

Closed Loop Partners 2018 Impact Report



Introduction

Our fourth annual impact report comes at a time when CEOs of major consumer goods companies are recognizing that the development of circular supply chains will reduce manufacturing costs and provide consumers with more sustainable products. Mayors of major municipalities are also recognizing that local recycling and circular economy infrastructure reduce municipal disposal budgets, generate revenue and drive local manufacturing and job creation.

The demand for recycled materials in consumer products is growing as major corporations like Amazon, Coca-Cola, Colgate Palmolive, Danone, Johnson & Johnson, Keurig Dr. Pepper, Nestlé Waters North America, PepsiCo, Procter & Gamble, Unilever, and 3M make ambitious commitments to use recycled materials as they develop their circular supply chains. These commitments benefit shareholders, consumers, local communities and the environment. In addition, when a company fulfills these commitments, it becomes a company that people are proud to work at.

Investors are taking notice. A sample of the investors that have co-invested with our funds include Goldman Sachs, Citi, Comerica Bank, Engie, SJF Ventures, Baidu, and Breakthrough Energy Ventures.

At the close of 2018, our portfolio included 36 investments, 21 investments from the Closed Loop Fund and 15 investments from Closed Loop Ventures. Our 2018 Impact Report measures the impact these investments are having on reducing GHG emissions, diverting valuable commodities from landfill and back into circular supply chains, and creating jobs.

In 2018, we launched the Center for the Circular Economy (CCE), our advisory services group. One of CCE's first initiatives, The NextGen Consortium, is a pre-competitive collaboration among consumer brands committed to advancing food-service packaging solutions. Starbucks, McDonald's, The Coca-Cola Company, Yum! Brands, Wendy's and Nestlé are all consortium partners.

As we reflect on Closed Loop's first five years, we are grateful for the support of our LPs, co-investors, portfolio companies, municipalities and environmental organizations that have partnered with us.

Thank You,
Ron Gonen
CEO, Closed Loop Partners

CLOSED LOOP FUND

21 Investments since inception

\$17 Million invested in 2018

\$50M DEPLOYED BY THE FUND TO DATE

\$210 Million

IN ADDITIONAL CO-INVESTMENT TO DATE

4 new investors

DANONE NORTH AMERICA, DANONE WATERS OF NORTH AMERICA, AMAZON, AND STARBUCKS

One of Closed Loop Fund's first loans – to the Council Bluffs Recycling Center in Iowa – was repaid in full in 2018. Since 2015, the project contributed to diversion of more than 25,000 tons of material, and generated savings and revenues for the municipality of nearly \$1 million in just 3 years

CLOSED LOOP VENTURES

15 Investments since inception

4 investments in 2018

ATLAS ORGANICS, TRADELANES, COLOADX, CAMBRIDGE CROPS

3 launches

CURB MY CLUTTER, FOR DAYS, AND LINHAUS LAUNCHED

CURB MY CLUTTER

100,000 households in the northeast now served by Curb My Clutter

AMP ROBOTICS SYSTEMS

deployed in a dozen MRFs in the US

HOME BIOGAS closed their Series C, co-led by CLV and Engie

THE RENEWAL WORKSHOP

announced sales partnerships with The North Face and high fashion brand Mara Hoffman

NATURAL MACHINES expanded its presence to the US and Italy

CENTER FOR THE CIRCULAR ECONOMY

Launched

IN FEBRUARY 2018 WITH KATE DALY AS EXECUTIVE DIRECTOR

The Center is the managing partner of the NextGen Consortium. Partners include Starbucks, McDonald's, The Coca-Cola Company, Yum! Brands, Nestlé, Wendy's and WWF

480 submissions

RECEIVED FOR THE NEXTGEN CUP CHALLENGE

The NextGen Cup Challenge launched in October and received 480 submissions, with 29 ideas shortlisted. Finalists will participate in an Accelerator in Fall 2019

NOVEMBER 2018

The Center launched the FlexPack Recovery Challenge, which tackles multi-material flexible packaging, with the Sustainable Packaging Coalition

CLOSED LOOP LEADERSHIP FUND

Maite Quinn and Martin Aares joined the team to launch the Closed Loop Leadership Fund, a private equity fund focused on acquiring companies with the goal of building circular supply chains



Amazon is committed to being part of the circular economy, and our investment in Closed Loop Fund is one way we are working to increase ease and access of recycling options. These investments will not only divert millions of pounds from landfills, but will also help support local communities and preserve our natural resources. We are proud to support the Closed Loop Fund's mission to bring better recycling infrastructure to millions of households across the country,

Terese Kietzer,
Amazon

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About Closed Loop Partners

We are an investment firm focused on building the **Circular Economy**



1

Competitive Advantage

The LPs in our funds include the world's largest retailers and consumer goods companies as well as family offices, foundations and institutions

2

Industry Expertise

Our management team is comprised of industry CEOs, CFOs, investors and former heads of government agencies

3

Track Record

Our firm has completed over 35 investments in the circular economy since 2015

FOUR INVESTMENT PLATFORMS

Innovate

Center for the Circular Economy

Advisory Services

Commercialize

Closed Loop Ventures

Venture Capital

Grow

Closed Loop Fund

Project Finance

Scale

Closed Loop Leadership Fund

Private Equity

The Climate Impact of Circular Supply Chains

By 2030, Closed Loop Partners expects to reduce or avoid GHG emissions by at least 36 million metric tons of CO₂ through our investments



Globally, fossil fuels production and use is the single largest source (42%) of greenhouse gases each year.

SOLUTION

Circular solutions **break our dependence on fossil fuels** and introduce alternative materials for consumer goods and packaging.



Landfills are the 3rd largest (16%) source of methane emissions in the world.

SOLUTION

Scaling composting and anaerobic digestion infrastructure could **reduce GHG emissions by 12.6 gigatons worldwide by 2050.**

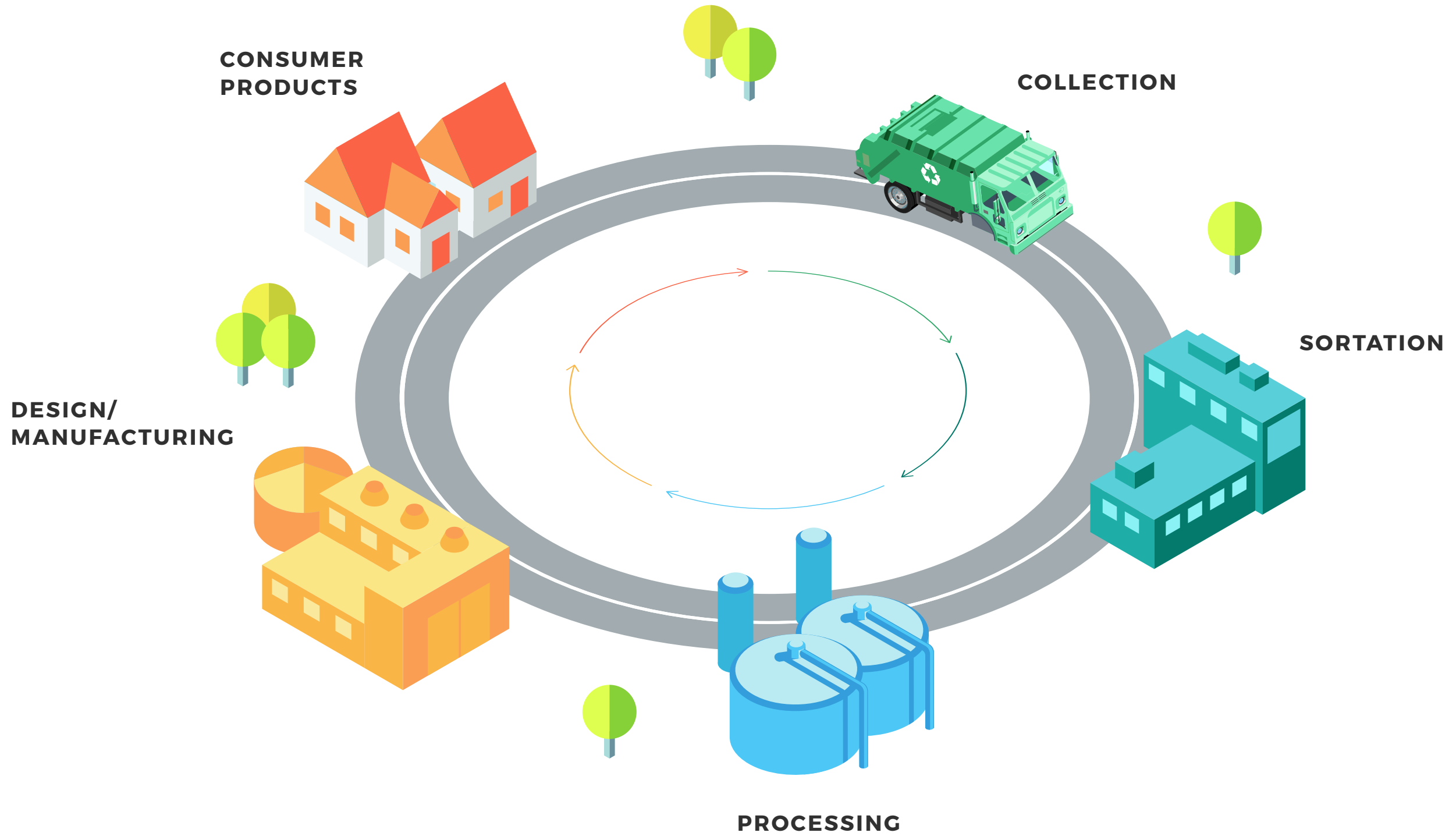


20% of GHG emissions come from linear industrial production of consumer goods.

SOLUTION

Recovering 60 million more tons of material from US households each year **reduces GHG emissions by 235 million metric tons of CO₂E**, equivalent to shutting down 42 coal-fired power plants for 1 year.

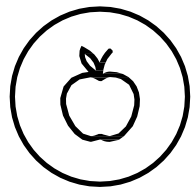
Circular Supply Chains Show Us New Ways to Create Value



Closed Loop Partners Has Invested Across Industries



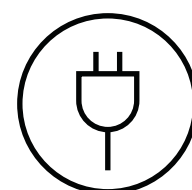
MUNICIPAL RECYCLING



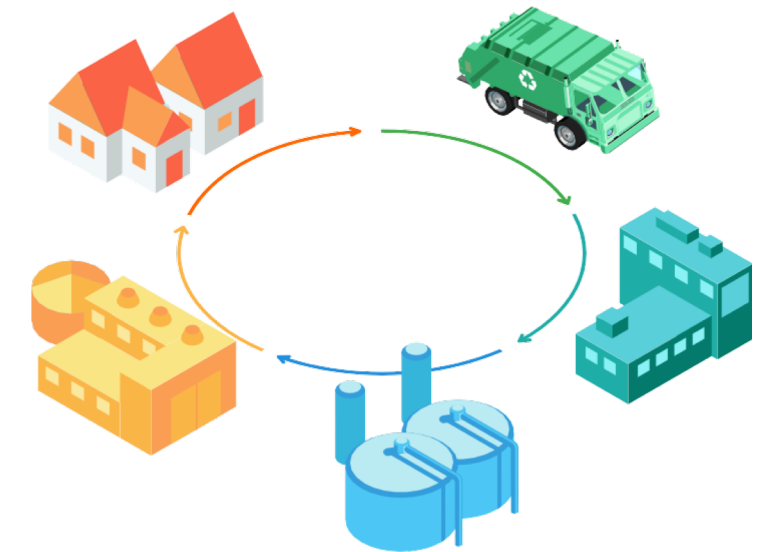
FOOD TECH AND AGRICULTURE



FASHION AND APPAREL



ELECTRONICS



CONSUMER PRODUCTS

- For Days
- Linhaus
- Loliware
- Natural Machines
- Preserve
- The Renewal Workshop



COLLECTION

- Curb My Clutter
- City of Memphis, TN
- City of Moline, IL
- Portage County, OH
- Waste Commission of Scott County, IA
- City of Waterbury, CT



