



Let's Recycle Better, Together.

DIVERSION & WASTE REDUCTION IN VETERINARY FACILITIES

THURSDAY AUGUST 22ND 1:00 TO 2:00 PM ET



Today's Panelists



Dr. Diccon Westworth,

BVSc, DACVIM/Neurology

Veterinary Neurologist

VCA Animal Care Center of
Sonoma County



Julie Krodel

Sustainable Waste Advisor

ENGIE Impact

Join the Discussion

From your toolbar:



Share your experience & opinions

Look for links to resources

Type direct questions for panelists

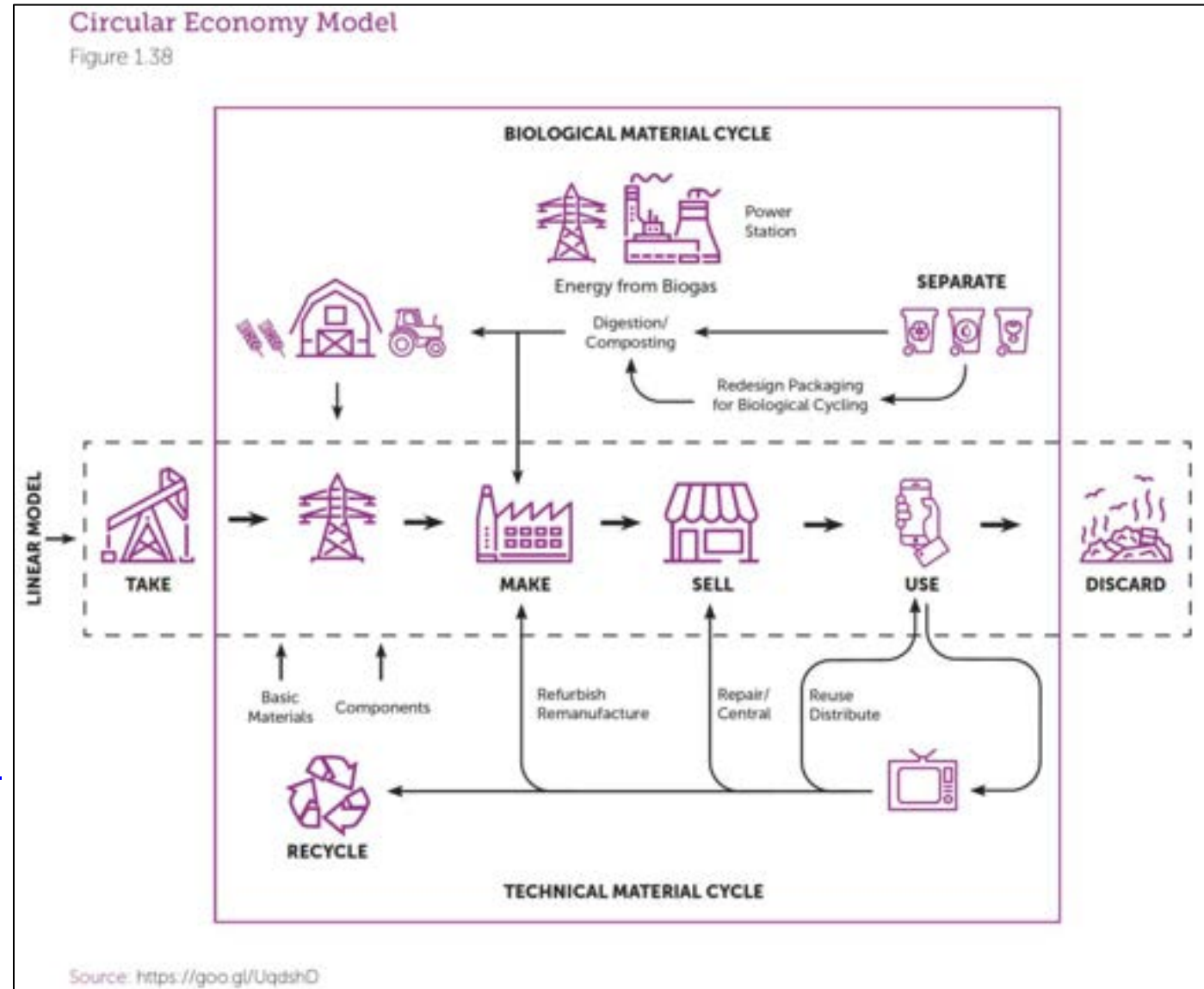


Diversion and Waste Reduction in Veterinary Facilities

Dr. Diccon Westworth

Procurement

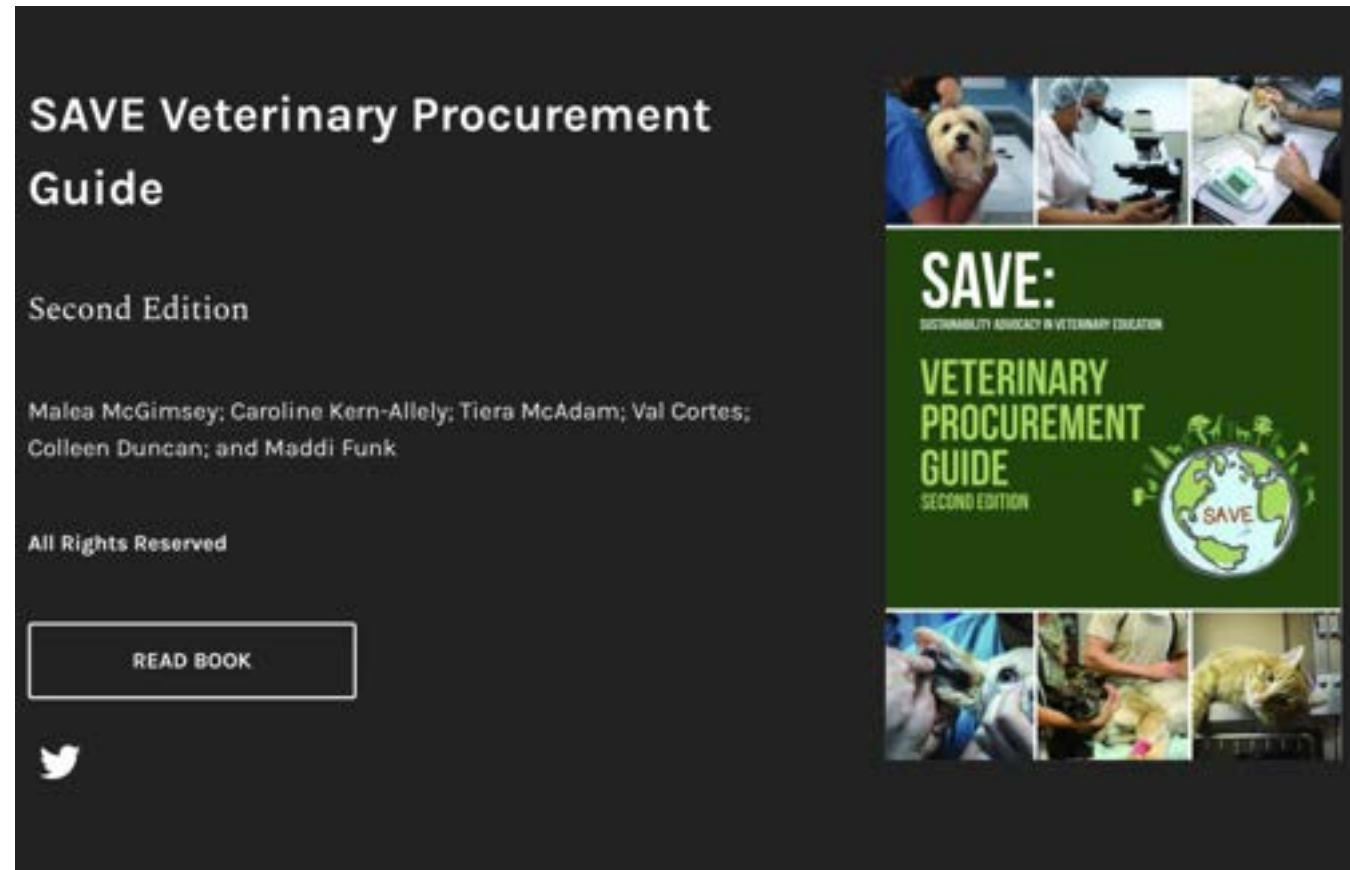
- Circular economy concept
- Understanding product life-cycle
 - LCA
 - cradle to grave, supply chain
 - packaging
- Certifications
 - Ecolabel index
 - <https://www.epa.gov/greenerproducts/introduction-ecolabels-and-standards-greener-products>
- Distribution/delivery
- Greenwashing



Adapted by IEMA from: <http://ellenmacarthurfoundation.org/circular-economy-diagram>

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<https://colostate.pressbooks.pub/veterinaryprocurementguide/>

Waste

Delaware River may be dumping more plastic into ocean than any other U.S. waterway

