



10 YEARS OF IMPACT & BUILDING THE CIRCULAR ECONOMY



Closed Loop Partners 2023 Impact Report



“We are now at an inflection point. The transition to the circular economy is accelerating, ushering in the next evolution of product design, manufacturing and materials management—a system where environment and economy work alongside each other for a profitable and sustainable future.”

RON GONEN, FOUNDER & CEO OF CLOSED LOOP PARTNERS
AND AUTHOR OF THE WASTE-FREE WORLD

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OUR FIRST DECADE OF IMPACT

Founded in 2014, Closed Loop Partners is at the forefront of building the circular economy.

The Growth of Closed Loop Partners & the Circular Economy

- 2014 Closed Loop Partners is founded.**
 The firm launched its first fund to finance circular economy infrastructure, backed by the Walmart Foundation and 12 leading corporations, as U.S. corporations prioritize waste reduction.
- 2015 Consumer demand for waste reduction spikes.** The infamous footage of the turtle and plastic straw puts a spotlight on the impact of plastic waste in our oceans.
- 2015 Commodity prices swing.**
 The last 10 years show the most volatile commodity prices in a century, underscoring the need for more efficient materials management.



- 2015 The Paris Agreement is signed.**
 The international accord is adopted by nearly every nation, marking a global shift in climate change mitigation.
- 2016 Closed Loop Partners launches its ventures group.** The firm moves into venture capital to accelerate early-stage circular economy innovations across plastics & packaging, food & organics, textiles and supply chain technology.

LETTER FROM OUR CEO

This year marks a milestone for Closed Loop Partners: 10 years of advancing the circular economy and building a waste-free world.

We are encouraged by the immense progress the circular economy has made in recent years. It has cleared a path for the next evolution of business where resource efficiency and maximizing financial returns are synonymous. Based on current trajectories, we expect that over the next 10 years, the growth of the circular economy will more than double, driving an additional \$100+ billion of value to the global economy¹.

Advancing circularity is key to mitigating the challenges of the last decade, strengthening our systems for the next decade to come. The last decade was set against a complex background, including a global pandemic, global supply chain disruptions, natural disasters of unprecedented frequency and scale, and massive population shifts. These challenges highlighted the advantages of a circular economic system and the opportunities that product design, material innovation, advanced manufacturing, supply chain optimization and materials management present for global corporations, consumers, communities and our natural environment. This year's impact report recounts our first decade of

work, the goals we reached in 2023, the impact our portfolio companies have accelerated to date and all that is to come as we work with stakeholders in our Closed Loop Partners ecosystem.

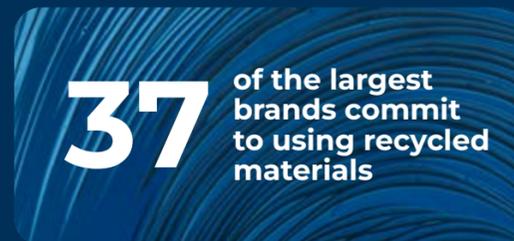


Photo: Recycling Today



- **2017 Closed Loop Partners becomes a certified B Corp.** The certification validates the firm's commitment and progress to driving positive impact for its employees, communities and the environment.

- **2017 China implements its National Sword.** The policy limits the import of solid waste into China, creating a massive need and opportunity to invest in local materials recovery in the U.S.



- **2018 Circular economy commitments rise.** 37 of the largest consumer brands commit to use recycled plastics in their packaging within the next 10 years². Nearly 4 in 5 U.S. corporations have a strategic intent to implement a circular economy framework or have already put one in place³.

- **2018 Closed Loop Partners launches its innovation center.** As corporate commitments grow, Closed Loops Partners launches its Center for the Circular Economy to accelerate innovation and research on the circular economy.

- **2018 Corporates join forces around food packaging waste reduction.** The Center launches its first initiative, the NextGen Consortium, an industry collaboration to address foodservice packaging waste.