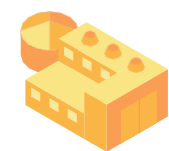
SORTATION

- AMP Robotics
- Council Bluffs
- EasyAerial
- ECUA
- Eureka Recycling
- FirstStar Fiber
- Lakeshore Recycling Systems
- City of Phoenix, AZ



PROCESSING

- Atlas Organics
- CoLoadX
- HomeBiogas
- ITR/Ecoglass
- Momentum Recycling
- PureCycle Technologies
- QRS of Maryland
- Tradelanes



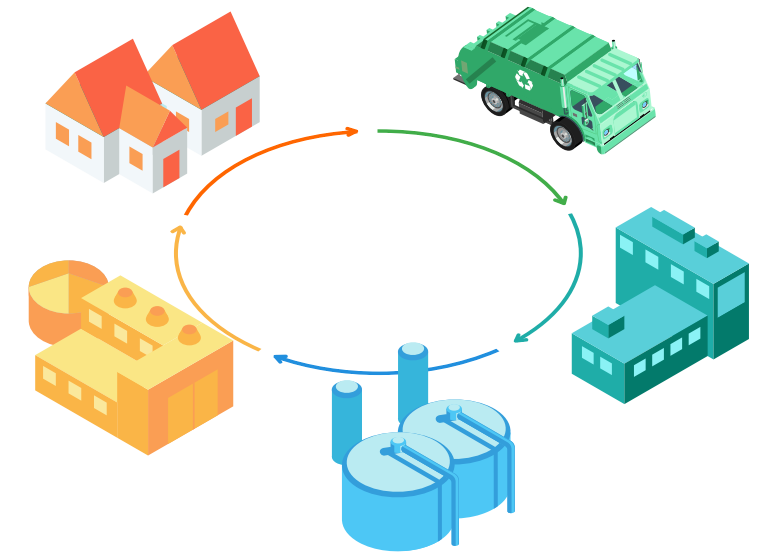
DESIGN/ MANUFACTURING

- Aero Aggregates
- Evrnu
- Cambridge Crops
- CleanFiber
- GreenMantra
- IntegriCo
- Rebound Technologies
- TemperPack
- rPlanet Earth



Municipal Recycling

Circular supply chains in North America for post-consumer commodities: paper, glass, metal, and plastics.



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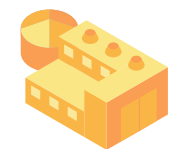
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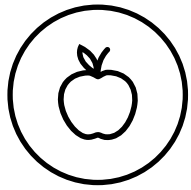
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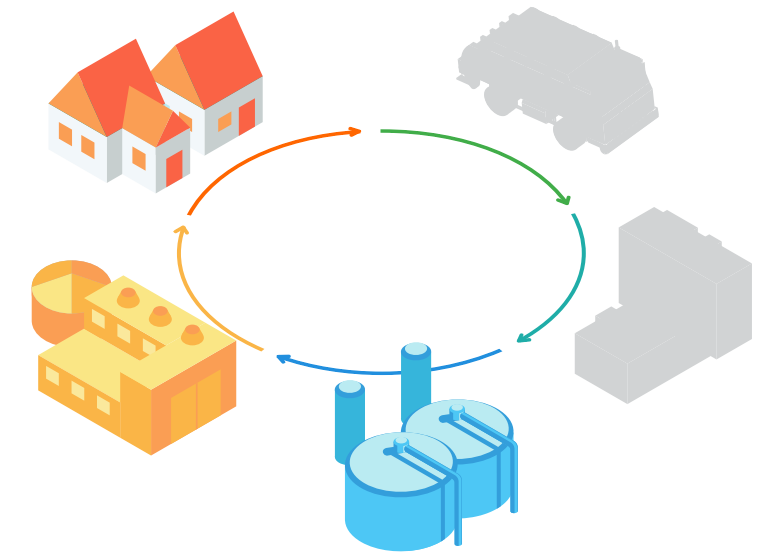
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Food Tech and Agriculture

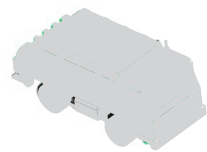
Organic waste represents nearly 40% of the material that gets sent to landfills. In the U.S., this means more than 50 million tons of food waste, wood waste and yard trimmings are disposed of every year.

The newest addition to the portfolio is Cambridge Crops - a food coating solution that extends the shelf-life of products by 2-3x.



CONSUMER PRODUCTS

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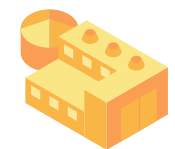
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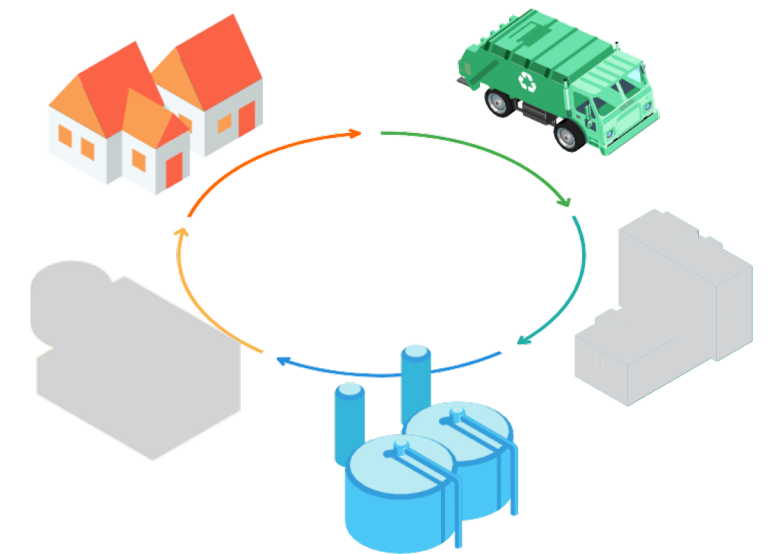
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Fashion and Apparel

The apparel and fashion supply chain is moving towards circular models, largely driven by sustainability goals of major brands and retailers as well as shifting consumer preferences.

Some of the most exciting trends are new ways of recovering used garments through innovative collection models like For Days and Curb My Clutter, renewed apparel, such as The Renewal Workshop, and new methods of recycling textiles, like Evrnu.



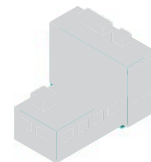
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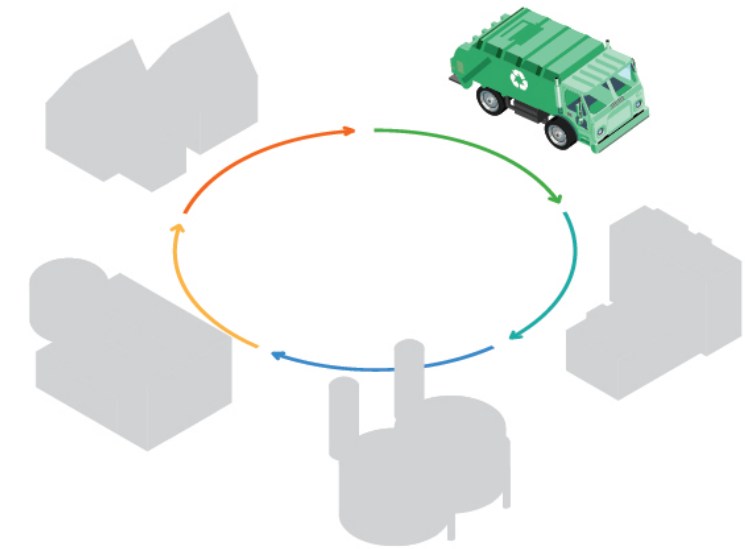
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Electronics

In the digital age, electronics are the world's fastest growing waste stream, embodying at least \$62.5bn annually.



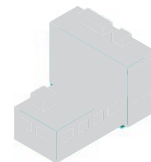
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PROCESSING



























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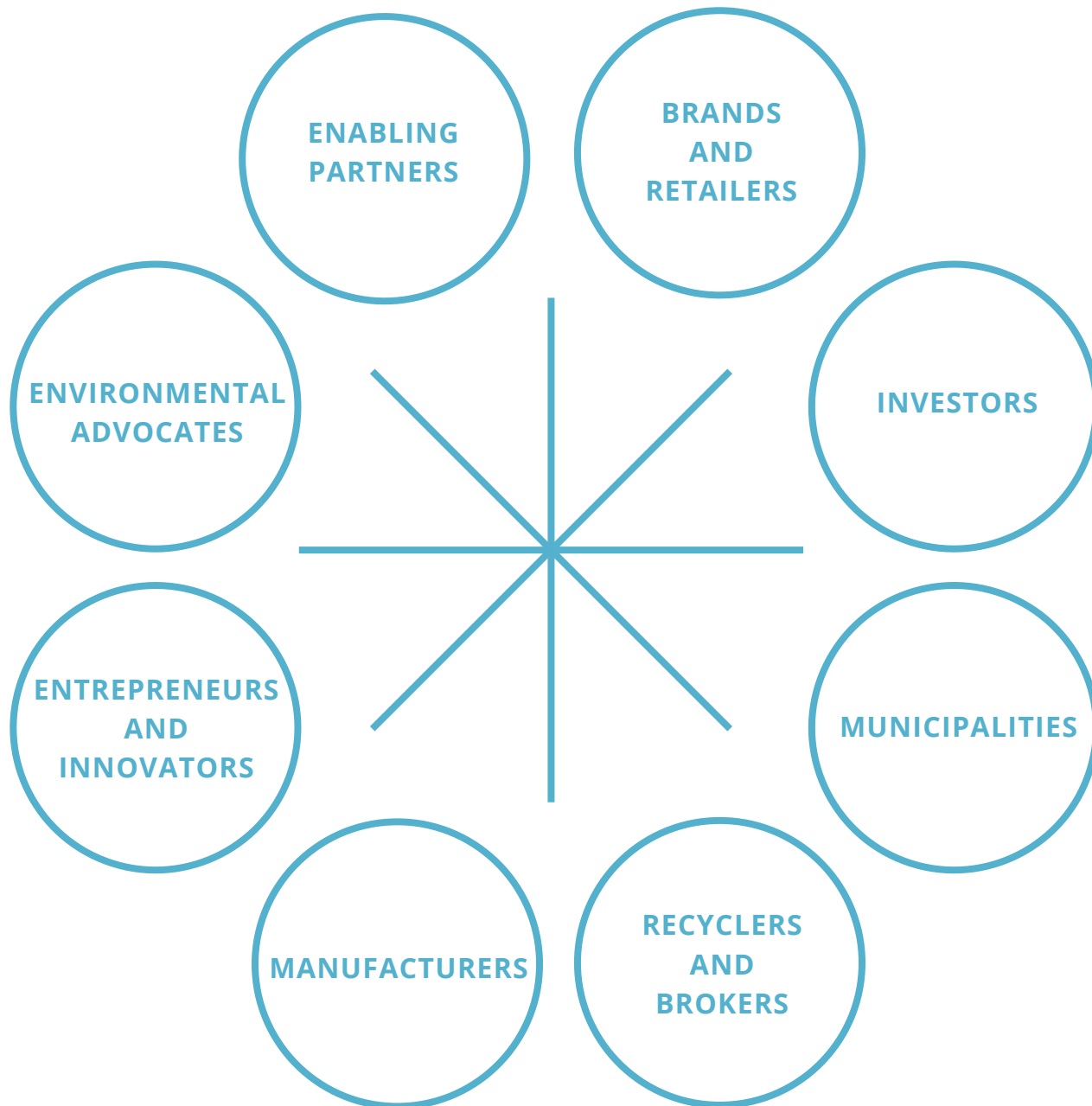
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Our Co-Investors Include

 <p>Baidu.ventures 百度风投</p>	 <p>bdc</p>	 <p>Breakthrough Energy</p>	 <p>CalRecycle</p>	 <p>Calvert Impact Capital™</p>	 <p>citi</p>
	 <p>Comerica</p>	 <p>CONGRUENT VENTURES</p>	 <p>CYCLE CAPITAL MANAGEMENT</p>	 <p>ENGIE</p>	 <p>ENTREPRENEURS ROUNDTABLE ACCELERATOR</p>
 <p>Goldman Sachs</p>	 <p>GRATITUDE RAILROAD</p>	 <p>NEA®</p>	 <p>OAKTREE</p>	 <p>Prime</p>	 <p>radicle impact</p>
 <p>revolution</p>	 <p>ROSECLIFF</p>	 <p>RSF SOCIAL FINANCE</p>	 <p>SIDE WALK LABS</p>	 <p>Silicon Badia</p>	 <p>SJF VENTURES</p>
 <p>techstars®</p>	 <p>THE ENGINE Built by MIT</p>				

Support from Closed Loop Partners Extends Beyond Capital

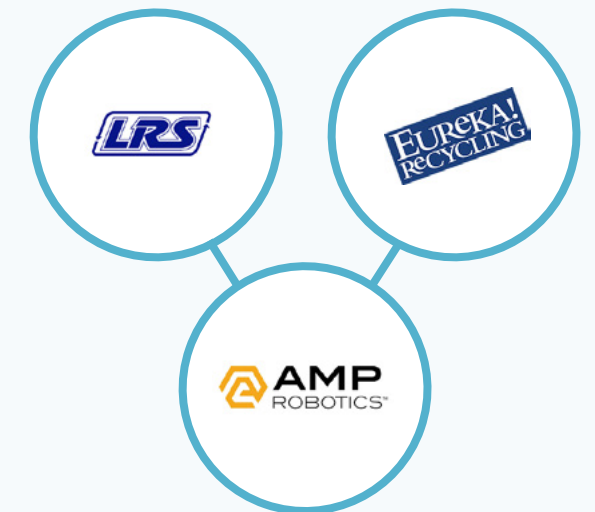
From the beginning, we have worked to connect municipalities, companies and investors in an effort to build stronger relationships and accelerate the creation of circular supply chains.



