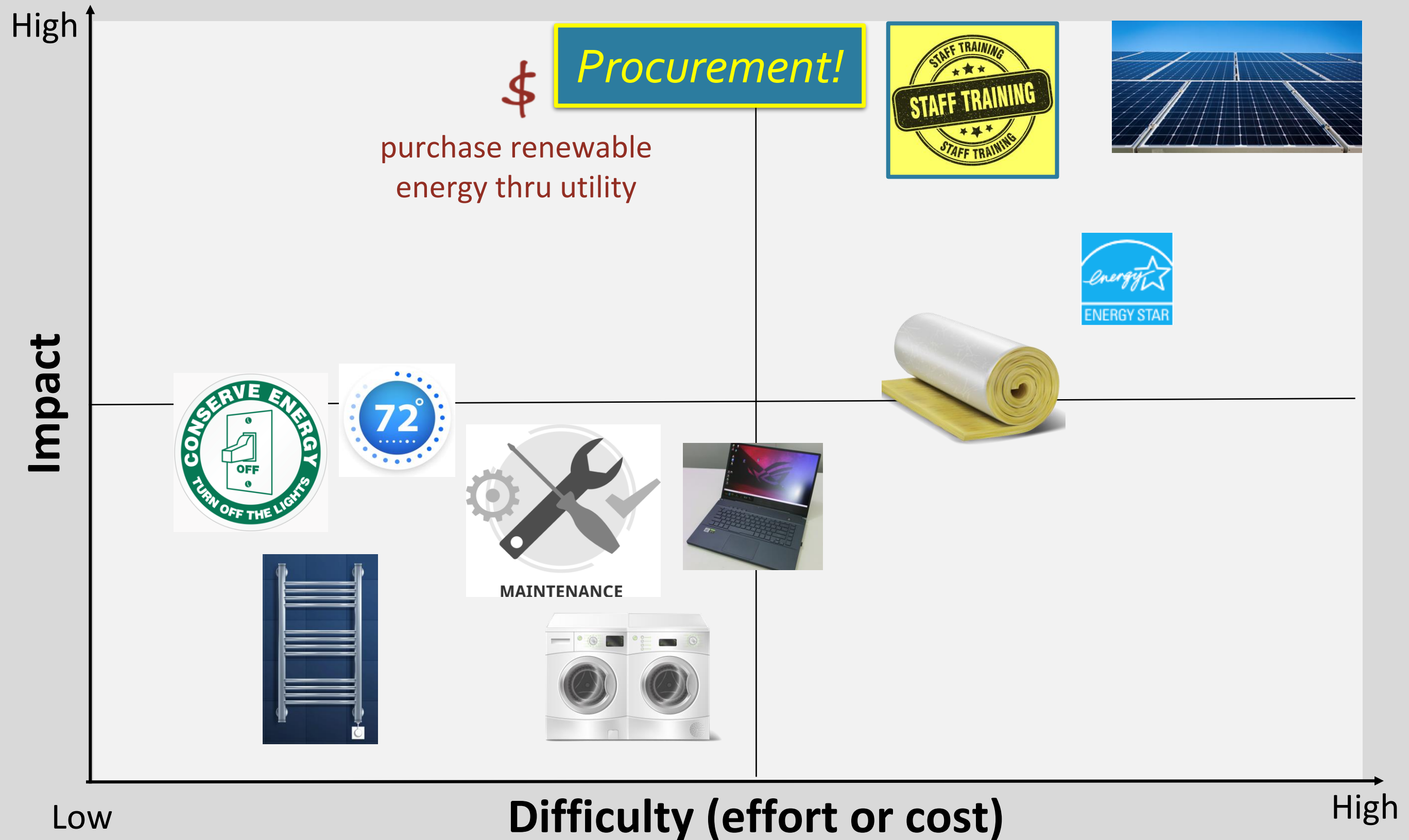
Energy

Introduction

Problems

Solutions

Conclusions



Anesthetic Gases

Introduction

Problems

Solutions

Conclusions

	Atmospheric lifetime (yrs)	100yr GWP per kg (when CO ₂ = 1)	kgCO ₂ e emissions
Sevoflurane	1.1	125	49 (per 250 ml)
Isoflurane	3.2	457	190 (per 250 ml)



