

PET Label Liner Recycling with Amherst Label

By Jack Kern of Amherst Label and Chris
DeMasi of Switchback Brewing Company



Who is Amherst Label?

We are a family operated label producer based in Southern New Hampshire. Focusing primarily on custom pressure sensitive labels for businesses big and small in a variety of industries throughout New England. With 45 years of experience helping satisfy loyal customers in our community and beyond.

This slide still needs some work...



Why Recycling PET Liner Is Important

- Concern over the environmental impact of improper PET plastic disposal.
- We are witnessing the destruction of our environment in real time. Examples include the Great Pacific Garbage Patch. Reports of microplastics permeating everything from drinking water to the food we eat.
- Most plastic ends up in landfills or incinerators due to improper sorting or disposal method.
- Single stream recycling is convenient, though inefficient.
- PET is 100% recyclable. Look for resin symbol #1 on household containers.
- Physically/chemically recycled.
- Sorting and separation is critical.
- Collected, processed, flaked, washed, heated, pelletized or stretched into fiber.
- Pellets reformed into food packaging, or beverage containers. Can be spun into recycled polyester yarn. Made into seatbelts, bags, carpets, roofing insulation, clothing, more label liner and other familiar products.



PET Data Points

- 8% of global oil is used in plastic manufacturing (400 million tons).
- PET is 100% recyclable.
- FDA certified recycled PET (rPET or PCR) 30 years ago.
- 3x more energy to create new plastic from virgin material.
- PET accounts for 10% of global plastic production, and for 12% of global plastic waste solid.
- Expected 4.2% annual production growth.
- 27.1% of PET gets recycled in U.S. compared to 97% in Norway and 75% in Canada.
It can be done.



Label Liner Recycling Program

The intent we have for this initiative is to pilot better methods for side-streaming PET plastic waste. With action comes awareness and wider adoption and tangible results. Thus necessitating further participation and ideally research, investment, technological advancement and eventually improved waste management globally.

The technology is there, improving collection rates is key.

U.S. recycling system needs improvement to fully unlock circularity.

Sortation challenges, items lost at facility

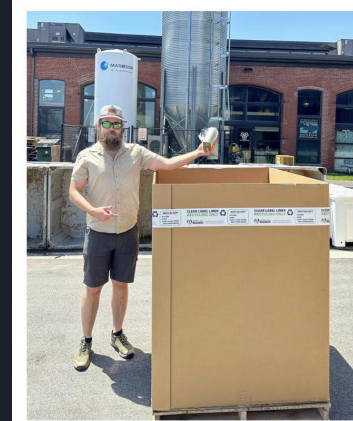
Major manufacturers have made pledges. Large powerful cumbersome corporations, under lethargic government oversight.

Smaller more nimble businesses can, and do act more quickly. As in most cases, PET affects the immediate community where the waste is generated. That's where action starts, by doing our part to participate, the impact is most noticeable.

We identified an overlooked source and decided efforts need to be focused and increased.

Growth and Success

- First location setup 6/29/23
- 12 public drop-off sites. 15 total around NE. Maintaining, but potential for further expansion to accelerate efforts.
- 4 ~full totes received. For a total of 4,500 pounds PET label liner. 2.25 tons.
- Waste Management data shows. Recycling 1 ton of plastic offsets 5,774 kwh of energy, 16.3 barrels (685 gallons) of oil, 30 cubic yards of landfill space.
- Maybe one more thing...?



Recycling 1 full bin of clear liner will offset 1.93 tons of CO₂ emissions, when compared to landfill disposal.



MEASURING CARBON OFFSET FROM LINER RECYCLING

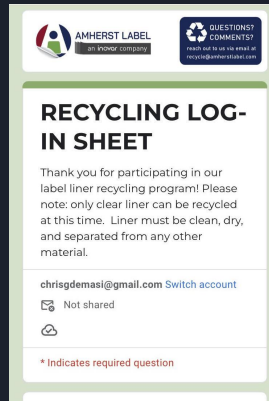
NUMBER OF BINS 40x40x48*	LINER WEIGHT	CO ₂ EMISSION SAVINGS (landfill disposal)	CO ₂ EMISSION SAVINGS (incineration)
1 GAYLORD BIN	2064 lbs	3873 lbs	524 lbs
20 GAYLORD BINS (1 TRUCKLOAD)	40,133 lbs	75,305 lbs	10,195 lbs

How It Works

It's simple!

1. Collect your rolls of label liner
2. Bring your rolls of liner to a designated collection point
 - a. Please keep an estimate of the number of rolls you have collected
3. Scan QR code posted on the outside of the collection tote
4. Submit associated information into the online submission form each time you drop off!