SAMPLE OF CONNECTIONS

Among Portfolio Companies

Lakeshore Recycling and Eureka Recycling installed AMP Robotics equipment to improve recovery of commodities



LPs Driving Pipeline and Investment

CLF invested in PureCycle Technologies for purifying polypropylene, first developed by Procter & Gamble



Our Impact Is Global

CALIFORNIA

Alameda County, CA
Drought Diet Products
For Days
Full Cycle BioPlastics
rPlanet Earth
Tradelanes

COLORADO

AMP Robotics
Momentum
Rebound Technologies

CONNECTICUT

Renewal Mill
Waterbury

FLORIDA

ECUA

GEORGIA

Georgia Tech

ILLINOIS

Lakeshore Recycling
Moline

INDIANA

Indiana Recycling Coalition

IOWA

Council Bluffs
Scott County

LOUISIANA

IntegriCo

MARYLAND

QRS

MASSACHUSETTS

Cambridge Crops
Preserve

MICHIGAN

BioWorks Energy

MINNESOTA

Eureka

NEBRASKA

FirstStar

NEVADA

TemperPack

NEW YORK

CleanFiber
CoLoadX
Curb My Clutter
Easy Aerial
Linhaus
Loliware

OHIO

Portage County
PureCycle Technologies

OREGON

The Renewal Workshop

PENNSYLVANIA

AeroAggregates
Zzyzx

SOUTH CAROLINA

Atlas Organics

TENNESSEE

Memphis

TEXAS

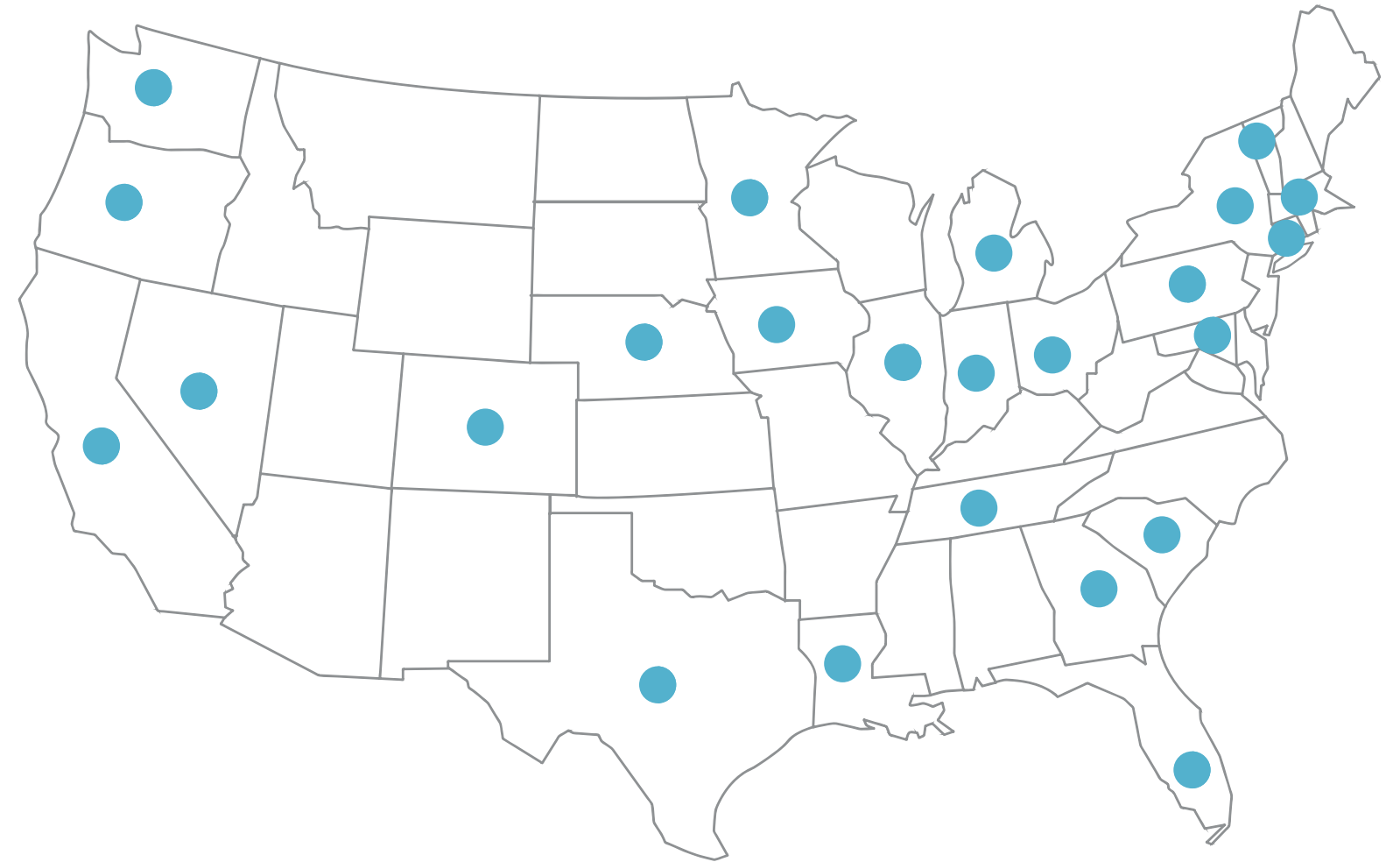
ITR/Ecoglass

VERMONT

Vermont Natural Ag Products

WASHINGTON

Evrnu
Hold That Tray



ISRAEL

HomeBiogas

CANADA

GreenMantra

SPAIN

Natural Machines

Closed Loop Fund

Project finance focused on scaling recycling infrastructure and circular economy infrastructure. Launched in 2015, CLF has \$86m AUM, deployed \$50m to date and co-investors have invested over \$200m.

To date, 100% of borrowers have repaid their loans on schedule.



C L O S E D
L O O P *fund*

INVESTORS INCLUDE:

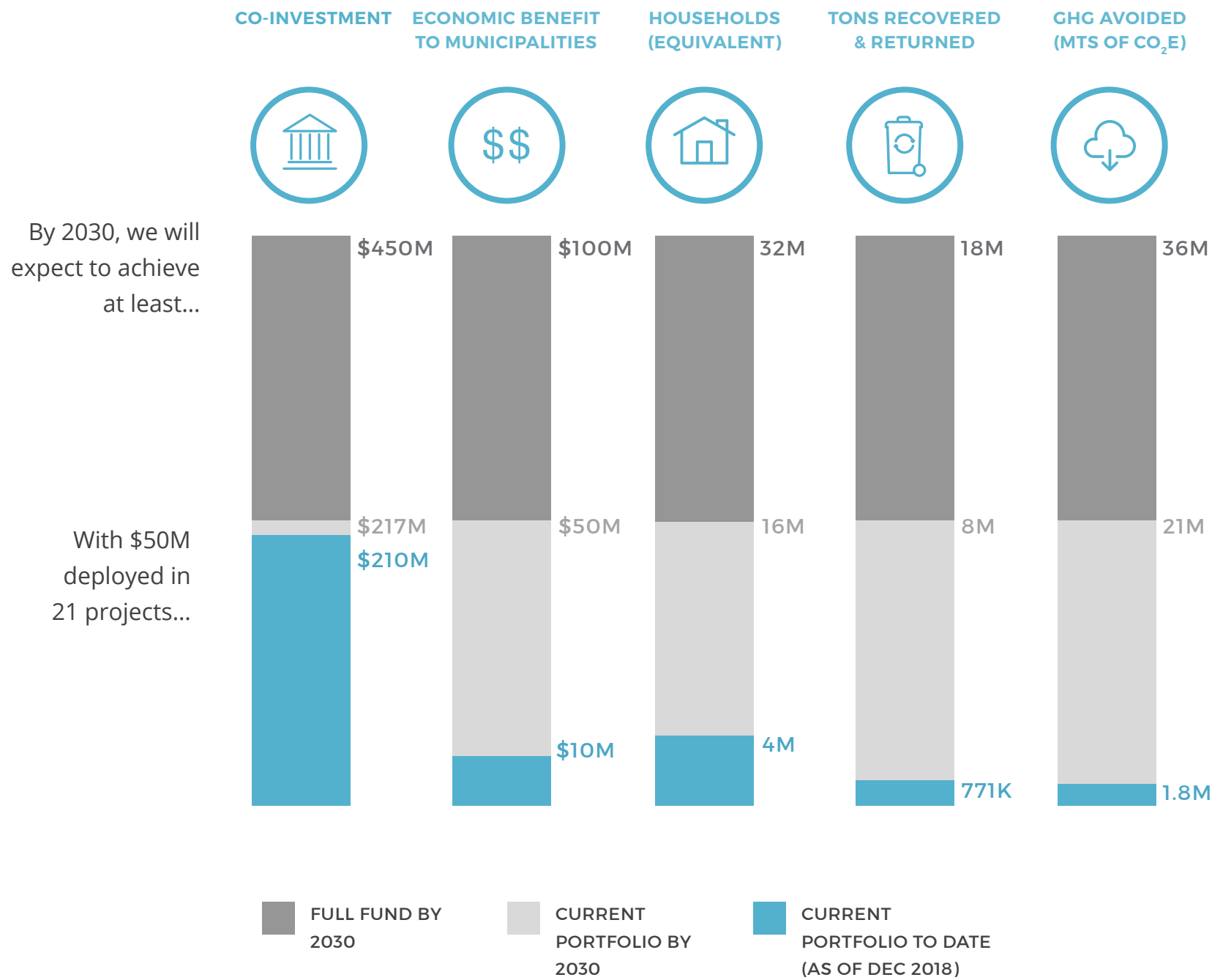


Closed Loop Fund Portfolio

As of end of 2018

				
				
				
 <p>Nothing wasted. Everything gained®</p>				
				

Closed Loop Fund By the Numbers



By 2030, we will expect to achieve at least...

With \$50M deployed in 21 projects...

EXPECTED IMPACT OF THE EXISTING PORTFOLIO BY 2030





**CLOSED LOOP FUND
INCREASE RECYCLING**

**INCREASE
RECYCLING****SPOTLIGHT****JODIE MORGAN**

CEO, GreenMantra Technologies

📍 Brantford, Ontario, Canada

**Why did you start the program?**

We wanted to go where there was no path and leave a trail for others to follow. Our vision for Greenmantra is to be a catalyst for sustainable impact. We believe that by doing good for the world and showing that we can do it profitably, we will encourage other individuals to follow our path and pursue their own ideas to also do good.

What impact do you hope to achieve?