Anesthetic Gases

Introduction Problems *Solutions* Conclusions

	Atmospheric lifetime (yrs)	100yr GWP per kg (when CO2 = 1)	kgCO2e emissions
Sevoflurane	1.1	125	49 (per 250 ml)
Isoflurane	3.2	457	190 (per 250 ml)



DAVIES
The Veterinary Specialists
Choose outstanding care

REDUCING OXYGEN USE DURING *Anaesthesia*

3 Use less oxygen during general anaesthesia and sedation

Landfill & Recycling

Introduction

Problems

Solutions

Conclusions

High

Impact

Low

Difficulty (effort or cost)

High



Small Business Waste Audit Form

Business Name: _____
 Date: _____
 Person Leading Waste Audit: _____

Step 1. Designate a time period for the waste audit. This can vary from 2 days to one week, depending on your business operations. For example, if the bins are typically emptied once per week, it makes sense to conduct the audit just before collection and the audit period is one week.
 Waste Collection Start Date: _____
 Waste Collection End Date: _____

Step 2. Identify all types of waste regularly generated by the business.

<input type="checkbox"/> Office Paper	<input type="checkbox"/> Scrap Metal
<input type="checkbox"/> Diverted Paper	<input type="checkbox"/> Scrap Wood
<input type="checkbox"/> Recyclable containers (cans, bottles, etc.)	<input type="checkbox"/> Scrap Fabric
<input type="checkbox"/> Cardboard	<input type="checkbox"/> Electronics
<input type="checkbox"/> Compost (food waste, paper towels, plant waste, compostable containers)	<input type="checkbox"/> Batteries
<input type="checkbox"/> Trash	<input type="checkbox"/> Hazardous Waste
<input type="checkbox"/> Plastic bags and film	<input type="checkbox"/> Other

Small Business Waste Audit Form

- Annual Total (Pounds): Multiply the Annual Total (Gallons) x the weight multiplier.
- Grand Total Waste: Sum all of the amounts from the rows above.

	Total Gallons	Date Multiplier	Annual Total (gallons)	Weight Multiplier	Annual Total (Pounds)
Mixed Recycling				.25	
Trash				2.23	
Paper Recycling				3.24	
Compost				2.3	
Cardboard Recycling				.50	
Other					
Grand Total Waste					

Step 4. Calculate your diversion rate. The diversion rate is the percentage of waste that does not go to landfill (is recycled, reused or composted). $\text{Diversion rate} = \frac{\text{sum of non-landfill waste}}{\text{total waste}}$
 Divide by grand total waste (gallons)
 Current Diversion rate: _____ %
 Note that you know your diversion rate, you can set appropriate waste reduction targets. It is recommended that you conduct a waste audit at least once per year to assess your progress towards your target.
 Target Diversion Rate: _____ %



Landfill & Recycling

Introduction

Problems

Solutions

Conclusions

High

Impact



✓ MWI (AmerisourceBergen) reusable tote delivery program

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<input type="checkbox"/> Recyclable containers (cans, bottles, etc.)	<input type="checkbox"/> Scrap Fabric
<input type="checkbox"/> Cardboard	<input type="checkbox"/> Electronics
<input type="checkbox"/> Compost (food waste, paper towels, plant waste, compostable containers)	<input type="checkbox"/> Batteries
<input type="checkbox"/> Trash	<input type="checkbox"/> Hazardous Waste
<input type="checkbox"/> Plastic bags and film	<input type="checkbox"/> Other _____

Small Business Waste Audit Form

- Annual Total (Pounds): Multiply the Annual Total (Gallons) x the weight multiplier
- Grand Total Waste: Sum all of the amounts from the rows above

	Total Gallons	Date	Annual Total (gallons)	Weight Multiplier	Annual Total (Pounds)
Mixed Recycling				.25	
Trash				2.23	
Paper Recycling				3.24	
Compost				2.3	
Cardboard Recycling				.50	
Other					
Grand Total Waste			NA		NA