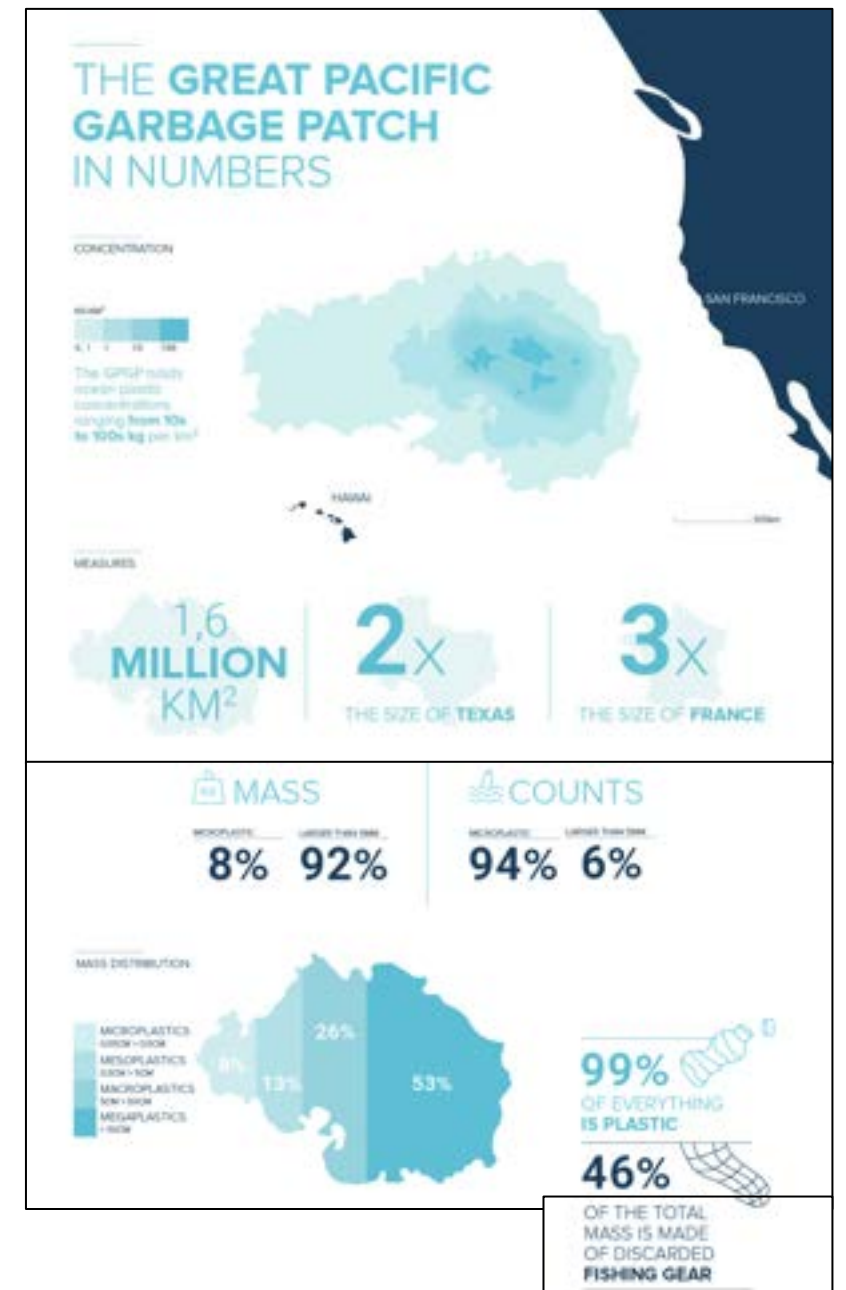
ANDREW S. LEWIS | MAY 17, 2021 | ENERGY & ENVIRONMENT

New report cites large number of landfills in region as part of the problem, along with population density, river size

f X e in e e



“There is no such thing as away. When you throw something away it must go somewhere”. - Annie Leonard



ORIGINAL ARTICLE

Microplastics and Nanoplastics in Atheromas and Cardiovascular Events

R. Marfella, F. Prattichizzo, C. Sardu, G. Fulgenzi, L. Graciotti, T. Spadoni, N. D'Onofrio, L. Scisciola, R. La Grotta, C. Frigé, V. Pellegrini, M. Municinò, M. Siniscalchi, F. Spinetti, G. Vigliotti, C. Vecchione, A. Carrizzo, G. Accarino, A. Squillante, G. Spaziano, D. Mirra, R. Esposito, S. Altieri, G. Falco, A. Fenti, S. Galoppo, S. Canzano, F.C. Sasso, G. Matakchione, F. Olivieri, F. Ferraraccio, I. Panarese, P. Paolisso, E. Barbato, C. Lubritto, M.L. Balestrieri, C. Mauro, A.E. Caballero, S. Rajagopalan, A. Ceriello, B. D'Agostino, P. Iovino, and G. Paolisso

ABSTRACT

BACKGROUND

Microplastics and nanoplastics (MNPs) are emerging as a potential risk factor for cardiovascular disease in preclinical studies. Direct evidence that this risk extends to humans is lacking.

CONCLUSIONS

In this study, patients with carotid artery plaque in which MNPs were detected had a higher risk of a composite of myocardial infarction, stroke, or death from any cause at 34 months of follow-up than those in whom MNPs were not detected. (Funded by Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale and others; ClinicalTrials.gov number, NCT05900947.)

Chemicals Used in Plastic Materials: An Estimate of the Attributable Disease Burden and Costs in the United States

Leonardo Trasande,^{1,2,3} Roopa Krithivasan,⁴ Kevin Park,⁵ Vladislav Obsekov,⁶ and Michael Belliveau⁴

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Correspondence: Leonardo Trasande, MD, MPP, Department of Pediatrics, New York University Grossman School of Medicine, 403 E 34th St, Rm 115, New York, NY 10016, USA. Email: leonardo.trasande@nyulangone.org

Abstract

Context: Chemicals used in plastics have been described to contribute to disease and disability, but attributable fractions have not been quantified to assess specific contributions. Without this information, interventions proposed as part of the Global Plastics Treaty cannot be evaluated for potential benefits.

Objective: To accurately inform the tradeoffs involved in the ongoing reliance on plastic production as a source of economic productivity in the United States, we calculated the attributable disease burden and cost due to chemicals used in plastic materials in 2018.

Methods: We first analyzed the existing literature to identify plastic-related fractions (PRF) of disease and disability for specific polybrominated diphenylethers (PBDE), phthalates, bisphenols, and polyfluoroalkyl substances and perfluoroalkyl substances (PFAS). We then updated previously published disease burden and cost estimates for these chemicals in the United States to 2018. By uniting these data, we computed estimates of attributable disease burden and costs due to plastics in the United States.

Results: We identified PRFs of 97.5% for bisphenol A (96.25–98.75% for sensitivity analysis), 98% (96%–99%) for di-2-ethylhexylphthalate, 100% (71%–100%) for butyl phthalates and benzyl phthalates, 98% (97%–99%) for PBDE-47, and 93% (16%–96%) for PFAS. In total, we estimate \$249 billion (sensitivity analysis: \$226 billion–\$289 billion) in plastic-attributable disease burden in 2018. The majority of these costs arose as a result of PBDE exposure, though \$66.7 billion (\$64.7 billion–67.3 billion) was due to phthalate exposure and \$22.4 billion was due to PFAS exposure (sensitivity analysis: \$3.85–\$60.1 billion).

Conclusion: Plastics contribute substantially to disease and associated social costs in the United States, accounting for 1.22% of the gross domestic product. The costs of plastic pollution will continue to accumulate as long as exposures continue at current levels. Actions through the Global Plastics Treaty and other policy initiatives will reduce these costs in proportion to the actual reductions in chemical exposures achieved.

Key Words: cost, disease, perfluoroalkyl substances, phthalates, bisphenols, plastics

Abbreviations: AFF, aqueous film forming foam; APFO, ammonium perfluorooctanoate; BBP, butyl benzyl phthalate; BPA, bisphenol A; DBP, dibutyl phthalate; DEHP, bis(2-ethylhexyl)phthalate; ECHA, European Chemicals Agency; EU, European Union; FPUF, flexible polyurethane foams; N/A, not available; PBDE, polybrominated diphenyl ether; PFAS, perfluoroalkyl and polyfluoroalkyl substances; PFCA, perfluorocarboxylic acids; PFOA, perfluorooctanoic acid; PFOS, perfluorooctane sulfonate; PRF, plastic-related fraction; PUR, polyurethane; PVAc, polyvinyl acetate; PVC, polyvinyl chloride; TBBPA, tetrabromobisphenol A.

29 APRIL 2024

Over 6 million health professionals urge plastics treaty negotiators to protect planet, patients in open letter

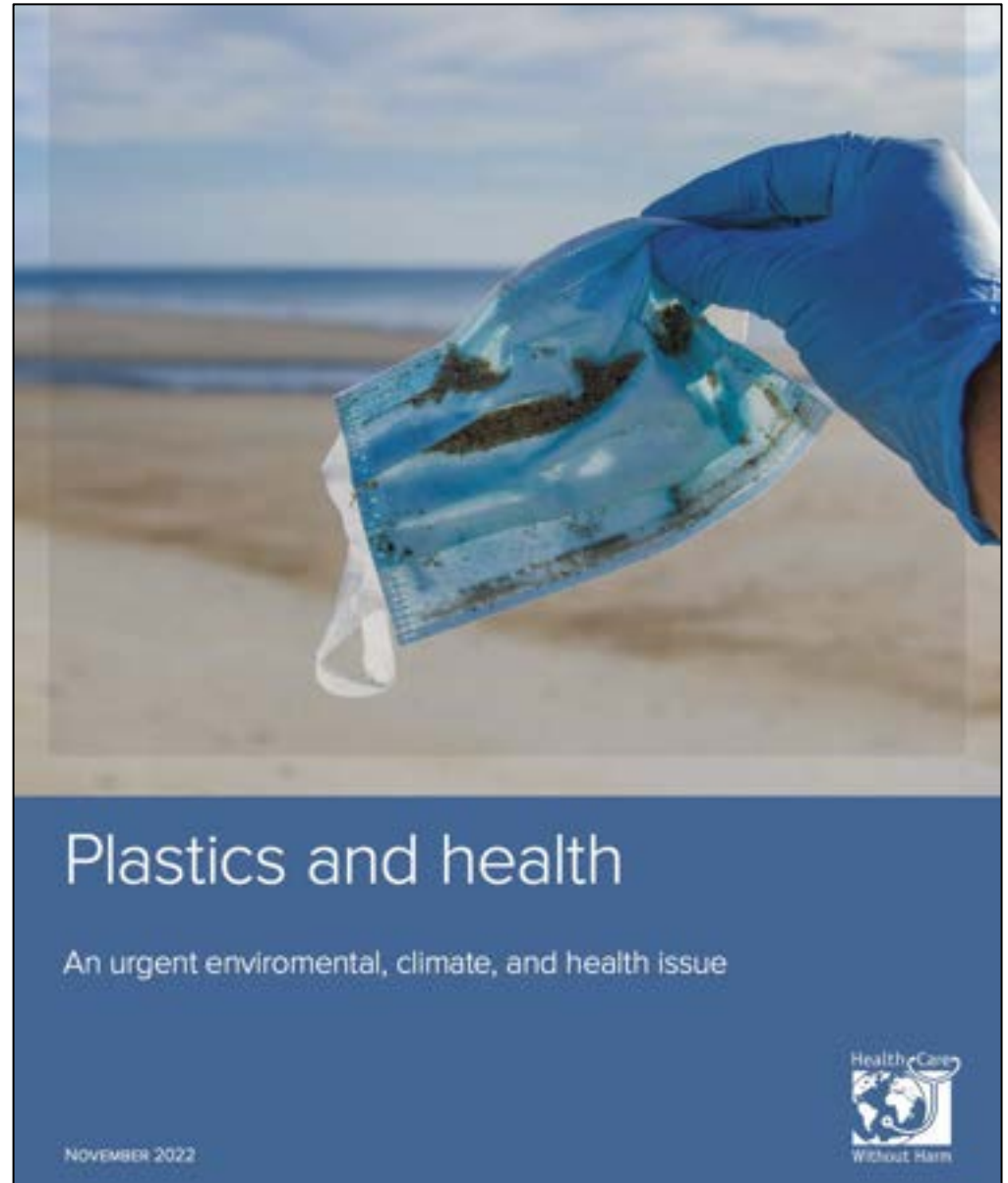


Reston, VA – Health Care Without Harm released a **global sign-on letter** on Monday, April 29, 2024, **urging negotiators of the Plastics Treaty to ensure an ambitious treaty that does not exclude the healthcare sector.** The letter is signed by close to 1,000 medical and public health individuals and organizations, including the World Federation of Public Health Associations (WFPHA), the International Federation of Medical Students Associations (IFMSA), the Global Climate and Health Alliance (GCHA), the International Society of Doctors for Environment, and the Endocrine Society, among others. Representing the demands of **over 6 million health professionals worldwide**, this sign-on letter calls attention to the urgent need for action to address the plastics crisis globally, including in the healthcare sector.