We have an opportunity to significantly reduce the amount of plastic that ends up in landfills or our oceans while also creating a value-added product for industrial applications. GreenMantra converts post-consumer and post-industrial plastics such as bottles, plastic films and bags, yogurt cups and other waste items into specialty polymer additives. Our products help improve the performance of our customer's products and processes, providing them with lower formulation costs and a more efficient manufacturing process.

What's one highlight of your progress from the past year?

In the past year, we have expanded the commercial applications for our CERANOVUS PE and PP polymer additives to asphalt roads, roofing membranes and plastic composites, securing new customers on a global basis. In addition, we developed new compelling value propositions for polymer compounding and plastic processing. We have a robust growth opportunity pipeline across all applications that further demonstrates our commercial and market traction. To support our strong sustained growth, we broke ground on a new reactor in Q4 2018 which, upon its commissioning in 2019, will double our capacity for PE and PP specialty polymer additives.

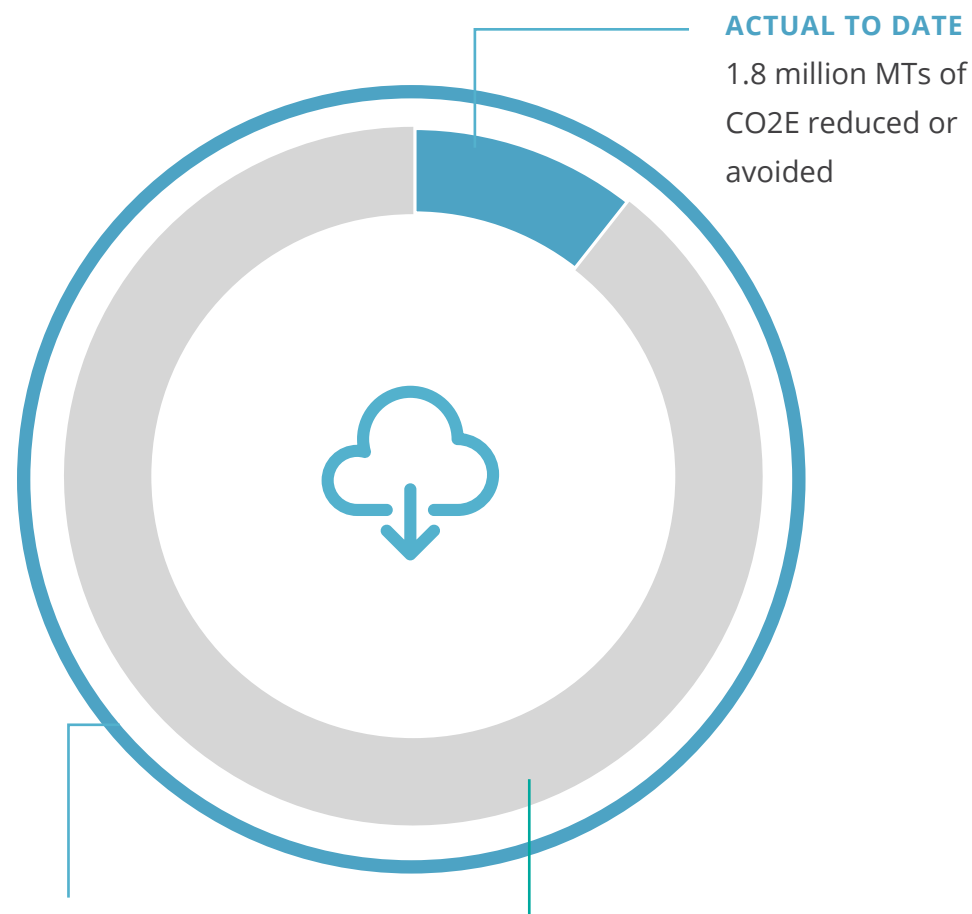
About GreenMantra

GreenMantra Technologies is focused on applying its upcycling catalytic technology to advance the circular economy. The first application of the technology, the production of polyethylene and polypropylene into an industrial wax used in construction products, has now reached commercial scale.

**INCREASE
RECYCLING**

GHG REDUCTION AND AVOIDANCE

1.8 million MTs of CO₂E avoided, like taking 380,000 cars off the road for a year



TOTAL FUND
(100% deployed):
More than **36 million MTs of CO₂E** reduced or avoided, like taking **7.6 million cars off the road** for a year

PROJECTED BY 2030

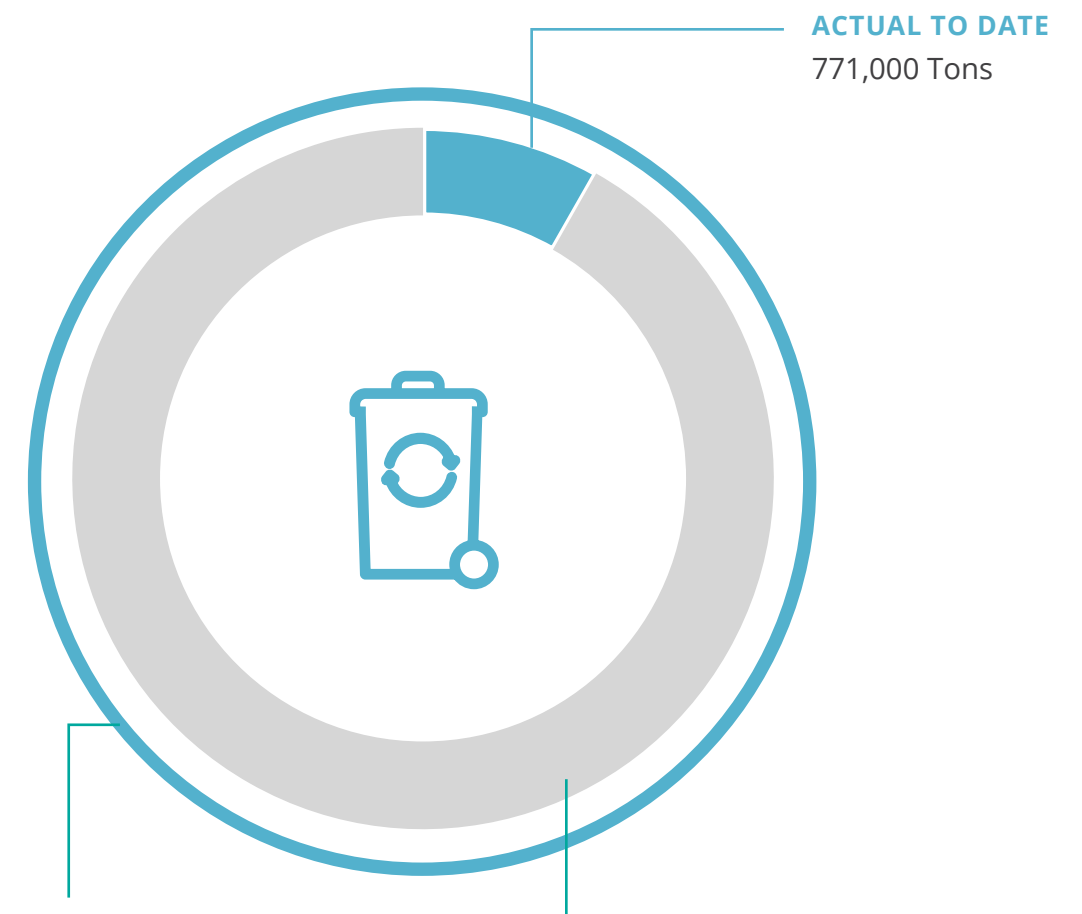
- 21 million MTs of CO₂E reduced or avoided
- 3 million MTs of CO₂E annually

Results to date solely reflect GHG benefit from material processed.

In reality, projects are also realizing additional GHG benefits from increased operational efficiencies and reduced transportation.

TONS DIVERTED

We have recovered and returned more than 771,000 tons of material to supply chains



TOTAL FUND
(100% deployed):
By 2030, we will recover and return more than 1.5 million tons annually (based on current portfolio)

PROJECTED BY 2030
Cumulative 8 million tons recovered and returned by 2030

Cumulative 18 million tons recovered and returned by 2030

INCREASE RECYCLING



CASE STUDY

EMERALD COAST UTILITIES AUTHORITY

An investment in regional recycling infrastructure in the Florida Panhandle

When the Infinitus MRF in Montgomery, Alabama closed suddenly, the Emerald Coast Utilities Authority (ECUA) and its neighbors were left without another sortation facility within a five-hour drive. Rather than wait for another privately-owned MRF to enter the market, the utility decided to build its own single stream facility. A loan from CLF provided about 30 percent of the required capital for the new facility, which opened in September 2016.

Since then, the ECUA MRF has become a regional asset for a region that had not previously had a long-term or reliable solution for processing recyclables. Escambia County has continued to expand its own collections and has entered into collection contracts with 11 municipalities in Florida and Alabama and three private haulers. The facility is processing close to 39,000 tons a year, and in doing so, generating three types of economic benefits: savings to ECUA, in the form of avoided tipping fees; tipping fees collected from other municipalities and haulers; and revenues from commodity sales. As of September 2018, ECUA has avoided \$2.3 million in tipping fees and generated \$1.9 million in revenue, for an average total economic benefit of \$96 per ton.

TONS DIVERTED TO DATE: 60,700

GHG REDUCTION/AVOIDANCE: 172,000 MTS OF CO2E

ECONOMIC BENEFIT TO MUNICIPALITY: \$5.3 MILLION

JOBS CREATED: 30

TOTAL PROJECT: \$10.6 MILLION

CLF LOAN: \$3 MILLION

To learn more about ECUA and other MRFs in our portfolio, visit www.closedlooppartners.com/closedloopfund



Recycling infrastructure has not kept up with the velocity of packaging innovation. Closed Loop Fund is helping companies like Nestlé remedy this with progressive investments that add more infrastructure in North America, so our consumers can recycle our packages, and we can use recycled content in our packages.“



John Caturano

Nestlé Waters North America



**CLOSED LOOP FUND
SUPPLY CHAIN OPTIMIZATION**

SUPPLY CHAIN OPTIMIZATION



SPOTLIGHT

BOB DAVIDUK AND JOE ROSS

Co-founders, rPlanet Earth

📍 Vernon, CA



Why did you start your company?

rPlanet Earth was founded to provide high quality, high recycled PET (“rPET”) content packaging to food, beverage and other consumer packaged goods companies.

What impact do you hope to achieve?

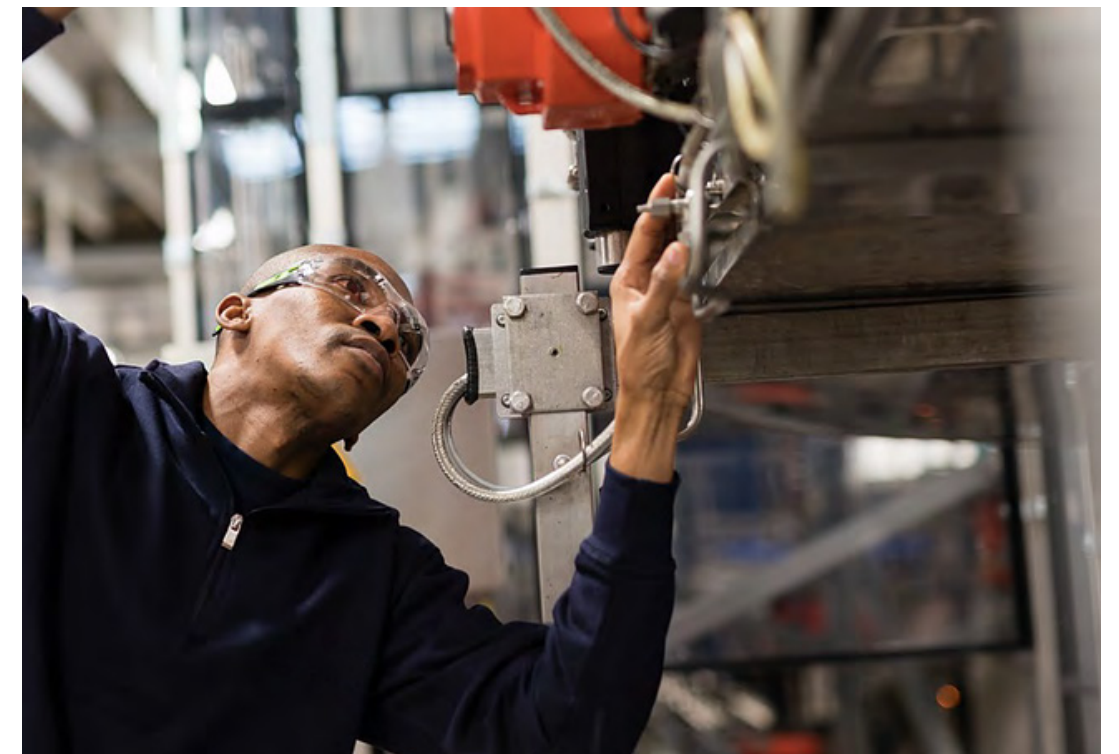
rPlanet Earth’s vision is to have zero plastic waste on our planet earth. Our goal is to be the leader in creating a truly sustainable, closed-loop system for the recycling and reuse of post-consumer plastics. Our extremely efficient manufacturing process in our completely vertically integrated plant results in packaging with the lowest carbon footprint.