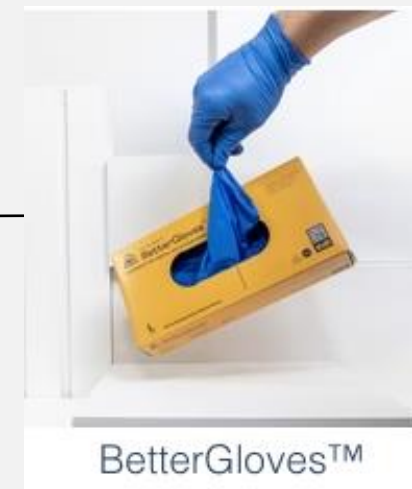
Step 4. Calculate your diversion rate. The diversion rate is the percentage of waste that does not go to landfill (is recycled, reused or composted). $\text{Diversion rate} = \frac{\text{sum of non-landfill waste}}{\text{total waste}}$

Divide by grand total waste (gallons)

Current Diversion rate: _____%

Now that you know your diversion rate, you can set appropriate waste reduction targets. It is recommended that you conduct a waste audit at least once per year to assess your progress towards your target.

Target Diversion Rate: _____%



Low

Difficulty (effort or cost)

High

Landfill & Recycling

Introduction

Problems

Solutions

Conclusions

High

Impact

Procurement!

STAFF TRAINING

Small Business Waste Audit Form

Business Name: _____
 Date: _____
 Person Leading Waste Audit: _____

Step 1. Designate a time period for the waste audit. This can vary from 2 days to one week, depending on your business operations. For example, if the bins are typically emptied once per week, it makes sense to conduct the audit just before collection and the audit period is one week.
 Waste Collection Start Date: _____
 Waste Collection End Date: _____

Step 2. Identify all types of waste regularly generated by the business.

<input type="checkbox"/> Office Paper	<input type="checkbox"/> Scrap Metal
<input type="checkbox"/> Diverted Paper	<input type="checkbox"/> Scrap Wood
<input type="checkbox"/> Recyclable containers (cans, bottles, etc.)	<input type="checkbox"/> Scrap Fabric
<input type="checkbox"/> Cardboard	<input type="checkbox"/> Electronics
<input type="checkbox"/> Compost (food waste, paper towels, plant waste, compostable containers)	<input type="checkbox"/> Batteries
<input type="checkbox"/> Trash	<input type="checkbox"/> Hazardous Waste
<input type="checkbox"/> Plastic bags and film	<input type="checkbox"/> Other

Small Business Waste Audit Form

- Annual Total (Pounds): Multiply the Annual Total (Gallons) x the weight multiplier
- Grand Total Waste: Sum all of the amounts from the rows above

	Total Gallons	Date Multiplier	Annual Total (gallons)	Weight Multiplier	Annual Total (Pounds)
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Trash				2.23	
Paper Recycling				3.24	
Compost				2.3	
Cardboard Recycling				.50	
Other					
Grand Total Waste					

Step 4. Calculate your diversion rate. The diversion rate is the percentage of waste that does not go to landfill (is recycled, reused or composted). $Diversion\ rate = \frac{\text{sum of non-landfill waste}}{\text{total waste}}$

Divide by grand total waste (gallons)

Current Diversion rate: _____%

Now that you know your diversion rate, you can set appropriate waste reduction targets. It is recommended that you conduct a waste audit at least once per year to assess your progress towards your target.

Target Diversion Rate: _____%

BetterGloves™

BetterWrap™

CONTAINERS
 EMPTY & RINSE, DO NOT FLATTEN
 ENVASES
 VACÍE Y ENJAGÜE, NO LOS APLANE

PLASTIC BOTTLES, TUBS, JUGS, JARS
 EMPTY & RINSE, DO NOT FLATTEN
 BOTELLAS, JARRAS, FRASCOS,
 RECIPIENTES PLÁSTICOS
 VACÍE Y ENJAGÜE, NO LOS APLANE

NO PLASTIC BAGS NO Bolsas Plásticas
 November 2017

When in doubt, give us a shout! ¡Si tiene alguna duda, comuníquese con nosotros!