The Plastics Treaty, an international legally binding agreement upon which all nations are to agree to end plastic pollution, is being negotiated by the United Nations Environment Program (UNEP) through the International Negotiation Committee on Plastic Pollution (INC). Health Care Without Harm presented the open letter at the fourth INC session (INC-4) in Ottawa, Canada.

"The Plastics Treaty represents a critical and historic opportunity to address the global plastics crisis that threatens human and planetary health," says Gary Cohen, Health Care Without Harm's Co-Founder and President. However, there's a possible exemption for the healthcare sector in the Treaty, which would exempt 10% of the global economy. "Exempting the healthcare sector in the Plastics Treaty would stall movement away from single-use and toxic plastics, and hinder innovation," continues Mr. Cohen.

<https://healthcareclimateaction.org/node/192>



Plastics and health

An urgent environmental, climate, and health issue



NOVEMBER 2022

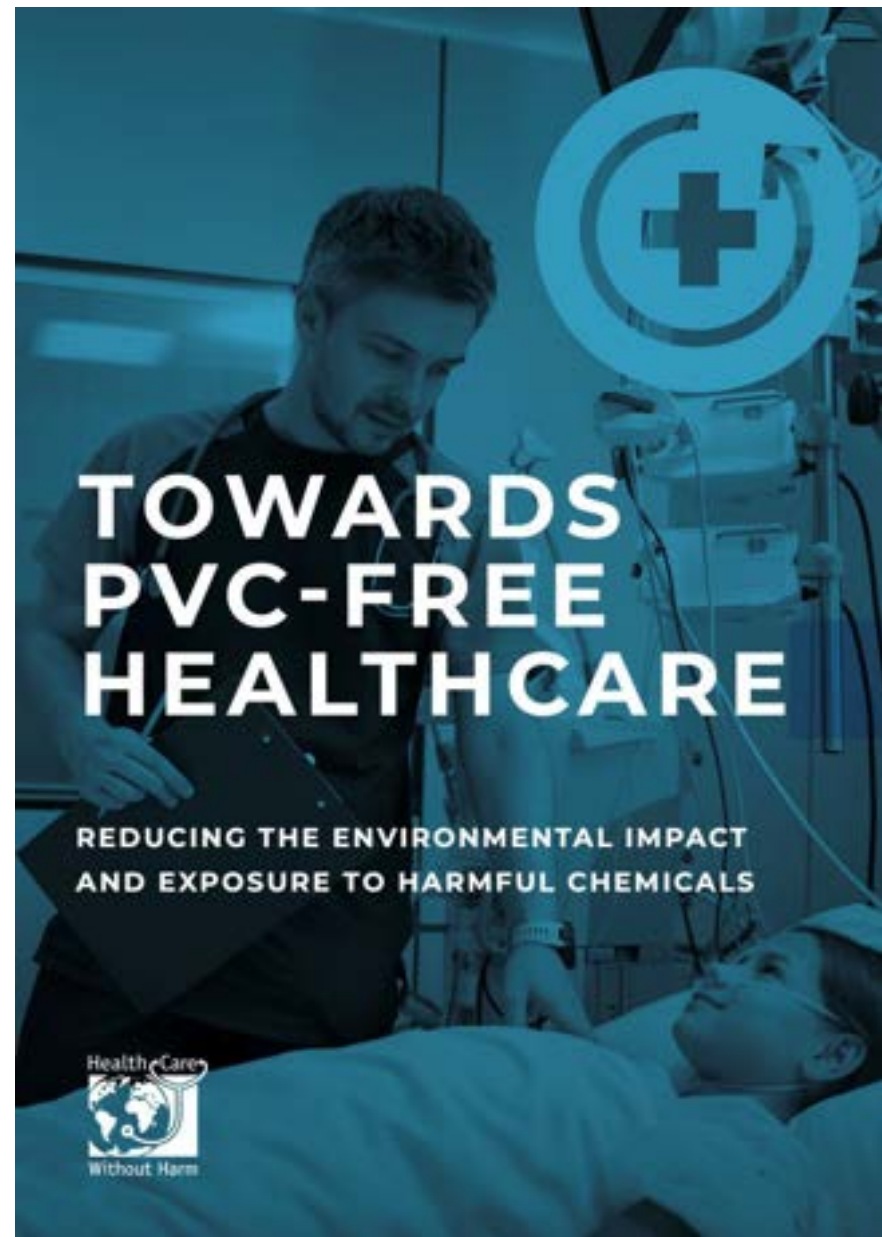
<https://global.noharm.org/media/4634/download?inline=1>

PVC causes health harm throughout its lifecycle

- Toxic effects of PVC
 - Manufacture
 - Use
 - Disposal



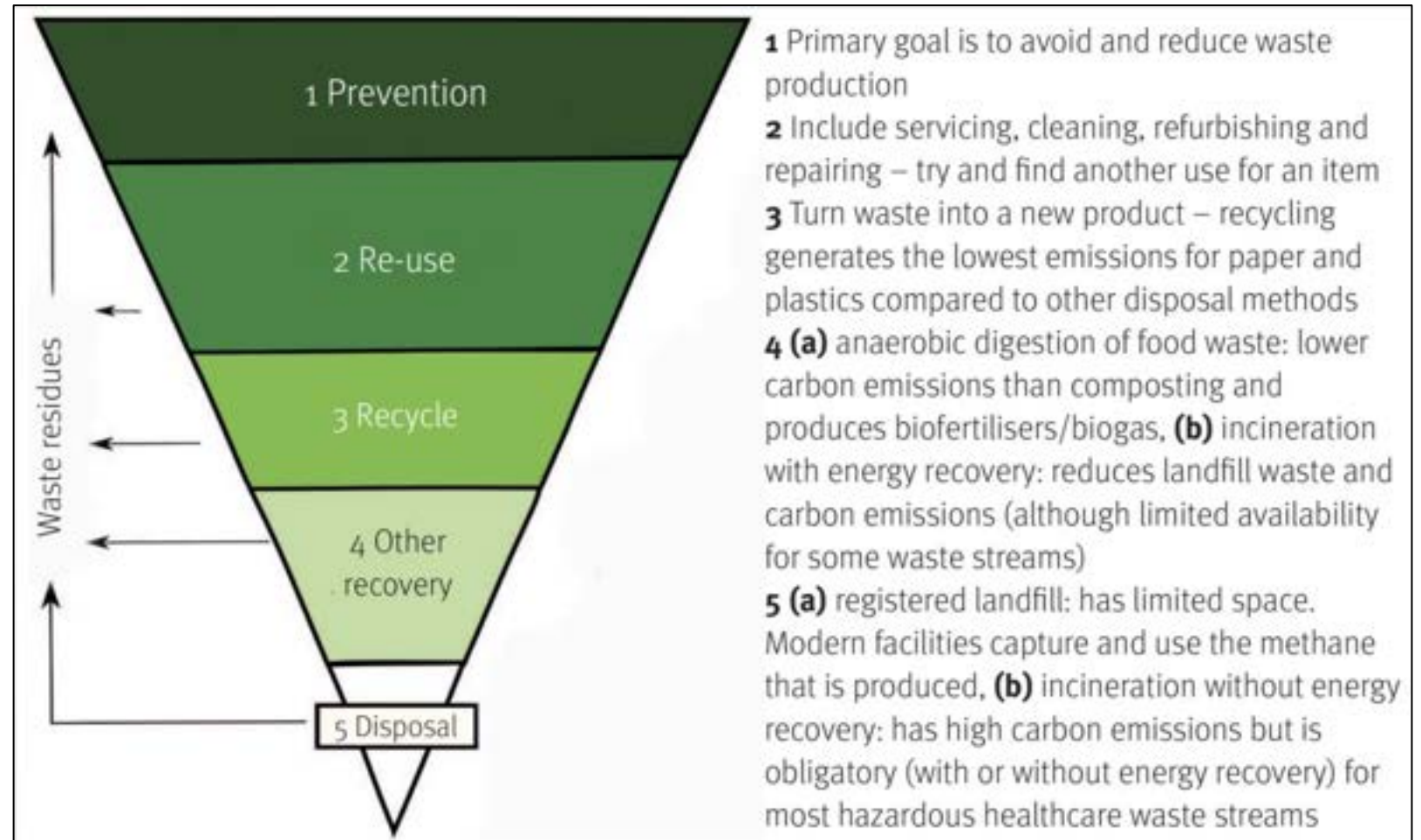
- Drive change to non-PVC, non-DHEP medical supplies



https://global.noharm.org/sites/default/files/documents-files/7382/2023-05-Towards-PVC-free-healthcare_0.pdf