What’s one highlight of your progress from the past year?

We completed construction of our 302,000 square foot facility in Vernon, CA and are in the process of commissioning the equipment and getting ready to begin commercial production and shipment of multiple packaging products.

About rPlanet Earth

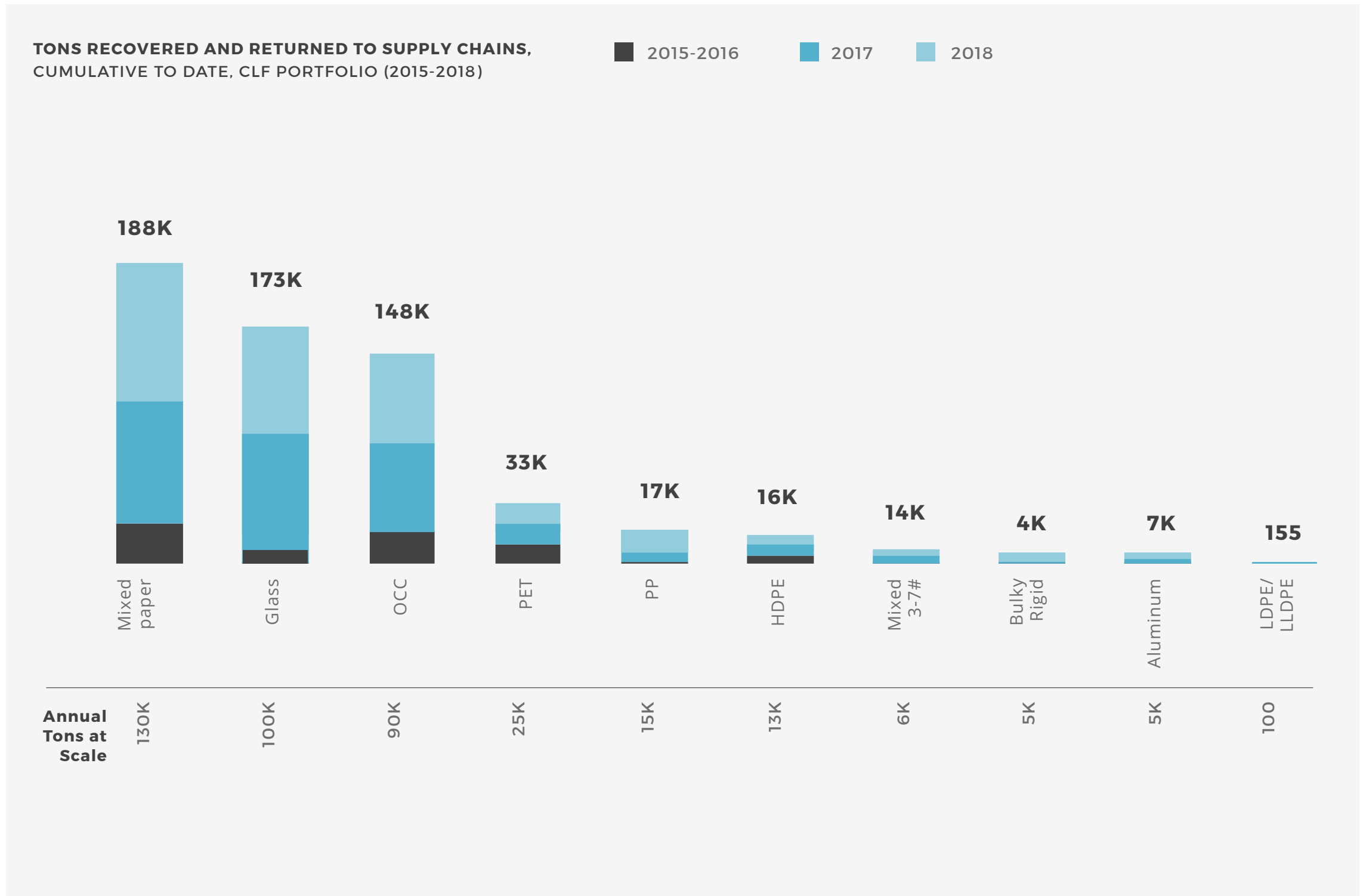
rPlanet Earth is the world’s first completely vertically integrated manufacturer of post-consumer rPET and multiple high rPET content packaging products, creating a much needed market for PET packaging collected from curbside recycling programs across California.



SUPPLY CHAIN OPTIMIZATION

RECOVERY

The CLF portfolio focuses on returning key materials to supply chains



INCREASED RECYCLING



CASE STUDY

AEROAGGREGATES

Closing the loop for glass in the Mid-Atlantic

In the mid-Atlantic, AeroAggregates is changing the game for glass processors by producing an ultra-lightweight construction aggregate called foamed glass. Foamed glass resembles volcanic pumice stone, but is strong enough to be used in a wide variety of road, building and infrastructure projects. The product has been manufactured and deployed in Europe for decades, but AeroAggregates is the first U.S.-based manufacturer of the product, which is less energy-intensive to produce and transport than other lightweight aggregates. The company started production at its facility in Eddystone, PA in early 2017, and a loan from Closed Loop Fund allowed the company to add a second kiln for production in late 2018.

By the end of 2018, AeroAggregates had processed 32,000 tons of post-consumer glass, all collected from sorting and processing facilities in the Delaware Valley. To date, the product has been shipped to projects from Massachusetts to Virginia, including road projects for PennDOT, Pennsylvania's transportation agency, and Amtrak. The company has also completed several projects locally, including the Philadelphia Navy Yard and Subaru's corporate training headquarters in Camden, NJ. Projects like these demonstrate how Aero is catalyzing the development

of a circular economy for glass in Pennsylvania and the greater Philadelphia region.

TONS DIVERTED TO DATE: 22,800

GHG REDUCTION/AVOIDANCE: 6,000 MTS OF CO2E

JOBS CREATED: 15

TOTAL PROJECT: MORE THAN \$10 MILLION

CLF LOAN: \$3 MILLION

To learn more, read our case study on AeroAggregates on our website www.closedlooppartners.com/closedloopfund



Our investment in the Closed Loop Fund represents our conviction that business can collaborate to turn environmental challenges into positive environmental, social and economic opportunities for industry and local communities. In 2018, Danone made a series of commitments to ensure the circularity of our packaging and to accelerate the circular economy of packaging. Our vision for a circular future is only possible if we collaborate with partners to ensure there are end markets for packaging that is recycled.”

Deanna Bratter,
Danone North America

FEDEXFORUM

CLOSED LOOP fund

Walmart  P&G Procter & Gamble

3M  Coca-Cola 

 COLGATE-PALMOLIVE

DR PEPPER SNAPPLE 

Johnson & Johnson  KEURIG GREEN MOUNTAIN 

recycle Memphis
It all revolves around you

-  Bathroom Bottles
-  Detergent Container
-  Kitchen Jugs, Bottles and Tubs
-  Aluminum and Steel

THE RECYCLING PARTNERSHIP

Coca-Cola 

Can Manufacturers Institute 

P&G Procter & Gamble 

amcor  APR  Ball 

FPI  HEINEKEN 

Kimberly-Clark  Novelis 

Target  TRI-ARROWS ALUMINUM INC. 

Dow  RWIP  spi  WM 

CLOSED LOOP FUND
CATALYTIC CAPITAL

CATALYTIC CAPITAL



SPOTLIGHT

JAMES MCGOFF, BRIAN POWERS AND CHARLES VINCENT

Co-founders, Temperpack

📍 Richmond, Virginia and Las Vegas, Nevada



Why did you start the program?

James, Brian, and Charles started TemperPack out of a desire to rid the world of excess, unnecessary packaging. They found a niche in temperature-sensitive packaging, founding the company just ahead of the rise of the meal-kit industry. Today, TemperPack has solidified its mission statement, “seeking to solve the world’s packaging problems through sustainable design”.

What impact do you hope to achieve?

Currently 1/3 of all municipal waste is packaging. We want our products to put a dent in that figure, specifically in the perishable shipping market. We compete directly with Styrofoam, a 70+ year old product that consumers can’t stand and hope that any company that’s considering shipping something with it will reconsider and ship with our more sustainable options.

What’s one highlight of your progress from the past year?

The past year has been a whirlwind of growth at TemperPack. We launched our ClimaCell product in May of 2018 at our Richmond manufacturing facility, and since then have raised Series B financing to fund a second ClimaCell manufacturing machine in our Las Vegas facility which we anticipate going live in June. Our start-up mentality has allowed us to move faster than the competition in an industry that has become lax on innovation.

About TemperPack

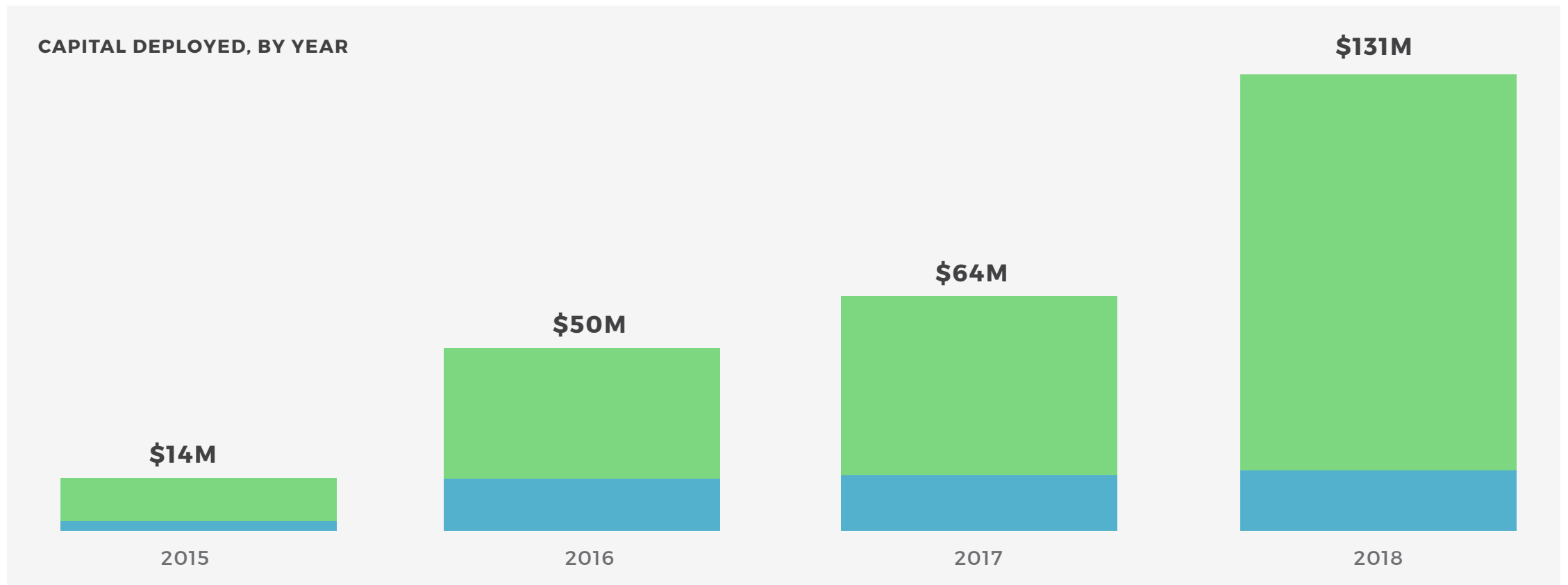
TemperPack solves thermal packaging problems through sustainable design. TemperPack specializes in bringing custom solutions for clients to scale in the perishable food and life sciences industries. Today, TemperPack operates two facilities in Virginia and Nevada and is rapidly expanding its reach in the perishable and cold chain shipping market, all with the goal of reducing the amount of packaging that ends up in landfills.