The breweries established as collection points will ship out the totes of label liner for recycling once they are full!



AMHERST LABEL
AMHERST COLLEGE

QUESTIONS?
COMMENTARY
Send Mail to the Director of
Recycling@amherst.edu

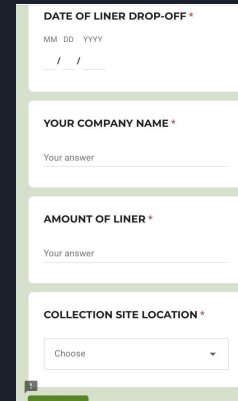
RECYCLING LOG-IN SHEET

Thank you for participating in our label liner recycling program! Please note: only clear liner can be recycled at this time. Liner must be clean, dry, and separated from any other material.

chrisdemasi@gmail.com [Switch account](#)

Not shared

* Indicates required question



DATE OF LINER DROP-OFF *

MM DD YYYY
/ /

YOUR COMPANY NAME *

Your answer

AMOUNT OF LINER *

Your answer

COLLECTION SITE LOCATION *

Choose

Liner Care and Proper Recycling

Please ensure that your rolls of used label liner are:

- Clean
- Dry
- Free of foreign materials:
 - Cardboard roll cores
 - Stickers
 - Colored plastic
- Accounted for - drop off tracking
 - Rough estimate of amount you plan to drop off, in units of “rolls”

Please ensure collection totes are:

- On pallets
- Dry
- Covered with lid



Switchback Brewing Company Drop-off Information

Dropoff location: 160 Flynn Avenue, Burlington, VT
05401

Drop Off Times: Monday through Friday, 8 am to 3 pm

- Please arrange an appointment

Look for the blue door and doorbell!

Contact information:

Chris DeMasi

sustainability@switchbackvt.com

203-561-8328



Foam Brewers Drop-off Information

Dropoff Location: 10516 Rte. 116, Hinesburg, VT 05461

Dropoff Times: Monday - Friday, 9 am to 3 pm

- Please contact Sam, Steve, or Colin, or all prior to drop off
- Come to the main door

Contact Information:

Sam - samkeane@foambrewers.com

Steve - stevegourley@foambrewers.com

Colin - colinwyler@foambrewers.com





Program Expansion into Southern Vermont

We are looking to add to our recycling network!

Currently seeking willing breweries to establish collection points in **Southern Vermont!**

If you want get involved and become a recycling hub for your local community of breweries, please reach out:

Jack Kern, Amherst Label - jkern@amherstlabel.com

Emma Arian, Vermont Brewers Association - emma@vermontbrewers.com

Questions and Answers?



LINER RECYCLING

You can now recycle your clear label liner by saving it and bringing it to one of the two collection sites in Vermont, or any of the twelve collection sites within New England!



After a full truck load of liner is collected, it will be recycled with the help of our vendors.....



FOLLOW THE QR CODE TO LEARN MORE
ABOUT LINER RECYCLING
AND HOW TO ARRANGE A DROP-OFF
amherstlabel.com/liner-recycling-initiative

SPECIAL THANKS TO OUR CURRENT VERMONT COLLECTION SITES:

- SWITCHBACK BREWING CO.
- FOAM BREWERS

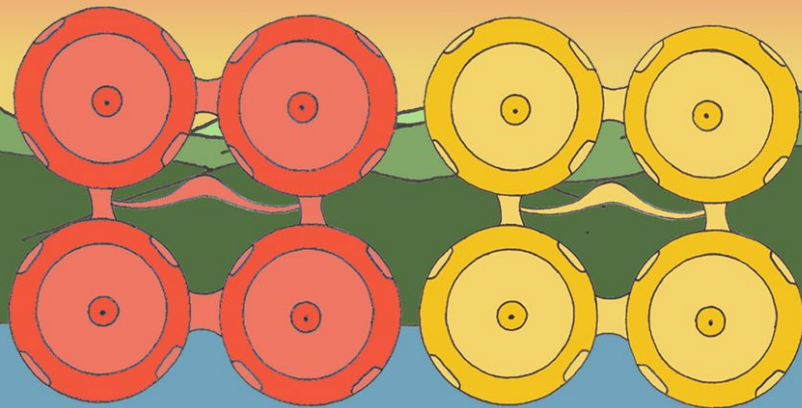


Questions? Email recycle@amherstlabel.com

Bokashi Culture

Bob Grim

RETURN



HERE



Can Carrier Reuse Program

Reusiverse

FOR PLASTIC CAN CARRIERS

REUSE & RECYCLE

A 5-STEP PROCESS



1

CONSUMERS
RETURN
CARRIERS TO
TAPROOMS OR
RETAIL STORES



2

SMALL BREWERS
CLEAN & REUSE
COLLECTED
CARRIERS, AND
SAVE MONEY



3

BIG BREWERS THAT
CAN'T REUSE
DONATE TO
SMALLER ONES
THAT DO



4

UNUSABLE
CARRIERS GO
STRAIGHT TO A
PLASTICS
PROCESSOR



5

LESS PLASTIC
ENDS UP IN
THE WASTE
STREAM OR
ENVIRONMENT

REUSABLE SOLUTIONS / ECO-FRIENDLY BEER

Co2 Reduction in the Brewery

System Maintenance

- **Check Connections:** Ensure that connections at gas sources are tight and shut off when not in use
- **Routine System Maintenance:** Inspect hose connections and clamps, and replace damaged rubber washers
Identify and Repair Leaks: When necessary, apply soapy water or mild foaming sanitizer over connections to help visualize leaks
- **Test Running and Idle Equipment:** Seek out leaks both with equipment running as well as idle, as some equipment only receives CO2 under pressure when running
- **Compressed Gas Audits:** Audit companies can inspect your CO2 system in parallel with other compressed gas systems, and can provide tips for optimizing performance. Some utilities may offset some of the costs associated with such audits. – Efficiency Vermont
- **Bulk Co2** tank freezing on the very top is a good indication that you have a small leak.





Co2 Reduction in the Brewery

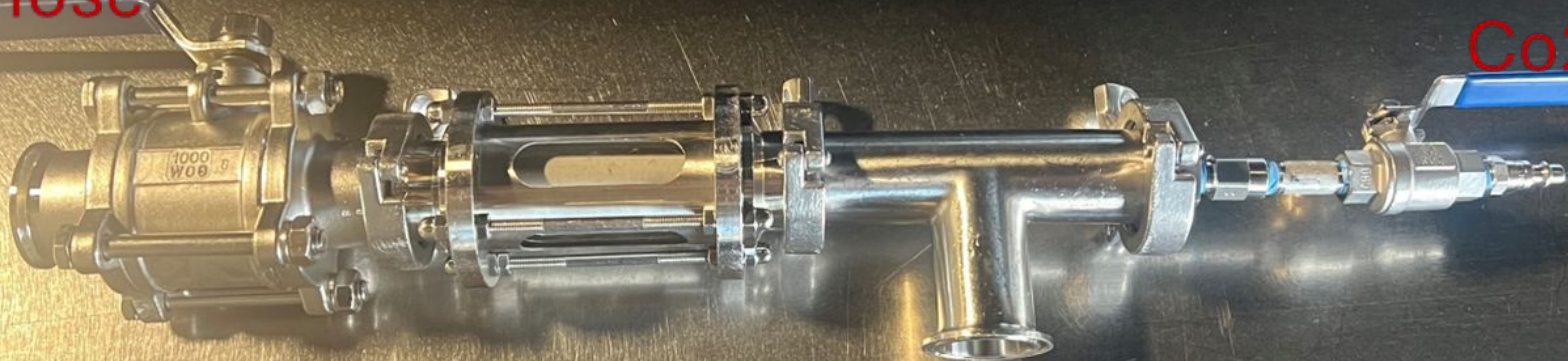
Operations

- **Use nitrogen** or mixed gas where possible. Invest in a Nitrogen Generator if feasible. (\$1200-\$2500)
- **Co2 Recapture** - Earthly Labs - Newer Technology
- **Tank Purging** – Slow and Low with valves on inlet and outlet. DO meters help to verify, borrow one from a friend to verify timing and pressure is adequate.
- **Carbonate Naturally** where possible (DO NOT EXCEED PRESSURE RATING ON TANK)
- **Carbonate** as Cold as possible.
- **Carbonate inline.** You most likely already have all of the parts necessary.
 - Connect Head space of sending/receiving tank with a sanitized hose – 15 PSI
 - Pump from FV to BT. On outlet of pump attach TEE and Sight glass, Ball Valve (to create Back Pressure), and carbonation stone (See image on next slide)
 - 25' outlet hose to BT

To 25'
Hose

Co2 In

To Pump
Outlet





BEER WORTH FINDING
VERMONT BREWERS
ASSOCIATION

If you are interested in participating in cost-sharing sustainability and recycling initiatives, please fill out this survey