Waste

- Rethink
- Reduce/Refuse
- Reuse
- Repair
- Recycle
- Rot (compost)
- Research



<https://doi.org/10.1136/inp.m1678>

50 states of Recycling 2.0

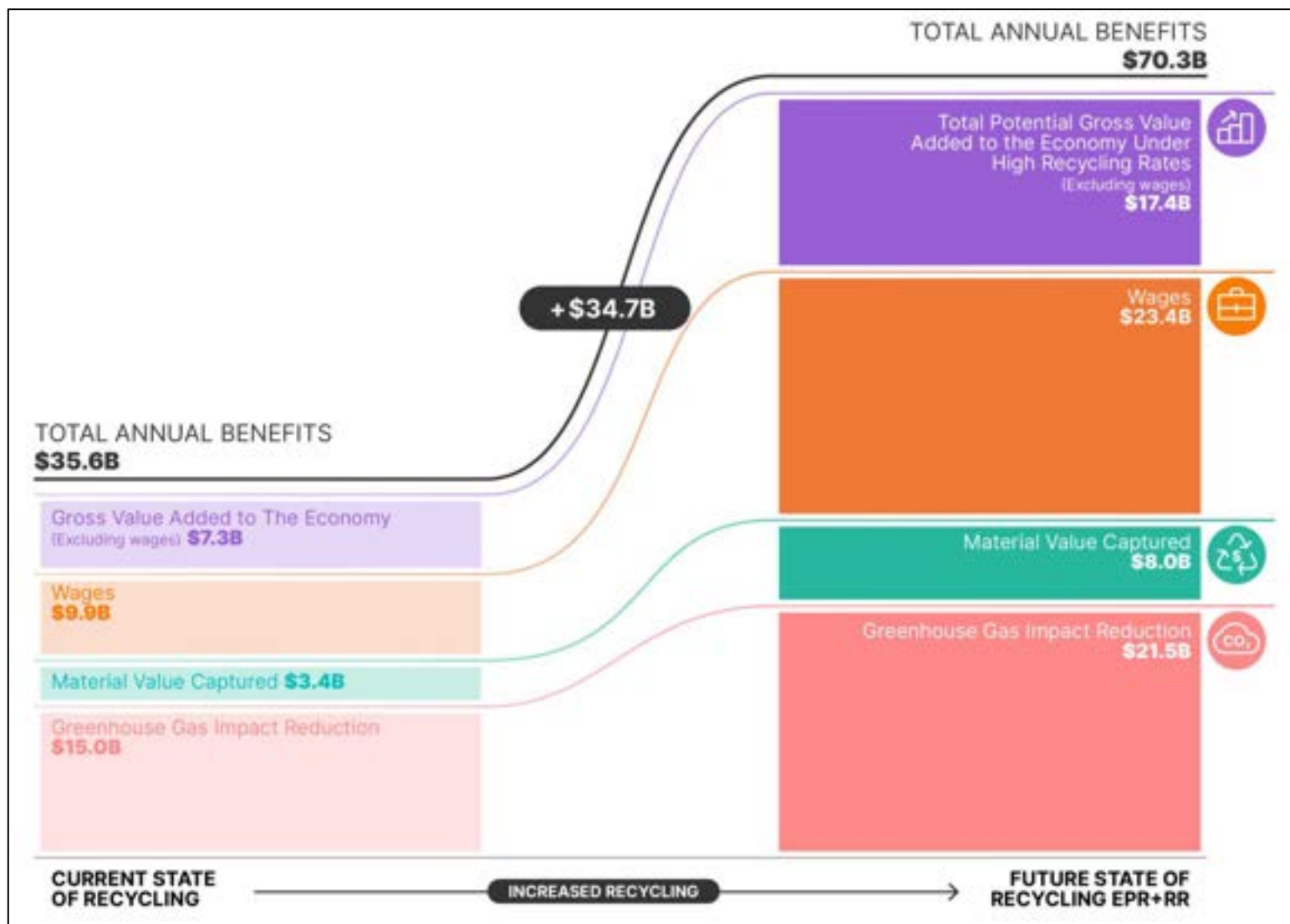


RANKING: TOP 10	STATE	RECYCLING RATE (%)	RECYCLING REFUND
#1	Maine	65%	Yes
#2	Vermont	51%	Yes
#3	Massachusetts	48%	Yes
#4	Iowa	45%	Yes
#5	Oregon	45%	Yes
#6	New York	44%	Yes
#7	California	41%	Yes
#8	Michigan	40%	Yes
#9	New Jersey	39%	No
#10	Connecticut	39%	Yes

RANKING: BOTTOM 10	STATE	RECYCLING RATE (%)	RECYCLING REFUND
#41	Colorado	11%	No
#42	Texas	8%	No
#43	Alabama	8%	No
#44	Oklahoma	8%	No
#45	Mississippi	6%	No
#46	South Carolina	6%	No
#47	Alaska	6%	No
#48	Tennessee	5%	No
#49	Louisiana	4%	No
#50	West Virginia	2%	No

<https://www.ball.com/sustainability/real-circularity/50-states-of-recycling>

Total annual cost benefit of US recycling = \$70 B



RANKINGS KEY TAKEAWAYS

- Nine of the ten states with the **highest recycling rates** have Recycling Refunds.
- States with **Recycling Refunds** are likely to recycle a greater share of material through closed-loop end markets (i.e., can-to-can or bottle-to-bottle).
- Nationally, the value of material diverted from landfills is **\$2.6 billion**, which only represents 32% of the value that could be captured annually.
- Nationally, 79 million MTCO₂e of GHG is avoided through recycling, comparable to removing more than 17 million vehicles from the roads. This is only **28% of the total potential of GHG** that could be avoided annually.



Waste Advisory Programming

- Internal
- Restricted
- Secret

About Me

Sustainability Waste Advisor at ENGIE Impact

julie.krodel@engie.com

www.linkedin.com/in/ulrike-krodel-7815358a

- Advises on **waste reduction** and **diversion strategies**
- Ensures **waste regulation compliance**
- Builds **strategic plans** and **customized roadmaps** for sustainable waste management solutions.
- Waste Characterization and Waste Compliance on-site audits
- Julie is local to the PNW and enjoys traveling, and spending time with the family and her dog.



Learn more at: <https://www.engieimpact.com/capabilities/waste-management>

How to set or achieve your waste goals

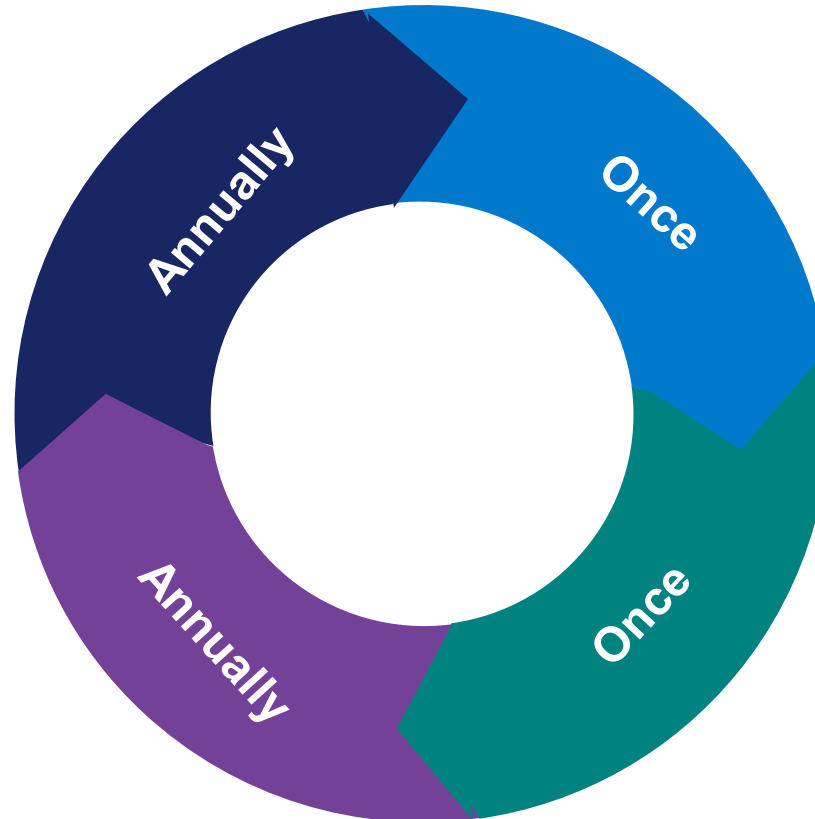
1 Conduct a Waste Audit

Understand how much waste your building produces and the opportunities to divert materials both upstream and downstream

Audits & site tours are critical to identify specific opportunities to improve waste management in your building

4 Validate your diversion efforts

Conduct follow up audits and site tours to track and minimize drift, observe additional opportunities to reduce, reuse and recycle, and validate achievement of your zero waste goals



2 Develop waste goals and a roadmap

Develop goals, a roadmap, and budget based on targets and timelines of your organization

3 Implement your waste program

Roll out a waste program that reduces waste where it is produced, trains employees on how and what to divert optimally, and gain efficiencies in waste collection and disposal

Zero Waste Program Process

Program steps can be completed as a sequence or independently



The Ideal World of Waste Management

Data available:

Data available to make informed decisions.

Comprehensive Services:

All necessary services are readily available.

Adequate Budget:

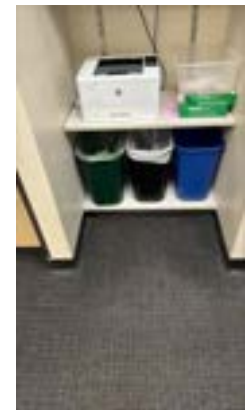
Sufficient budget is allocated to meet all waste management needs.

Stakeholder Support:

There is strong buy-in and support from all stakeholders.

Ample Space:

Plenty of space is available for waste stations and management facilities.



Current Realities & Challenges

No/Limited data available

- On waste streams / waste materials
- On waste service

Variation in Services:

- Services differ depending on the municipality and vendor involved.
- Team members expect different services based on residential offerings/experience

Stakeholder Engagement:

- Gaining buy-in from all stakeholders and aligning on priorities can be challenging or subject to change.

Limited Space:

- There is often insufficient space for waste stations, particularly in busy areas.

Lack of Budget/Changes in Priorities:

- Limited financial resources and changes in priorities can restrict the ability to implement comprehensive waste management solutions.