CATALYTIC CAPITAL

INVESTMENT

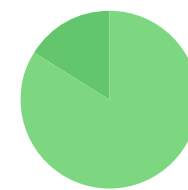
For every \$1 CLF invests, we have achieved \$4 in co-investment from private and public sources



CUMULATIVE TO DATE

■ \$50M CLF

■ \$210M



CO-INVESTMENT FROM PRIVATE AND PUBLIC SOURCES

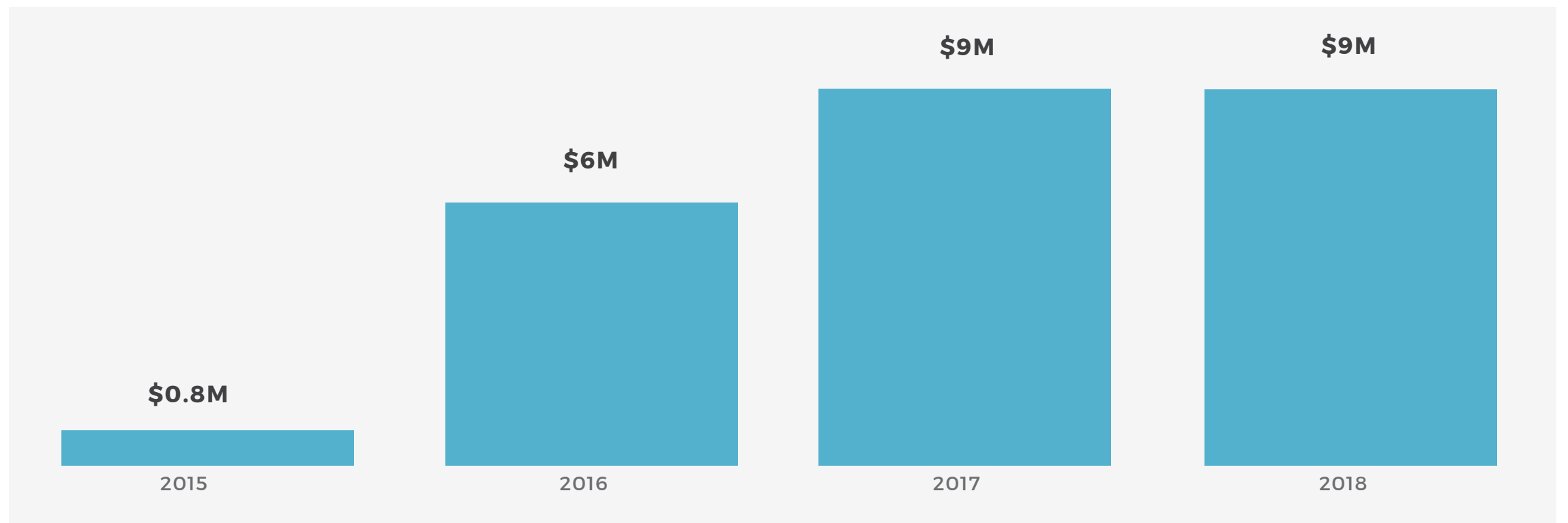
84% FROM PRIVATE (EQUITY, DEBT, OTHER ASSETS)

16% FROM PUBLIC (GRANTS, BONDS)

CATALYTIC CAPITAL

ECONOMIC BENEFIT

Even though 2018 was a tighter year for commodity values, investments have generated **\$9 million in economic benefit and wages to communities**



\$1 FROM CLF = AT LEAST \$1 IN DIRECT REVENUE AND SAVINGS BY 2030

400 JOBS CREATED



Great recycling companies are successfully adapting to the changing markets and building sound businesses that both recover valuable material from waste and grow revenues. It's helpful to have investors like Closed Loop Fund join us in backing these companies as they grow."



Joseph Ursuy,
Comerica Bank

PROGRESS TO DATE

Closed Loop Ventures

Closed Loop Ventures is an early stage investment firm focused on the development of the circular economy via investments in sustainable consumer goods and packaging companies, innovative recycling technologies and advanced supply chains.



PORTFOLIO COMPANIES INCLUDE:



Closed Loop Ventures By the Numbers, Cumulative to Date

			Environment		Social	
Supply Chain	"Live" Investments	Tons diverted	GHGs Avoided (MTs of CO2E)	Water Saved (Gallons)	Jobs Created	Households Represented
	TOTAL TO DATE	11,135	44,210	102.7 million	107	150,000
Curbside recycling	AMP Robotics	490	490	NA	19	150,000
Food Tech & Agriculture	Atlas Organics Cambridge Crops Home Biogas Loliware Rebound Technologies	10,430	43,575	652,500	47	NA
Apparel and Fashion	Curb My Clutter Evrnu For Days Linhaus The Renewal Workshop	215	145	102 million	33	NA
Supply Chain & Logistics	CoLoadX TradeLanes	NA	NA	NA	8	NA

**SPOTLIGHT****MATANYA HOROWITZ**

AMP Robotics

📍 Denver, CO

**Why did you start your company?**

I began AMP Robotics after having studied robotics and artificial intelligence in graduate school. I didn't know all that much more about recycling than most people when I first started, but I was immediately struck by the potential in the industry to extract vast amounts of resources from the waste stream. My perception was that the cost of sorting this material had been what had prevented the value in the waste stream from being unlocked. It's a very challenging technical problem to "unscramble the egg" of what goes into our trash and recycling bins, but recent results in AI for the first time presented an opportunity to do exactly that.

What impact do you hope to achieve?

The mission of AMP Robotics is to change the fundamental economics of the recycling process. We hope that by (a) significantly reducing the cost of sorting in recycling facilities (b) bringing fine grained operational data collection, and (c) creating transparency in the recycling space we can lower the cost of recycling and make them universally cost competitive with the tip fees of a landfill. We look forward to our technology bringing recycling rates up in the US and around the world. Over the long term we are particularly excited that our technology could lower the cost of recycling infrastructure and enable recycling in non-developed nations.

What's one highlight of your progress from the past year?

In 2018 AMP moved beyond early pilots and into mass-commercialization. It was an exciting moment for AMP as we saw all the pieces - AI, robotics, industrial automation - come together to create truly reliable machinery. I remember back to 2014 when experts in robotics and AI told me the problem was too hard to create a cost effective product. Until that moment, we all had faith but we didn't have the traction to show this was ready for prime time. We've now shown that this technology is ready to make an impact today, and it will in 2019.

About AMP Robotics

AMP Robotics helps material recovery facilities (MRFs) identify and pick recyclable materials more effectively and efficiently, helping MRFs generate higher throughput, increased commodity revenues, and fixed labor costs.



SPOTLIGHT

OSHIK EFRATI

HomeBiogas

📍 Israel

HOME BIOGAS®

Why did you start your company?

In 2010, we came across biogas in an off-grid community in India, and we were astounded by the potential impact of this sustainable fuel source, which converts organic waste into energy. As we dove deeper into the world of biogas and studied how the technology works, it became clear that existing household biodigesters have many limitations and deficiencies. We developed HomeBiogas to make domestic biogas affordable, user-friendly and available to all.

What impact do you hope to achieve?

Today there are 3 billion people who still cook on an open fire, causing the death of 4.3 million women and children every year from indoor air pollution, and also causing massive deforestation. Our main goal is to make Household biogas affordable and available to all. Each family that uses a biogas system reduces carbon emissions by 6 tons annually and eliminates indoor air pollution. By 2022 we will reach 1 million people, we will reduce 222,000 tons of waste and we will save 1750 hectares of forest and reduce 2.4 million tons of CO2 emissions.

What's one highlight of your progress from the past year?

In 2018 we launched the BioToilet that connects directly to the HomeBiogas biodigester that converts human waste into cooking gas. Through offering the BioToilet solution, HomeBiogas has

expanded our impact by addressing one of the biggest issues in developing countries - lack of access to sanitation solutions. In recognition of the World Toilet Day declared by the United Nations, Forbes featured the Bio-Toilet as a solution that will help meet the goals for global access to sanitation by 2030.

About HomeBiogas

HomeBiogas produces household-sized biogas systems that turn organic waste into a cooking fuel and a fertilizer.



**SPOTLIGHT****ADAM BEHRENS**

Cambridge Crops

📍 Somerville, MA

**Why did you start your company?**

Cambridge Crops was started to solve large inefficiencies in the food supply chain. We are passionate about solving huge challenges with simple solutions.

What impact do you hope to achieve?

We care about reducing food waste and increasing food accessibility.

What's one highlight of your progress from the past year?

We've assembled a great team and have expanded our platform outside of fruit and vegetables to meat and seafood.

About Cambridge Crops

Cambridge Crops extends the shelf-life and freshness of food by using natural, edible, and invisible coatings. Cambridge Crops reduces food waste by coating meat, seafood, fruit, produce, and prepared foods with a coating that extends shelf life. This extended shelf life has the potential to reduce the amount of food that will end up in landfill and extend the reach of fresh food into neighborhoods and geographies that have not had access to date.

**SPOTLIGHT****KRISTY CAYLOR**

For Days

📍 Los Angeles, CA

FOR DAYS**Why did you start your company?**

I started For Days to empower customers to change their relationship to clothing. As a fashion industry veteran, I knew we needed a new model. So, we created a unique membership model where people can wear and swap amazing organic basics and in the process, accumulate impact over junk.

What impact do you hope to achieve?

We aim to eliminate closet clutter and clothing waste.

What's one highlight of your progress from the past year?

We launched!! And we have a growing base of enthusiastic members.

About For Days

For Days brings consumers into the circular supply chain with a subscription-based relationship to recycled garments.

PROGRESS TO DATE

Center for the Circular Economy

The Center for the Circular Economy, LLC (CCE) is a New York City-based hub for collaboration, advisory services, investment and innovation to advance the transition from a linear take-make-waste economy to a circular economy in which materials are shared, re-used, and continuously cycled.

The CCE builds on Closed Loop Partners' successful investment track record as well as its global network of brands, academia, municipalities and investors to collaboratively advance the multi-billion dollar economic opportunity presented by the development of the circular economy.

Through our pre-competitive collaborations, advisory services and research, innovation challenges and accelerator we support emerging innovation in textiles and apparel, packaging, food, electronics and the built environment.

We conduct research on emerging trends in these sectors and complete investment landscape maps to identify opportunities for capital investment, whether in emerging technologies or expanding infrastructure.

OUR PARTNERS INCLUDE:





PRE-COMPETITIVE COLLABORATION

NEXTGEN CUP CHALLENGE

The Center for the Circular Economy is the Managing Partner of the NextGen Consortium, a food service industry consortium that aims to identify and commercialize solutions for a recyclable and compostable to-go fiber cup.

CHALLENGE

The NextGen Cup Challenge received nearly 500 applications from innovators with promising solutions to the recovery of single use fiber cups. Awardees will receive grant funding of up to \$1 million.

ACCELERATOR

The Center's Circular Business Accelerator launches in March 2019 and will help winning startups scale their solutions through mentorship, piloting and testing.

VALUE CHAIN ENGAGEMENT

The Center is working across the value chain to ensure solutions can integrate into supply chains and get through recovery infrastructure systems as valuable commodities.

OPPORTUNITY FOR IMPACT

Globally, more than 250 billion fiber cups are produced each year. While many cups are potentially recyclable, in practice the vast majority end up in landfill, wasting valuable resources.

Solutions to the Cup Challenge will include cup designs that are recyclable and compostable and align with existing infrastructure, as well as emerging ideas that may bring new innovation to food packaging materials





PRE-COMPETITIVE COLLABORATION
CONNECT FASHION

CCE has partnered with EON Group to launch Connect Fashion, a pre-competitive collaboration of apparel brands and retailers, including H&M, Target, and C&A Foundation, and academic and research organizations. The initiative will design a framework for how intelligent digital assets can be leveraged to power transparency and circularity across the fashion industry.