Low

Difficulty (effort or cost)

High

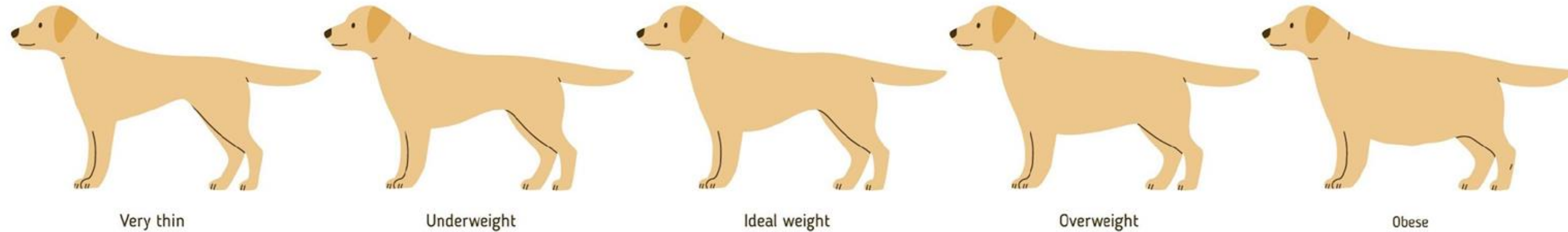
Pet Food

Introduction

Problems

Solutions

Conclusions



Food DOES NOT
EQUAL Love!

Challenges

- × 60% of pets are overweight
- × Human grade
- × No by-products
- × "Premiumization"

Opportunities

- ✓ Ideal body weight is healthier
- ✓ Alternative proteins
- ✓ Pet Sustainability Coalition

Pet Waste

Introduction

Problems

Solutions

Conclusions



- × Pet waste in landfill creates methane
- × A LOT of methane: about 10.5 million tons pet waste goes to landfill in the U.S. per year