On-site Waste Audit



Site Tour

- Observe staff procedures, processes, bin placement, signage & labeling, and staff engagement
- **Understand challenges** within the current infrastructure
- **Collect feedback** on feasibility of proposed improvements
- Identify waste generation points for reduction efforts



Waste Characterization Audit

- Collect a 24-hour sample of all landfill waste materials
- **Sort sample** by material type, and record weight + volume of each material type
- **Identify upstream & downstream diversion opportunities** including contamination of currently recyclable materials
- **Propose waste diversion improvements**

Common Waste Categories in Veterinary Clinics



Current Recycle

Materials that can be recycled in Current Recycle streams that exist within the operation



New Recycle

Materials that can be recycled in New Recycle streams that require implementation



Procurement

Materials that can be exchanged for recyclable/compostable products, sent to vendor take-back programs, or removed from operations



Process

Materials that can be removed from landfill if adjustments are made to normal operations



Landfill

Materials that do not currently have a recycling vendor or procurement change opportunity



Regulated

Materials that should be placed in regulated bins and not trash or recycling streams

Current / New Recycle Examples in Veterinary Clinics



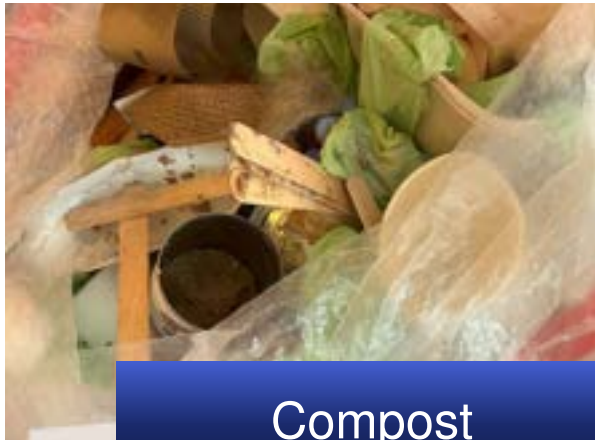
Comingle



Comingle



Cardboard



Compost



Medical Packaging



Used Medical Plastics

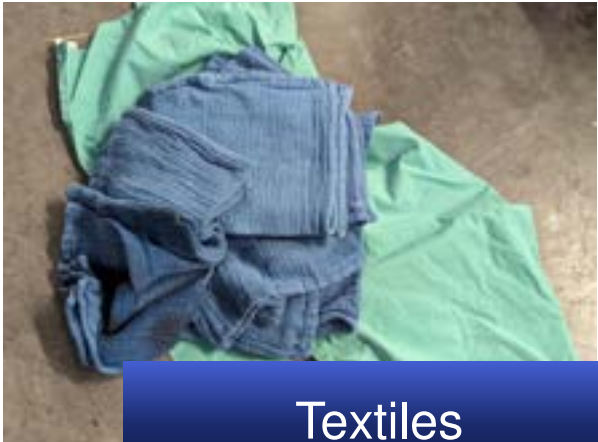
Procurement Change / Process Change Examples in Veterinary Clinics



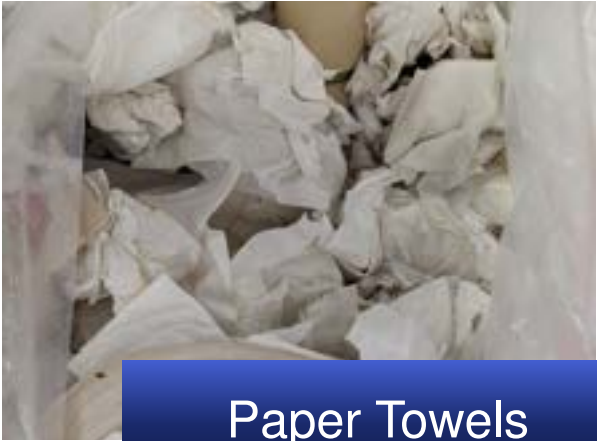
Blue Wrap / Surgical Gowns



Styrofoam Boxes / Ice Packs



Textiles

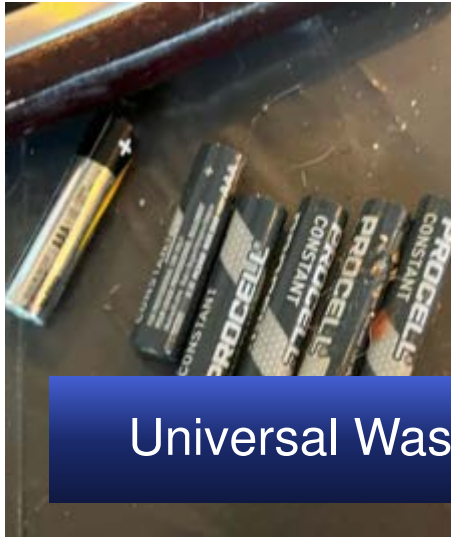


Paper Towels



Trash

Regulated Waste Examples in Veterinary Clinics



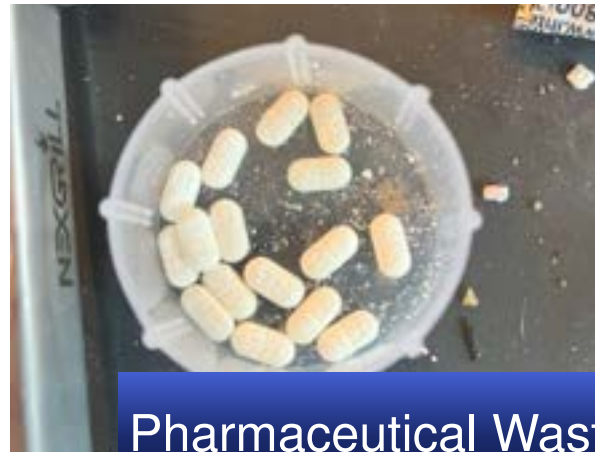
Universal Waste



Universal Waste



RCRA regulated waste



Pharmaceutical Waste

Waste Management is an important factor to manage as part of your operational and sustainability strategy



Cost Savings

Can reduce waste disposal costs, including landfill fees and waste removal expenses. Reusing materials cuts down on the need to purchase new resources, leading to significant savings over time.



Supply Chain Resilience

Promotes a circular economy model, which fosters resilience in the supply chain. Reduces dependency on finite resources and mitigates supply chain risks.



Environmental Responsibility

Demonstrates commitment to sustainability and environmental stewardship. Reduces carbon footprint by conserving energy and resources required for manufacturing new products.



Regulatory Compliance

Compliance with environmental regulations and standards. Avoidance of fines and penalties associated with improper waste disposal.



Positive Public Image

Recycling initiatives enhance corporate social responsibility (CSR) reputation. Attracts environmentally-conscious customers, investors, and employees.



Innovation and Efficiency

Encourages innovation in waste reduction and resource management. Drives efficiency improvements through process optimization and waste minimization efforts.

Setting up bins in your facility is just the beginning of an effective waste management strategy. To truly succeed, you need a strategic plan that allows for follow-through, provides the necessary tools and training, and lets you measure and celebrate successes with on-site teams. Most importantly, this plan should ensure that associates are engaged with the program and understand the significance of waste diversion.

Goals Setting, Roadmaps, Playbook Development



Goal Setting

- Workshop designed to help organization's leaders choose actionable yet impactful goals to reduce waste
- Generate commitments both top down and bottom up



Roadmap

- Take goals and create milestones and timelines to achieve those goals
- Provide clarity to employees and leaders on expectations



Playbook Development

- Create an operational playbook that is customized to your industry, by department
- Based on how waste is created and travels through organization to service pickup containers

Zero Waste Strategy

What factors are important to remember when creating a long-term waste reduction strategy?

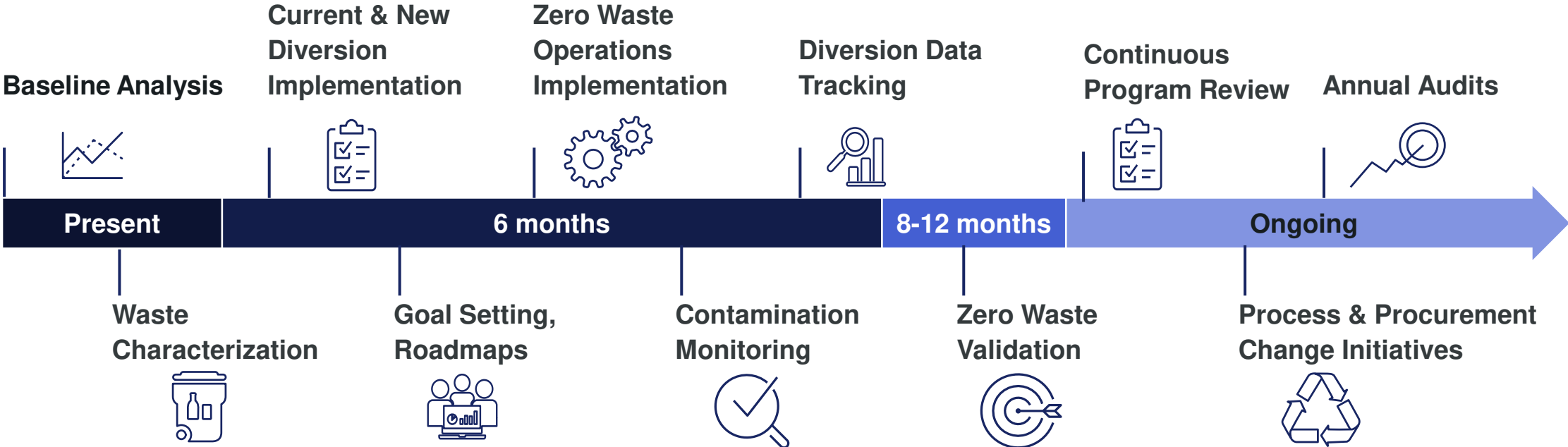
Sustainability questions:

- What are your goals regarding waste diversion and reporting?
- Are you tracking waste trends for cost efficiency and/or diversion efforts?
- Have you reviewed your waste contracts to ensure service is adequate?
- Which stakeholders should be involved in your program or initiative?
- What methods or tools do you currently use to track diversion? How do you plan to track diversion data in the future?
- Do you have a corporate responsibility report or an annual report that includes waste management?
- Is there a green team or sustainability committee within your organization?
- Do you have C-Suite buy in and a corporate leadership sponsor

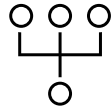
Compliance questions:

- Have you reviewed your waste contracts to ensure compliance with regulations?
- What tools or systems do you use to track waste-related risks today?
- Do you have any healthcare or manufacturing components as part of your business such as senior services, pharmacies, healthcare services, construction, cleantech?
- Have you been fined for inadequate waste services or inappropriate handling?
- Are you aware of the associated fees, risks, and requirements?
- Do you know how many of your sites are located in areas where recycling or composting is mandatory?

Timeline



Program Implementation and Validation



Program Implementation

- Onsite support to implement waste management programs through waste station creation and elimination of excess bins
- Partner with EVS and staff to simplify processes, ensuring they are easy to follow and do not interfere with operations.
- Involve marketing teams to create signage tailored to your diversion requirements and products/packaging produced and generated
- Create customized training, either remote or in-person



Validation

- 6-12 months after program implementation, we come back onsite to evaluate program success and note any drift
- Conduct another waste audit to validate program success or indicate areas of further opportunity as well as update diversion numbers
- Once you achieve 90% diversion, evaluate a 3-rd party validation or Zero Waste Certification.

How ENGIE Impact helps Clients solve their waste challenges



On-Site Waste Audits

We've conducted over **1,000** on-site waste audits to track how waste is produced, types of waste produced, and recommend opportunities to divert



Waste Reduction Roadmaps and Playbooks

We've developed actionable reduction roadmaps and operational playbooks with **10+** clients across **500+** sites, with an average target of **50% waste reduction per site**



Program Implementation and Validation

We've deployed waste reduction programs and trained approximately 20,000 staff at more than **500** sites, and have **issued certificates of validation for 90% diversion from landfill** for multiple clients.