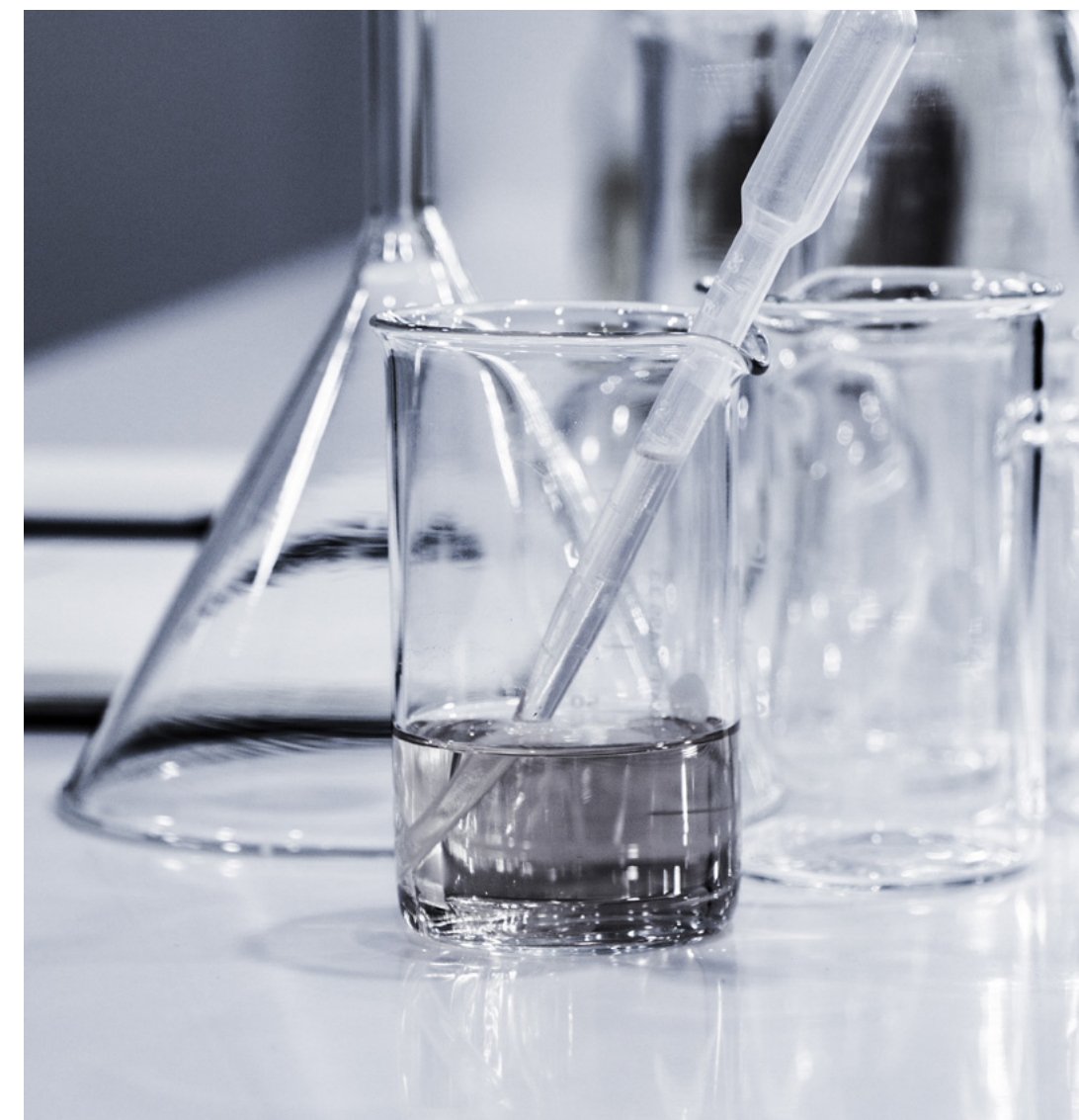
RESEARCH & LANDSCAPE MAPPING

CHEMICAL RECYCLING PROJECT

CCE identifies emerging topics and challenges and engages in targeted research.

We are leading a multi-stakeholder research effort to produce a landscape study on advanced recycling technologies for post-consumer plastics. The study aims to inform investment strategies for consumer brands, chemical companies, and investment firms. The research looks at the current landscape of emerging technologies, focusing in particular on increasing the use of recovered and recycled plastics for a variety of safe and high-quality end uses.

Findings will inform an investment roadmap on capital needed to scale up the most promising technologies in 2019.





SOLUTION SEARCHES & ACCELERATOR

**FLEXPACK RECOVERY CHALLENGE AND
THE CIRCULAR BUSINESS ACCELERATOR**

CCE works across the value chain to ensure identified solutions can integrate into the existing supply chain and get through recovery infrastructure systems as a valued commodity.

In addition to the innovation challenge and Circular Business Accelerator launched to source innovative food packaging solutions as part of the **NextGen Cup Challenge**, we have partnered with the Sustainable Packaging Coalition on the **Flexpack Recovery Innovation Challenge**, a solution search for multi-layer flexible film packaging, a plastic type not currently recycled in most markets.



Notes on Methodology

Descriptions and analysis of specific projects have been synthesized from reports, interviews, and communications with borrowers and their project partners, and is provided with their permission.

Closed Loop Fund

Investments are made according to our theory of change and value model framework (see page #). We track and report the impact of our portfolio following a consistent methodology, outlined below.

For every project in our portfolio, Closed Loop Fund:

1. Identifies relevant metrics and establishes a baseline for material volumes, costs (e.g., landfill tip fees), and other metrics relevant to the project prior to project implementation
2. Projects impact on materials diverted, recovered and/or returned to supply chains, greenhouse gas emissions reduced/avoided, households represented, jobs created, economic benefit to municipalities, and other metrics relevant to the project and our value model.
3. Tracks incremental progress over time. As a condition of funding, clients are required to report to Closed Loop Fund on their progress on key metrics, agreed to as part of closing. Data are reviewed by Closed Loop Fund's staff and contractors to validate and ensure accuracy.
4. Reports progress in aggregate and in case studies quarterly to our advisory board and investment committee; public reports are issued at least annually.

GHG Calculations

For Closed Loop Fund, we use two primary methods for tracking GHG emissions reduced or avoided as a result of a project being implemented. The methodology is chosen based on the type of project and capacity of our clients to provide data.

1. For collections and sortation projects: GHG emissions reduced based on new tons recycled, calculated using data from the US EPA WARM Model (most recent version applies).
2. For processing and end market manufacturing projects: GHG emissions reduced or avoided are calculated based on tons of source material reduced, and net of GHG emissions associated with the alternative used. Sources: US EPA WARM model, or for materials not included in the WARM model, third-party research made available by the Greenhouse Gas Protocol (ghgprotocol.org)
3. Where data are available, clients have also provided us with GHG impacts of operations, e.g., efficiencies gained or energy used/reduced, as a result of the funded project. In those cases, we also include these GHG impacts in our aggregated reporting.

Closed Loop Ventures

Closed Loop Ventures creates a Theory of Change analysis for each of our portfolio companies, and independent metrics to track the impacts related to that Theory of Change. We also have aggregate metrics that run across the various supply chains. These metrics include the following, though not all are applicable to each company:

- Tons Diverted from Landfill
- GHG Emissions Avoided
- Water Savings from Products Sold
- Jobs Created
- Households Represented

We are aligning our impact to global frameworks and standards, including the UN Sustainable Development Goals, Global Reporting Initiative (GRI) Standards, and GIIN's IRIS metrics (2016). We thank the Three Cairns Fellowship at Columbia Business School for helping us in Spring 2018.

Definitions

We believe globally held standards of impact are important measures of our success, and apply definitions developed by the UN (SDGs), the GIIN (IRIS), and GRI to our reporting.

Value	Sustainable Development Goals	CLF Indicators	GRI and IRIS Indicators
Increased Recycling	<ul style="list-style-type: none"> • Goal 8: Decent Work and Economic Growth • Goal 9: Industry, Innovation and Infrastructure 	• Materials recovered (# tons collected, diverted)	GRI 305-1 through -4, 306-2
		• GHG emissions reduced (# MTs of CO2E)	
		• Contribution to recycling rate (tons equivalent to % of annual generation)	IRIS OI1479, OI2535
Supply Chain Optimization	<ul style="list-style-type: none"> • Goal 11: Sustainable Cities and Communities • Goal 12: Responsible Consumption and Production 	• Post-consumer recycled material used by end markets (# tons, by material type)	GRI 301-2, 302-5
		• % of portfolio demonstrating "best-in-class" operations	IRIS FP8569, PI3825, PI5926, PI8177
		• # of solutions to system bottlenecks demonstrated by portfolio	
Catalytic Capital	<ul style="list-style-type: none"> • Goal 13: Climate Action • Goal 15: Life on Land 	• Capital from public and private sources (\$, ratio) co-invested with CLF	GRI 201-1
		• Growth and replication of portfolio entities (#, \$)	IRIS FP3297, PI3687
		• Economic benefit to communities (\$ saved and generated, jobs created)	

"Tons Diverted" refers to tons recovered from landfill, net of residue.

"Economic benefit to municipalities (or communities)" is calculated based on client reporting, including real savings from landfill tip fees, shared revenues from commodities sold, and, when relevant, wages from jobs created.

"Households represented" refers to: for collections and sortation projects, households directly reached by the project; for processing and end-market manufacturing projects, the number of households represented is calculated as the total weight of material diverted or reduced divided by the weight of the same material generated by a household, on average, in a year. Average generation is taken from the most recent available composition data for curbside single-stream recycling programs in the US.

"Jobs created" refers to new full-time or full-time equivalent positions created as part of the *project*.

"Recovery per household" is calculated as total weight of material diverted or recovered, divided by the total number of households in the program service area (not based on actual participation).

"Water savings from products sold" is calculated as the total number of gallons saved versus an industry baseline.