→ **6-8 million metric tons CO₂ emissions / year**

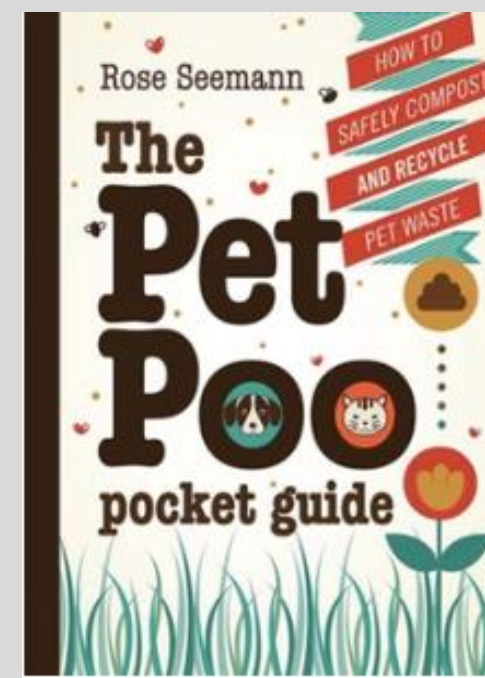
Pet Waste

Introduction

Problems

Solutions

Conclusions



**ENVIRO PET
WASTE NETWORK**

helping divert pet poop from landfill



**ENVIRO
WAGG**

Dog-gone Good Compost™

Will Pay More

Introduction

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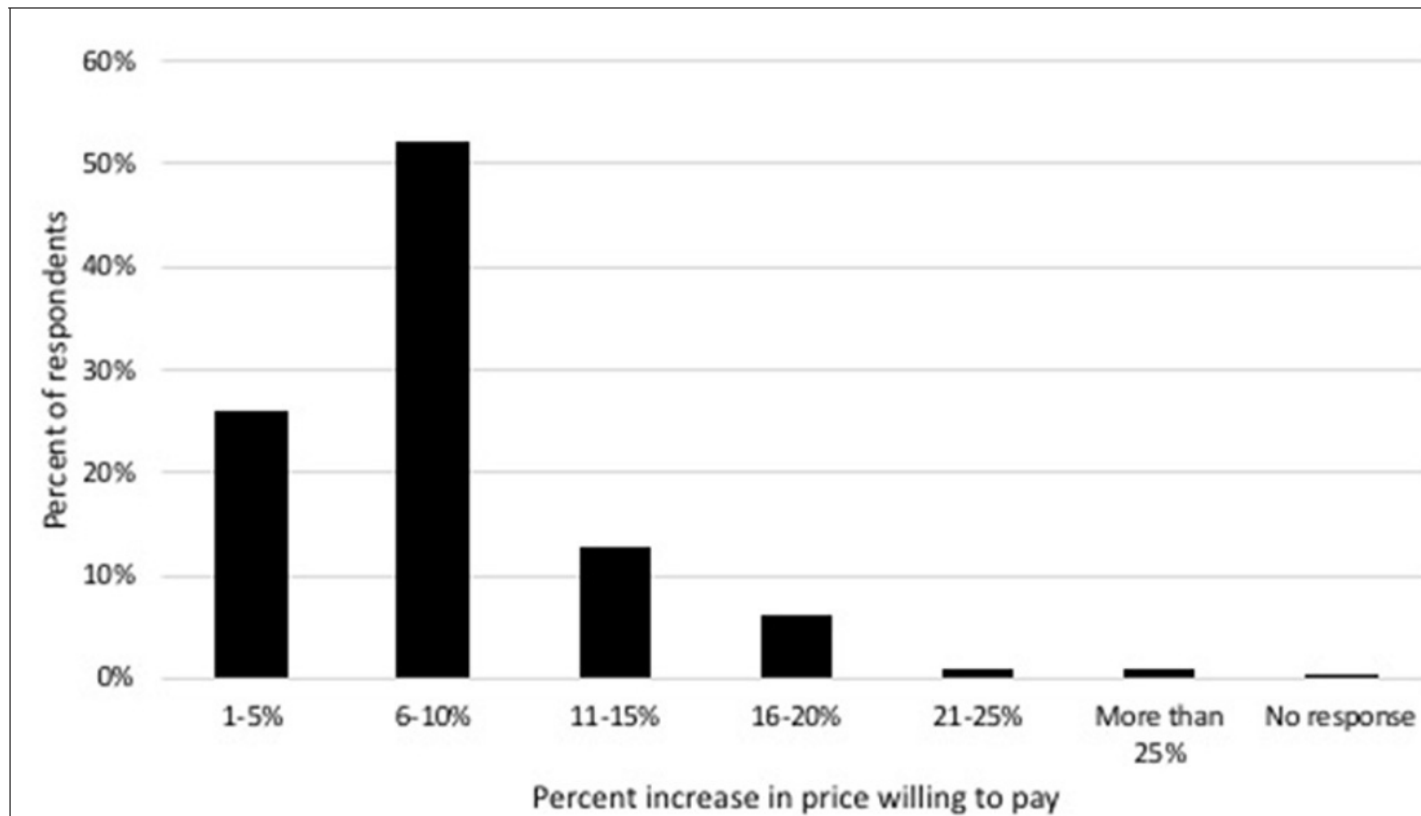


FIGURE 5 | Breakdown of how much more clients are willing to pay for sustainable business practices of those who indicated they are willing to pay more.



Deluty, S. B., Scott, D. M., Waugh, S. C., Martin, V. K., et al. (2021). Client Choice May Provide an Economic Incentive for Veterinary Practices to Invest in Sustainable Infrastructure and Climate Change Education. *Frontiers in Veterinary Science*, 7.

Personal Actions

Introduction

Problems

Solutions

Conclusions

“Yesterday I was clever,
so I wanted to change the
world.

Today I am wise,
so I am changing myself.”

Jalal ad-Din Rumi
Persian Poet

Growing Field

Introduction

Problems

Solutions

Conclusions



- Pets are increasingly irreplaceable family members
- Owners continue becoming more eco-conscious



... doing better for Planet, People, Profit

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DogwoodConsulting.net