We've served more than **50** Clients across the following industries:



Healthcare



Manufacturing



Hospitality



Grocery



Restaurants



Retail



Senior Living



Education



Real Estate



Technology

Thank you!



engieimpact.com

Baseline Waste Audit & Waste Stream Demonstration with Game

Train Your Team:

- 1) Inspire
- 2) Start simple
- 3) Patience
- 4) Allies
- 5) Clearly communicate
- 6) Reward & Celebrate



Viewpoint

Viewpoint articles represent the opinions of the authors and do not represent AVMA endorsement of such statements.

Waste not want not: piloting a clinical waste audit at a United States university veterinary teaching hospital

Caroline M. Kern-Allely, BA¹; Malea R. McGimsey, BS¹; Tiera S. McAdam, MS¹; Valerie L. Cortes, MS¹; Stacey Baumgarn, MSBA²; Gregg M. Griffenhagen, MS, DVM¹; Colleen Duncan, DVM, PhD^{1*}

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ABSTRACT

Biomedical waste is a well-recognized environmental problem, yet less is known about the waste generated in the delivery of veterinary care compared to human medicine. The objective of this project was to develop and pilot a waste audit protocol for veterinary medicine that could inform waste management at a US university veterinary teaching hospital and the broader veterinary community. We conducted a multi-day review of the Colorado State University Veterinary Teaching Hospital's small animal surgery and anesthesia units to measure the types and amounts of waste generated during routine surgeries. Metrics included total weight, number of bags, and individual counts for specific items of concern and items with sustainable alternatives. We calculated frequencies and percentages of waste by waste audit material category and noted any erroneous materials sorted. Despite waste being a prioritized sustainability issue in veterinary medicine, this work highlighted opportunities for better education on managing and optimizing existing resources through behavior modification. This article explores ways the 5Rs (Rethink, Reduce, Reuse, Recycle, Research) could be better operationalized in veterinary hospitals.

Waste Reductions

- Surgery
 - Aluminium
 - Distilled water
 - Reusables



Sustainability and the environment

How to make your clinic more environmentally sustainable

Author Zoë Halfacree

Source: BSAVA Companion, Volume 2021, Issue 4, Apr 2021, p. 26 - 31

DOI: <https://doi.org/10.22233/20412495.0421.26>

Reusable surgical gowns dramatically reduce environmental footprint



Surgical gown life cycle environmental results

Surgical gown life cycle results continue the conclusions from six other reusable/disposable gown/coverall studies that show reusables provide a significant improvement in energy, environmental footprint, blue water*, and energy-associated emissions.

*Blue water represents water that is used and not returned to the source, and blue represents depletion of a fresh water source.

When you choose reusable surgical gowns instead of disposable alternatives you achieve:



66%

Reduction in greenhouse gas emissions (measured as CO₂ eq emissions)

64%
Reduction

in natural resource energy consumption

87%

Reduction in total water consumed (blue water*)

84%-87%

Reduction in solid waste generation at healthcare facility*

*We used an audit-based approach to measure these improvements as a result of our ongoing sustainability programs.



What is a surgical gown life cycle assessment?

Surgical gowns were studied thoroughly from material extraction from the earth, to the manufacture of the gown product, to use including laundry and sterilization, to final end-of-life. This scope and the results emphasize transparent, science-based life cycle assessment.

Bonus: medical instrument recovery

Medical laundry operations find and return a significant amount of lost surgical instruments to healthcare facilities. The instruments are often found wrapped in surgical drapes and would otherwise have been lost to a landfill. The value of these items was found (in other studies) to be in the thousands to tens of thousands of dollars per year.

The ARTA-ARTM Surgical Gown LCA was funded by the ARTA Life Cycle Assessment Committee. Read the complete study in the March 2020 issue of the AORN Journal: www.ARTA1.com

SurgiTex
Surgical Textile Solutions

STANDARD
TEXTILE

<https://www.standardtextile.com/blog/reusable-surgical-gowns-show-significant-environmental-improvements-over-disposables/>





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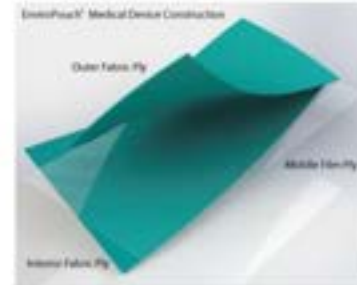
Best Practices Video

EnviroPouch® Pouch Testing Compliance



EnviroPouch® LLC dba EnviroPouch® maintains annual US FDA establishment registration, #1056276, medical device class II. The US FDA 510(k) Premarket Notification clearance to market EnviroPouch® product is registered as ProPak, #K924118. Think of the 510(k) as the EnviroPouch® "birth certificate." The 510(k) related to EnviroPouch® information does not change over time, although the product, company, and/or ownership names may change.

CONSTRUCTION



EnviroPouch® is constructed of a multi-layered fabric and film-barrier design. The film barrier design of the EnviroPouch® uniquely defines the first and only reusable steam sterilization pouch in the world since 1983 to clinically demonstrate the ability to achieve and maintain sterility to meet CDC guidelines for infection control and to adhere to the US FDA requirements for a medical device class II.

CDC Guidelines

CDC Guidelines for Infection Control in Dental Health-Care Settings

EnviroPouch medical device construction is consistent with and meets or exceeds CDC guidelines. See "Packaging and Preparation" section.

ENVIROPOUCH®
P.O. Box 2295
Peachtree City, GA 30269
770-632-1991



EnviroPouch Proudly Sponsored
Pacific Warriors Team #42
in Great Pacific Race! Summer 2014
Environmental Sampling & Data Collected



<https://www.enviropouch.com/products>

Waste Reductions

- Breakroom
- Office



TerraCycle

- Multi-laminate pet food bags
- PPE
- Coffee Pods
- Other



<https://www.terracycle.com/en-US/>



Sustainable Packaging Leadership

packaging work to serve as a leading force uniting the pet industry around sustainable packaging solutions. That work includes many programs including supporting members on their individual packaging journey, as well as piloting **Flex Forward**, the pet industry's first return to retail program, establishing **UnPacked**, the pet industry's first bi-annual summit dedicated to packaging, and launching several tools to help our members keep up with legislation and connect with sustainable suppliers to meet their packaging goals.

To learn more about each of these topics please click on the images below.



Tools

We provide tools, thought leadership, and resources to support sustainable packaging



Collaboration

We work with leading experts both within and outside the pet industry to advance sustainability in packaging



On-Market

Working to decrease landfill waste by creating store take-back collection for flexible pet food and treat packaging



Future State

Building collaboration, leadership, and aligned goals to move the pet industry towards recyclable, refillable, and compostable solutions



Events

We bring together brands, non-profits, retailers, manufacturers and suppliers to promote education and collaboration to advance sustainable packaging

<https://petsustainability.org/sustainable-packaging/>

Sustainable Packaging Supplier Directory



- vetted to ensure:
- RECYCLED CONTENT
- RECYCLABLE
- COMPOSTABLE
- REUSABLE

2024 Packaging Legislative Tracker



Waste Segregation -bins

- Important!
- Clear signage/color/position
- Contamination of waste streams
 - best offset by compliance at site of origin
- Put in landfill/general waste if unsure
- **DON'T CONTAMINATE WASTE STREAMS**
- Wishcycling and Throping!



<https://www.buschsystems.com>

Horizontal Label (Compost)

COMPOST COMPOSTA

FOOD SCRAPS
RESIDUOS DE COMIDAS

UNCOATED SINGLE PAPER & WOODEN UTENSILS
PAPEL SIN COATIR Y UTENSILIOS DE MADERA

PLANT TRIMMINGS
RESIDUOS DE JARDIN

LOOK UP

Horizontal Label (Recycle)

RECYCLE RECICLAR

CARDON, PAPER, AND CARDBOARD
CARTON, PAPEL, Y CARTON

METAL
METALES

GLASS
VIDRIO

PLASTIC BOTTLES, TUBS, AND JUBS
BOTELLAS, BALDOS, Y TUBOS DE PLASTICO

LOOK UP

Horizontal Label (Landfill)

LANDFILL BASURA

POLYSTYRENE FOAM
FORMAS DE POLIESTIRENO

SINGLE USE PLASTIC
PLASTICO DE UN SOLA USO

PPE
EPP

DIAPERS AND PEE WALLETS
PAÑALES Y ORINEROS

LOOK UP

PAPER TOWELS ONLY

These towels will be composted.

LOOK UP

WHAT GOES IN THE RECYCLE BIN? ¿QUÉ VA EN EL CONTENEDOR DE RECICLAJE?

METAL
Metal

- Aluminum cans & steel
- Aluminum foil & trays

PAPER & CARDBOARD
Papel y cartón

- Bags (paper only, no plastic)
- Cardboard (iron essential)
- Cereal boxes
- Office paper
- Egg cartons (paper)
- Envelopes
- Juice or soy milk boxes with foil liner
- Junk mail & magazines
- Milk or juice cartons
- Newspapers
- Packing paper
- Phonebooks
- Sticky notes
- Wrapping paper (iron-metal-free)

UNACCEPTED MATERIALS
Materiales no aceptados

- Batteries
- Ceramic dishware or glassware
- Clothing, linens & rugs
- Coal hangers
- Crk (natural & plastic)
- Electronics
- Food scraps
- Glass mirrors & windows
- Light bulbs
- Plastic bags, wrappers or film
- Plastic items mixed with metal, fabric or rubber
- Plastic labeled "compostable"
- Shredded paper
- Soiled paper
- Styrofoam
- Wood
- Yard trimmings

LOOK UP

FREE! SONOMA COUNTY 2023 ZERO WASTE GUIDE

Back to the Basics

Eco-Desk
565-DESK (3375)
LLAME AL 565-3375
ZEROWASTESONOMA.GOV

Z ZERO WASTE SONOMA

R

Recology™

Sonoma Marin

WASTE ZERO


POLYCARBIN Recycle ▾ Products ▾ Sustainability ▾ About ▾

Gamma Carbin

Recycle Any Brand Of Nitrile Glove

With every Gamma 5-pack, more than 6,000 pairs of gloves are diverted from landfills and repurposed into consumer goods.

[Order Now](#)



<https://polycarbin.com/pages/gamma-carbin>



<https://www.buschsystems.com>



Innovation is at the heart of what we do, and we are proud to have partnered with CarbonGraph

Each and every one of us has the ability to contribute to a better tomorrow. At Busch Systems, our goal is to lead through innovation so we can equip you with the tools and resources that will make a positive impact on our environment.

CARBON FOOTPRINT (as low as)

490 g CO₂-Eq
per 1 Unit Hanging Waste Basket...