Closed Loop Fund Portfolio

Investment	Location	Material	Summary	Impact by 2030
AeroAggregates	PA	Glass	AeroAggregates LLC, produces ultra-lightweight aggregates from 100% post-consumer, mixed color, recycled glass. The material can be used in road and building construction, foundations, and concrete.	<ul style="list-style-type: none"> Return to supply chains more tons of glass in the form of foamed glass aggregate
CleanFiber	NY	Fiber	CleanFiber manufactures a premium cellulose insulation made from recycled feedstock, a mix of OCC and ONP.	<ul style="list-style-type: none"> Turn more tons of cardboard waste headed to the landfill into valuable insulation product
Council Bluffs Recycling Center	IA	Single stream	The Council Bluffs Recycling Center sorting facility serves 42,500 households in a rural community.	<ul style="list-style-type: none"> Recover more tons of post-consumer recyclables and save local municipalities nearly \$1M
Escambia County Utility Authority	FL	Single stream	Emerald Coast Utility Authority material recovery facility serves more than 250,000 households across Escambia County, the Florida panhandle, and eastern Alabama. ECUA's facility processes 45,000 tons of recyclables each year.	<ul style="list-style-type: none"> Recover more tons of single-stream recyclables and generate millions of dollars in savings and revenues for the County
Eureka Recycling	MN	Single stream	Eureka Recycling is a nonprofit social enterprise based in the Twin Cities, whose mission is to demonstrate that waste is preventable, not inevitable. Eureka provides recycling collection and processing services to over 200,000 households and sorts over 90,000 tons a year.	<ul style="list-style-type: none"> Recover more tons of single-stream recyclables for communities in the Twin Cities of Minnesota
FirstStar	NE	Single stream	FirstStar Recycling is the largest full service recycler (hauler and MRF) in the state of Nebraska ensuring comprehensive recycling in the greater Omaha and Lincoln metro areas.	<ul style="list-style-type: none"> Recover and return to supply chains more tons of single-stream recyclables for Omaha and other Nebraska communities
GreenMantra	Ontario, Canada	Plastics	GreenMantra Technologies is focused on applying its upcycling catalytic technology to advance the circular economy. The first application of the technology, the production of polyethylene and polypropylene into an industrial wax used in construction products, has now reached commercial scale.	<ul style="list-style-type: none"> Return to supply chains more than 20,000 tons of low-value plastics in the form of industrial waxes
IntegriCo	LA	Plastics	IntegriCo Composites is a manufacturer of composite railway products including railway crossties and composite grade using 100% recycled plastics.	<ul style="list-style-type: none"> Return to supply chains more tons of waste plastics in the form of plastic railroad ties
ITR/Ecoglass	TX	Single stream, glass	ITR provides new collections, sorting, and processing capacity for post-consumer single stream in the Houston, TX, market. At scale, the facility will handle 33,000 tons of single-stream material per year.	<ul style="list-style-type: none"> Improve access to convenient curbside recycling for 300,000 multifamily housing residents
Lakeshore Recycling Systems	IL	Single stream	Lakeshore Recycling Systems (LRS) is Illinois' largest private waste company, specializing in recycling and waste diversion programs for Chicagoland businesses and homeowners, dumpster services and portable restroom rental. LRS controls over 2.3 million tons per year and does not own a landfill.	<ul style="list-style-type: none"> Recover more tons of single-stream recyclables in the Chicagoland region
City of Memphis	TN	Single stream	The City of Memphis introduced universal single stream curbside recycling across the city in 2016. More efficient carts and trucks bring significantly more material to the area's material recovery facility.	<ul style="list-style-type: none"> Improve access to convenient curbside recycling for more than 100,000 households
City of Moline	IL	Single Stream	The City of Moline, IL, is expanding access to curbside recycling services and introducing new 96-gallon carts for its 19,000 households. Moline's recycling will go to nearby Scott County, Iowa's single-stream MRF (another Closed Loop Fund financed project).	<ul style="list-style-type: none"> New carts will yield a projected 40% increase in recycling volume annually
Momentum Recycling	CO	Glass	Momentum Recycling is a cullet processor and recycling services provider, with operations in Salt Lake City and Denver. The Denver facility processes over 75,000 tons of glass per year for container, fiberglass, and abrasives markets.	<ul style="list-style-type: none"> Recover and return to supply chains more tons of post-consumer glass
Portage County Solid Waste Recycling District	OH	Plastics	Portage County, OH is a rural county in Ohio, SE of Cleveland with a population of 165,000 residents. The Solid Waste Recycling District provides curbside collections service to more than 25,000 households.	<ul style="list-style-type: none"> Improve access to convenient curbside recycling for more than 25,000 households in Portage County and recover more tons of single-stream recyclables
Preserve	MA	Plastics	Preserve, a certified B Corporation, makes stylish, eco-friendly products for the home, including a full line of food service cutlery, kitchen products, tableware, and personal care products, using 100% recycled plastic and plant-based compostable materials.	<ul style="list-style-type: none"> Return to supply chains more tons of post-consumer recycled polypropylene in the form of food service cutlery

Investment	Location	Material	Summary	Impact by 2030
PureCycle Technologies	OH	Plastics	PureCycle Technologies uses a proprietary process to transform colored and contaminated polypropylene (PP) into an FDA-grade clear / natural PP pellet. At scale, the Lawrence County, OH, facility will process 50,000 tons of PP a year.	<ul style="list-style-type: none"> Return to supply chains more tons of post-consumer recycled polypropylene
QRS of Maryland	MD	Mixed 3-7 Plastics	QRS of Maryland was a plastics recovery facility that sorted and processed post-consumer mixed plastics with limited markets into a washed flake.	<ul style="list-style-type: none"> Recovered and returned to supply chains more than 36,000 tons of mixed 3-7 plastics in its first two years of operations
rPlanet Earth	CA	Plastics	rPlanet Earth is the world's first completely vertically integrated manufacturer of post-consumer recycled PET (rPET) and multiple high rPET content packaging products, creating a much needed market for PET packaging collected from curbside recycling programs across California.	<ul style="list-style-type: none"> The company estimates that every ton of PET recycled at rPlanet Earth's facility will help reduce global greenhouse gas emissions by 2.5 metric tons of CO2
TemperPack	NV	Packaging	TemperPack solves thermal packaging problems through sustainable design. TemperPack specializes in bringing custom solutions for clients to scale in the perishable food and life sciences industries. Today, TemperPack operates two facilities in Virginia and Nevada and is rapidly expanding its reach in the perishable and cold chain shipping market, all with the goal of reducing the amount of packaging that ends up in landfills.	<ul style="list-style-type: none"> Reduce the amount of expanded polystyrene used for cold-chain insulated packaging
Waste Commission of Scott County	IA	Single stream	Waste Commission of Scott County, a solid waste district in NE Iowa serves the Quad Cities area. A new material recovery facility handles more than 17,000 tons of recyclables per year from expanded curbside programs in Bettendorf and Davenport, as well as for the region.	<ul style="list-style-type: none"> Improve access to convenient curbside recycling for 48,500 households Recover more tons of single-stream recyclables Generate savings and revenues for the County and nearby communities
City of Waterbury	CT	Single stream	The City of Waterbury CT has expanded its curbside recycling program, offering 95-gallon recycling carts to every household with a goal to increase the current 6% recycling rate to 25% in the next three years.	<ul style="list-style-type: none"> Improve access to convenient curbside recycling for more than 32,000 households Generate savings for the City



Closed Loop Fund has deployed a catalytic investment model which demonstrates that industry can invest strategically to make their supply chains and products more sustainable.”

Bruce Usher,

Professor at Columbia Business School and Director of the Tamer Center for Social Enterprise at Columbia Business School & member of the Investment Committee at Closed Loop Fund

Closed Loop Ventures Portfolio

Investment	Location	Material	Summary	Potential for Impact
AMP Robotics	CO	Single Stream Recyclables	AMP Robotics uses state-of-the-art computer vision and robotics that rapidly identifies and recovers material from the waste stream.	<ul style="list-style-type: none"> Improves the quantity and quality of recycled commodities recovered from co-mingled waste streams.
Atlas Organics	SC	Organics	Atlas Organics is an organics recycling platform that partners with municipalities to collect organic waste streams, process, and sell finished compost.	<ul style="list-style-type: none"> Diverts food waste from landfill and turns it into a valuable soil amendment. Increases the accessibility of composting.
Cambridge Crops	MA	Organics	Cambridge Crops extends the shelf-life and freshness of food by using natural, edible, and invisible coatings.	<ul style="list-style-type: none"> Minimizes food waste, limits GHG emissions and water waste caused by the food supply chain, and reduces the reliance on plastic packaging.
CoLoadX	NY	Supply Chain Optimization	CoLoadX is an online commerce platform for the ocean freight industry. Using state-of-the-art technology, CoLoadX improves both operations and user experience.	<ul style="list-style-type: none"> Reduces waste in the global supply chain by making international logistics simpler and more efficient.
CurbMy Clutter	NY	Electronics, Textiles	Curb My Clutter is a CRM application that enables municipalities and haulers to collect and recycle used electronics and apparel.	<ul style="list-style-type: none"> Diverts textiles and electronics from landfill by dedicated collection and sales. CMC has the potential to collect 75lbs/person/year of textile waste.
Easy Aerial	NY	Single Stream Recyclables	Easy Aerial is developing advanced and customized autonomous aerial monitoring solutions.	<ul style="list-style-type: none"> Potential to improve the quality and efficiency of recycling operations, e.g., increasing the quality of material coming into MRFs by enhanced hauler visibility systems.
Evrnu	WA	Textiles	Evrnu uses state-of-the-art chemical regeneration, Evrnu's technology transforms post-consumer cotton garment waste into high quality cellulosic fiber.	<ul style="list-style-type: none"> Diverts and recovers all cotton fiber waste and converts it to new fibers, thereby at least halving the need for virgin cotton fibers.
For Days	CA/NY	Textiles	For Days brings consumers into the circular supply chain with a subscription-based relationship to recycled garments.	<ul style="list-style-type: none"> Reimagines consumption habits of basic apparel, thereby dramatically reducing the 75lbs/person/year that get disposed of in landfill.
HomeBiogas	Israel	Organics	HomeBiogas produces household-sized biogas systems that turn organic waste into a cooking fuel and a fertilizer.	<ul style="list-style-type: none"> Diverts food waste from landfill and increases its value as usable fuel, reduces indoor air pollution from dirty cookstoves, and offers "free" fertilizer.
Linhaus	NY	Metals, Minerals	Linhaus is a proprietary technology and design platform that delivers customizable and closed-loop jewelry with a unique customer experience.	<ul style="list-style-type: none"> Avoids extractive diamond and gemstone mining by increasing demand for recycled metals and lab grown diamonds.
Loliware	NY	Organics	Loliware is the world's first Edible Bioplastic Company dedicated to replacing plastic with edible materials.	<ul style="list-style-type: none"> Reduces the need for unrecyclable plastic straws with hyper-compostable alternatives.
Natural Machines	Spain	Organics	Natural Machines' 3D food printer allows users to print what they want to eat and nothing more, and recover food that is traditionally classified as food waste.	<ul style="list-style-type: none"> Makes use of food scraps in commercial kitchens, diverting discarded food from landfill.
Rebound Technologies	CO	Organics	Rebound Technologies accelerates freezing processes with bursts of high capacity cooling and generates sub-zero temperatures at 40% greater efficiency than legacy systems.	<ul style="list-style-type: none"> Cuts fresh food waste at logistics sites, and reduces energy consumption for freeze-point cooling.
The Renewal Workshop	OR	Textiles	The Renewal Workshop takes unsellable apparel and textiles and "renews" them for resale by brands.	<ul style="list-style-type: none"> Diverts textiles that would otherwise be sent to landfill or incineration.
Tradelanes	CA	Supply Chain Optimization	TradeLanes is a global trade execution platform that connects all trade participants into a single document chain over the lifecycle of an international trade shipment.	<ul style="list-style-type: none"> Saves exporters 30-80% on supply chain management by digitizing and automating supply chains.

Closed Loop Foundation

Our affiliated 501c3 has granted \$567,500 to innovative programs and organizations solving for food waste and flexible film recycling

Investment	Location	Material	Summary
Alameda County, CA	CA	Food Waste/ Organics	ALL IN Alameda: The New War on Poverty is a comprehensive social enterprise that efficiently recovers wasted food from retail
BioWorks Energy and City of Flint	MI	Food Waste/ Organics	Technology to make food waste into a sludge that can be incorporated into waste water digesters
Drought Diet Products	CA	Flexible Film	This irrigation company uses post-consumer film plastic feedstock in its irrigation piping products, diverting more than 1 billion lbs. of plastic films from landfills annually
Full Cycle BioPlastics	CA	Food Waste/ Organics	Circular economy solution for food waste and plastic pollution that converts post-consumer food waste into a compostable bioplastic.
Georgia Tech	GA	Food Waste/ Organics	Aquaponic system adds value to food waste nutrients by converting these nutrients into algal meal fish feed for aquaponic urban farming systems at schools.
Gonzaga University	WA	Food Waste/ Organics	The Hold That Tray! Program is a university-based model for Education, diversion, and combined anaerobic digestion/composting that highlights the value in food not served or wasted
Indiana Recycling Coalition	IN	Food Waste/ Organics	Collection and processing system solution for commercial food waste
Renewal Mill	CT	Food Waste/ Organics	Harvests undervalued byproducts from current food production processes and upcycles them into high-value nutritious and wholesome products
Vermont Natural Ag Products	VT	Food Waste/ Organics	Recapture renewable thermal energy created in its compost system to reduce energy consumption, time and therefore cost of creating the compost product
Zzyzx	PA	Flexible Film	Develops technology making recycled plastic pellets from challenging waste streams. Zzyzx will be able to process 7 million pounds of film per year per machine

DISCLAIMER

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AKNOWLEDGMENTS

Our limited partners have exhibited tremendous leadership in coming together to support a new model for systems change.

The municipalities, operators and entrepreneurs that we have invested in show the vision and execution required to achieve double bottom line success.

We would also like to recognize our partners at Dentons. They have exhibited incredible patience and collaboration in structuring both our unique fund and our innovative investments.

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CONTACT

All inquiries can be directed to

Bridget Croke

bridget@closedlooppartners.com

closedlooppartners.com

twitter.com/loopfund