Cradle to Grave LCA calculated using
 CarbonGraph



EXCEPTIONAL DIVERSION RATES

GUARANTEED SUCCESS IN DIVERSION

This container is proven to help encourage diversion when paired with any of our Deskside or Recycling & Waste Basket containers. Increase stream visibility with custom or standard stamped lid options.

natrle[®]
building a sustainable future

Natrle is a biodegradable nitrile exam glove tested for use with Chemotherapy Drugs and Fentanyl Citrate.

Natrle is a full closed-loop sustainability solution throughout the supply chain. Starting with product manufacturing, the transportation we use, all the way to our solar powered warehousing and distribution center.

true sustainability

Ordinary nitrile gloves are not recyclable and take decades to break down. The materials used to create traditional nitrile gloves cause pollution, habitat destruction and microplastics upon disposal.

Natrle products contain an organic additive to dramatically accelerate biodegradation rate. Upon disposal the additive causes bacteria in the environment to create an enzyme that dissolves and de-polymerizes the NATRLE glove. This process, called mineralization, leaves behind only biogas, water and inert soil.

choosing Natrle is choosing a sustainable future • choosing Natrle is choosing a sustainable future • choosing Natrle is choosing a sustainable future

<https://vetflex.com/pages/about-natrle> TM

KVP



KVP RENEWABLES

BetterGlovesTM



You won't notice the difference, but the planet will.

Designed to address the growing issue of single-use glove waste in the medical industry, KVP BetterGlovesTM are nitrile, powder-free, and 100% biodegradable in landfills.

<https://kvpvet.com/products/bettergloves>



We protect what matters.



September 16, 2018

Reusing Medical Waste Containers for Sustainability

Sustainability

As a company we are passionate about doing business sustainably; empowering the wellbeing of our employees and their communities, driving a spirit of innovation within our culture, and making ecological choices that reduce environmental impact. Harnessing technology to drive sustainable outcomes, Daniels Health have become globally recognized for sustainable products and waste processing solutions that dramatically reduce environmental burden.



Sharpsmart Statistics

DATA EXTRACTED FROM
PEER REVIEWED, PUBLISHED STUDIES

AUTHOR: TERRY GRIMMOND
Microbiologist | FASM, BAgrSc, GrDpAdEd

Volume of plastic eliminated annually in the United States. **6,600lbs** PER 100 BEDS



Weight of disposable sharps collectors eliminated from landfills each year by using reusable Sharpsmart collectors. **2,072,300** lbs



<https://www.stericycle.com/en-us/solutions/regulated-waste-disposal/sharps-waste>

Be Sharp Safe



<https://www.danielshealth.com/product/s14-sharpsmart-reusable-sharps-container>

KVP



KVP RENEWABLES

BetterVials

Environmental Tests

- USDA Bio-Based (Certified)
- Biodegradation (ASTM 6400)
- Eco Toxicity (ASTM 6866)
- Disintegration (ASTM 5338)
- European Packaging (EN13432)



You won't notice the difference, but the planet will.

Designed to address the growing issue of single use plastic waste in the medical industry, KVP BetterVials™ are pharmacy bottles made with 100% renewable resources.

Features

- 100% plant based and biodegradable
- Both dram and lid can be thrown away in household trash or recycled (#7)
- Complete degradation when exposed to moisture and heat in 3-6 months
- Takes 42% less energy than petroleum-based plastic to produce
- 32% reduction in greenhouse gases compared to petroleum based plastic
- Breaks down completely without leaving behind micro-plastics.

Sizes

AMBER	ITEM#	DRAM	ML	CASE QTY
	BV08A	8	29	500
	BV13A	15	48	350
	BV16A	16	59	300
	BV30A	30	110	160
	BV40A	40	147	140
	BV60A	60	221	105

BLUE	ITEM#	DRAM	ML	CASE QTY
	BV08B	8	29	500
	BV13B	15	48	350
	BV16B	16	59	300
	BV30B	30	110	160
	BV40B	40	147	140
	BV60B	60	221	105

GREEN	ITEM#	DRAM	ML	CASE QTY
	BV08G	8	29	500
	BV13G	15	48	350
	BV16G	16	59	300
	BV30G	30	110	160
	BV40G	40	147	140
	BV60G	60	221	105

Pillumina

Products

Contact Us

Experience the difference with aluminum packaging

When you protect your patients' health, you also protect your planet. Choose our environmentally-friendly alternative to plastic pill bottles for a more sustainable future.

Contact Us



Child-resistant closure cap
High-density aluminum
BPA-free PET inlets

100% fully recyclable aluminum bottle

Our infinitely recyclable aluminum bottles minimize environmental impact for a greener future.

Accelerates sustainability programs

Makes a significant difference. Our packaging empowers you to achieve your plastic waste reduction goals faster.

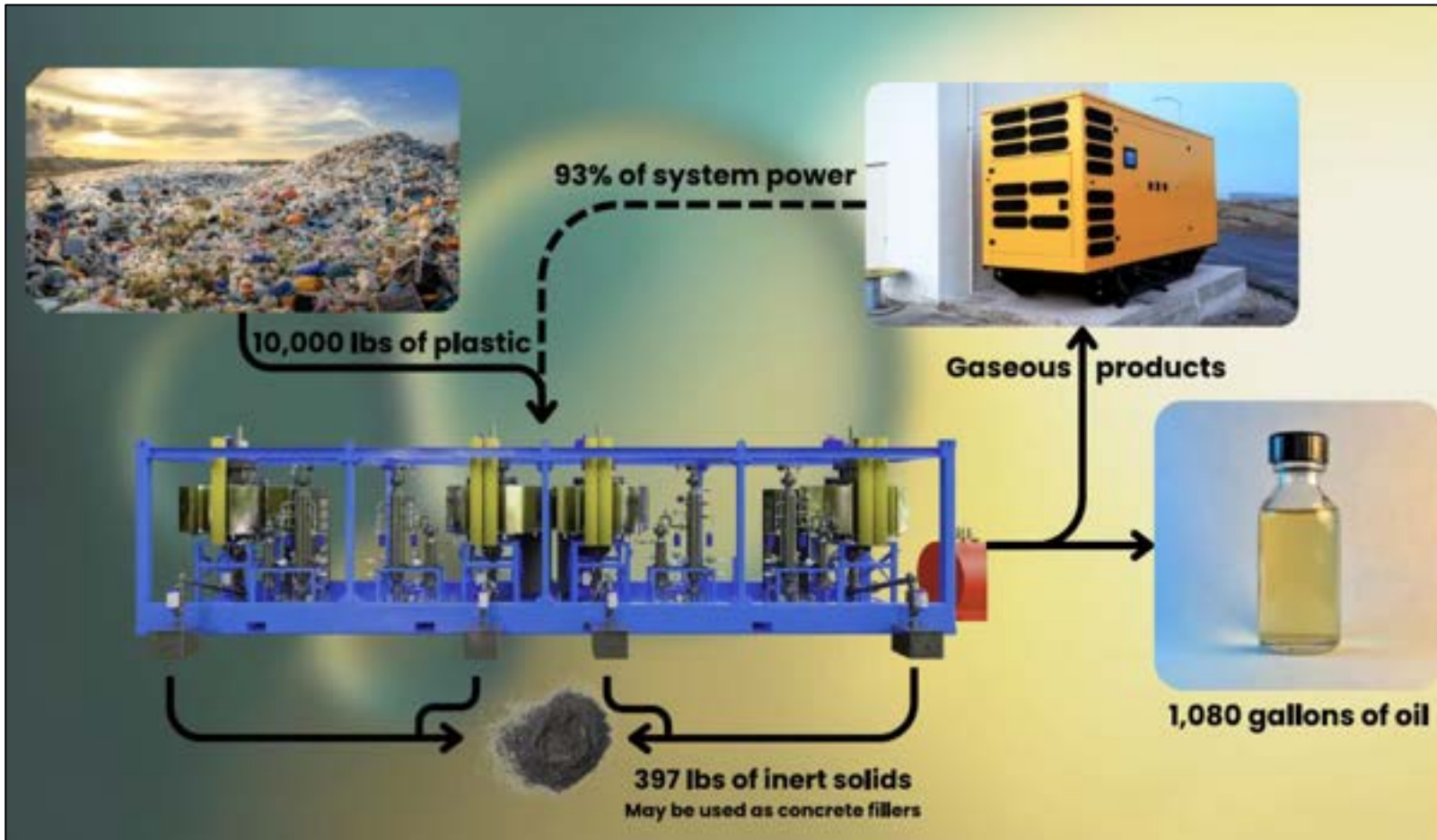
Easy one-to-one switch from plastic

Transition seamlessly with our aluminum bottles, designed for effortless integration into your standard workflow.

<https://kvpvet.com/products/bettervials>

<https://www.pillumina.com/products>

Resynergi: microwave enhanced plastic pyrolysis




<https://www.resynergi.com/>

THE MOST POWERFUL FILTERING
The only microfiber filter that stops **98% of fibers** during every wash (independently tested).

NEW AND IMPROVED
PLANETCARE 2.0
Reusable microfiber filter for your washing machine

ORDER NOW




PlanetCare 2.0 microfiber filter **attaches to your washing machine** and **captures microplastics** before they enter your drain.

PLANETCARE CLOSSES THE LOOP ♻️


Filtering the fibers is only the first step, what happens with the caught fibers is extremely important. That's why PlanetCare collects all used cartridges from you **free of charge** 📦 and refurbishes them: **95% of the cartridge** (the shell) is washed, fitted with a new filtering medium, and sent back to customers. **5%** (the filtering medium with the caught fibers) is collected for **recycling** ♻️

<https://planetcare.org>



GETTING BACK TO REAL WATER

MICROFIBERS FLOW FROM WASHER TO RIVERS, LAKES & THE OCEAN




Plastic microfibers are synthetic fibers that are in many of the clothes we wear like polyester and nylon.

Over **1 million tons** are released from our washing machines every year.

Microfibers are the largest form of **plastic pollution today**, making up 85% of the world's man-made shoreline debris.

When in the ocean, microfibers are ingested by sea animals and are **passed onto humans** via seafood.

THE FILTROL STOPS MICROFIBERS AT YOUR WASHER



The **Filtrol** is an affordable, easy to install filter. It stops microfibers as they leave your washing machine and makes it easy to put them into the trash. The Filtrol works flawlessly and you can start saving the planet with every wash!

TIPS TO REDUCE MICROFIBERS IN YOUR LAUNDRY

- 1 Wash your synthetic clothes **less frequently**
- 2 Use **non-toxic liquid soap**; powders are more abrasive
- 3 Buy clothing made with **natural fibers**
- 4 Install an effective washing machine lint filter, like the **The Filtrol™**

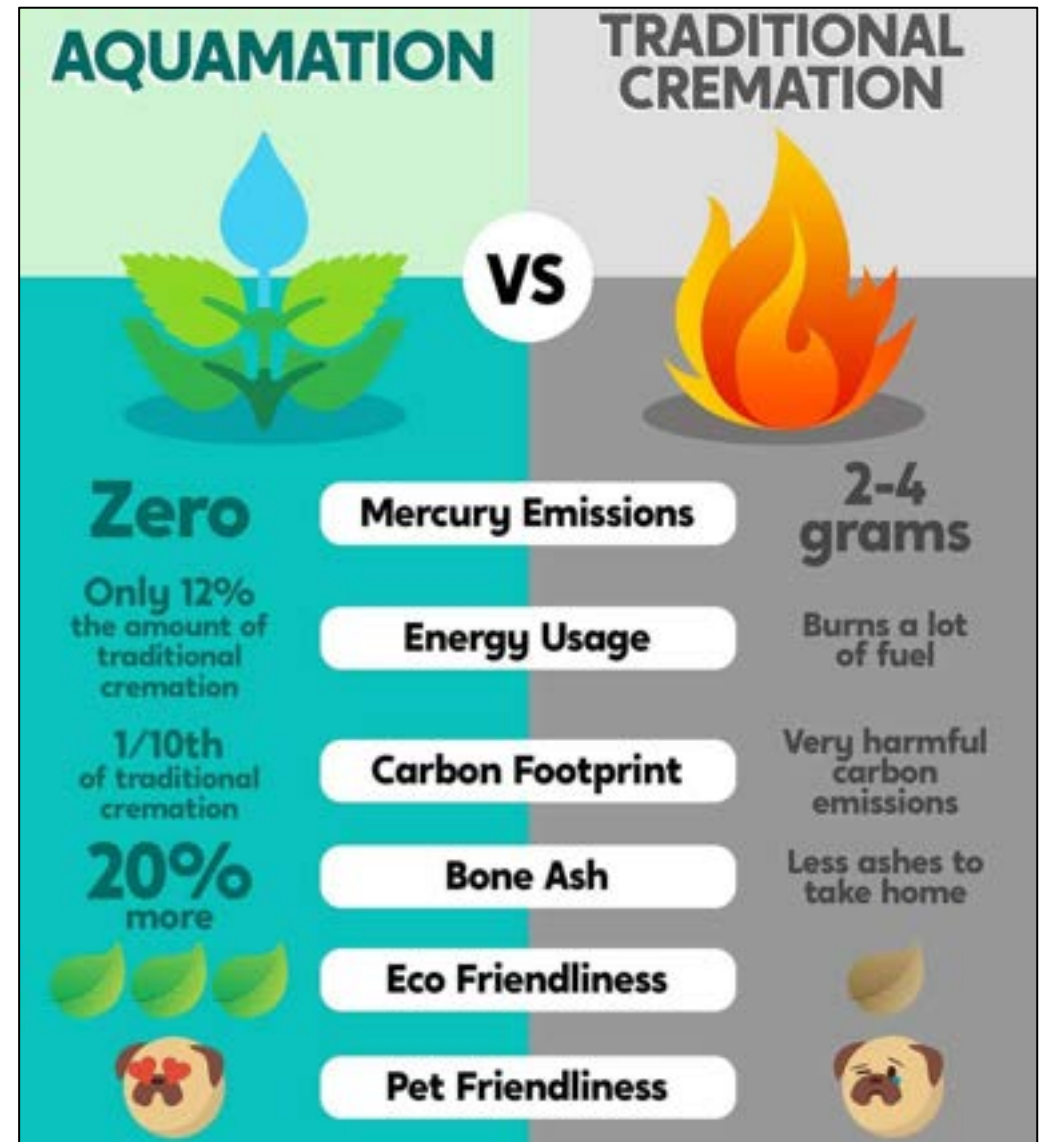
<https://www.filtrol.net>

Aquamation

- 95% water, 5% NaOH/KOH
- No burning fossil fuels
- Electrical – can be zero carbon



- vs cremation
- vs composting





POTTY BUDDY™ - THE DURABLE
LEAK-FREE POTTY PAD



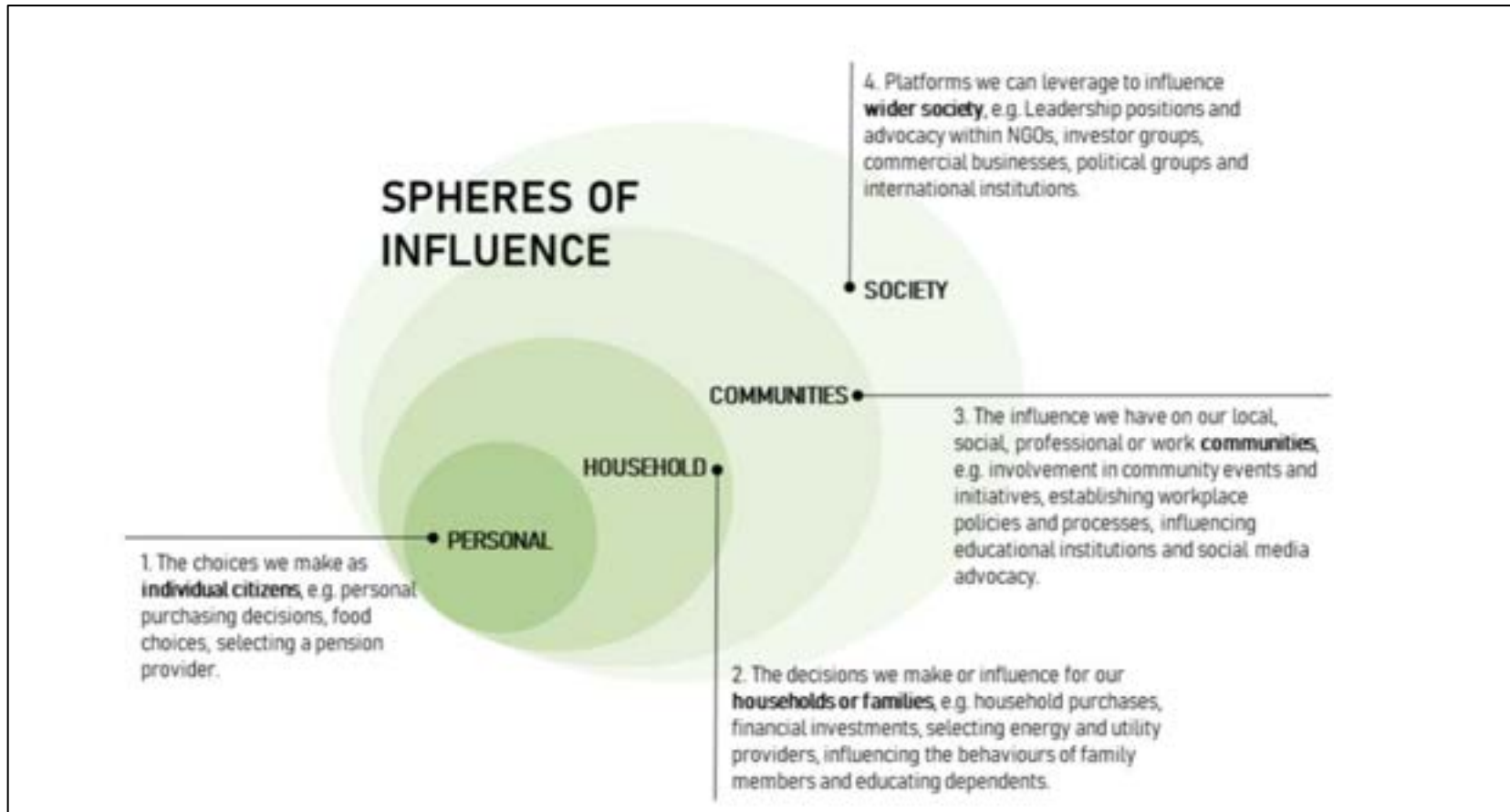


VCA Animal Care Center of Sonoma County Goes 100% Renewable

Published on 04/05/2024

VCA Animal Care Center of Sonoma County cuts “green” ribbon celebrating local use of 100% renewable electricity.

Our Spheres of Influence -



For our children's children's children



Credits: NASA

Make an impactful change - TODAY!

Resources

- diccon@veterinarsustainabilityalliance.org
- <https://veterinarsustainabilityalliance.org>



- <https://vetsustain.org>
- <https://www.vfca.org.au>



VCA ACC sustainability team

Veterinary Sustainability Alliance



Veterinary Sustainability Alliance
a 501(c)(3)

1% FOR THE PLANET
AN AFFILIATE

**SUSTAINABILITY.
FOR ANIMALS.
FOR US.
FOR THE FUTURE.**



OUR TEAM

COLLEEN DUNCAN WILL SANDER KRISTEN MAGNUSON DIXON WESTWORTH KATIE ELLW



Clinical
Focus on tools, resources, and blueprints for developing sustainable standards including a verified Sustainable Certification for practices.

Education
Development and repository for veterinary sustainability education within curricula as well as extensive continuing education.

Policy
Improve utilization of state and federal policies beneficial to the veterinary profession around sustainability. Incorporate greater focus on sustainability in veterinary policy at the state and national level.

About us
The Veterinary Sustainability Alliance (VSA) is a nonprofit organization dedicated to preserving and protecting animal and human health by promoting sustainability. VSA seeks to fill a well-recognized gap: animal health professionals including veterinarians, students and clinical staff are concerned about the impacts of climate change and other environmental harms but feel unprepared to act given their lack of formal education and paucity of centralized resources.

Why Us

- Our team spans private practice, academia, and industry.
- Convener and implementer of environmental sustainability across the profession.
- Depth of knowledge, expertise, and research to integrate sustainability into the veterinary sector.

Fundraising Goals

- Clinic sustainability certification development
- Veterinary student cohort program
- Educational resource development
- Operations support

info@veterinariansustainabilityalliance.org
www.veterinariansustainabilityalliance.org



Q&A



Dr. Diccon Westworth

VCA Animal Care Center of
Sonoma County



Julie Krodel

ENGIE Impact

Next Up...

WASTE REDUCTION IN RESTAURANTS & TO-GO FOOD SERVICE

Save the Date! WEDNESDAY OCTOBER 23RD





Archived Slides & Recordings

- Food organics
 - Centralized office collections
 - Reuse & waste prevention
 - Rebuilding confidence in recycling
 - Healthcare waste reduction
- + More**



Visit: <https://www.buschsystems.com> > Resources > Webinars