THE BEGINNINGS OF CLOSED LOOP PARTNERS

Closed Loop Partners' story began in January 2014, when the CEOs and leadership of Walmart, Unilever, P&G, PepsiCo, The Coca-Cola Company, Kenvue (formerly Johnson & Johnson Consumer Health) and Keurig Dr Pepper joined each other on stage at the annual meeting of Walmart's suppliers.

In that groundbreaking moment, some of the world's largest corporations announced that they had joined together as the founding investors in the Closed Loop Fund, the inaugural fund of Closed Loop Partners—and the first investment fund focused on financing the development of the circular economy.

A confluence of factors led to that moment on stage: an urgent waste crisis, an increase in environmental regulation and growth in consumer demand for environmental responsibility, coupled

with the emergence of new “circular” innovations. These factors made developing the circular economy so important to the future of business that it brought competitors together to form the Closed Loop Fund, helping lay the foundational infrastructure for the circular economy in the U.S.

A few years later, as the circular economy gained momentum, our original Closed Loop Fund attracted additional corporate investors, including 3M, Amazon, BlueTriton, Colgate-Palmolive, Danone and Starbucks, catalyzing more capital into circular economy infrastructure. As our ecosystem grew, adding more strategies and asset classes, we attracted capital from financial institutions, including funds and accounts managed by BlackRock, leading family offices and foundation endowments.

To meet the growing interest in the circular economy, the vision for the Closed Loop Fund expanded into other strategies, now all comprising the broader Closed Loop Partners platform.

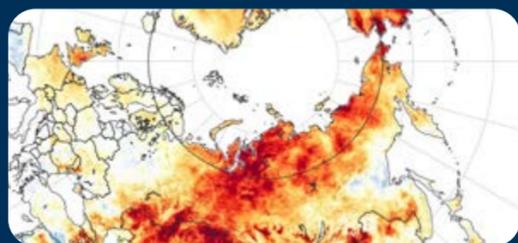




- **2019 Sustainability proves market value.** 90%+ of CPG categories see sustainability-marketed products grow faster than conventional counterparts⁴.

- **2019 Closed Loop Partners' private equity group makes its first acquisition.** Closed Loop Partners' newly launched private equity group makes its first acquisition in Balcones Resources, the largest recycler in the southern U.S., helping narrow the gap between supply and increasing demand of recycled content.

- **2020 COVID-19 upends business as usual.** Lockdowns and halts in global trade expose the need for more flexible supply chains with increased transparency and localization.



- **2020 Climate risks reach an all-time high.** Despite a 7% fall in fossil fuel burning during the pandemic, CO₂ built up in the atmosphere, making 2020 the hottest year ever recorded to that date. Average surface temperature was 1.25 °C higher than the pre-industrial period, dangerously close to the 1.5 °C target set to avoid the worst impacts⁵.

- **2020 Circular economy becomes key to climate change mitigation.** With over 50% of emissions associated with goods and services⁶, key European Union taxonomy regulation highlights the transition to the circular economy as a key environmental objective to achieve a carbon neutral economy by 2050.

THE EVOLUTION OF THE CIRCULAR ECONOMY & CLOSED LOOP PARTNERS

Over the span of a decade, the circular economy in the U.S. has been molded and shaped by powerful market and regulatory forces, creating tailwinds for continued growth.

The last 10 years showed the most volatile commodity prices in a century, underscoring the need for more efficient materials management. It was also marked by influential global treaties and policies, including the Paris Agreement and China's National Sword, bringing the need for climate change mitigation and circular materials management to the international stage. The COVID-19 pandemic accelerated this shift, exposing the environmental impact and economic inefficiency of antiquated supply chains, further accelerating corporate commitments to rebuild more resilient supply chains and prioritize climate action.

The economic case for the circular economy continues to strengthen as demand for recycled commodities is fueled by international markets and policy dynamics. Geopolitical episodes and

supply chain disruptions create scarcity and price volatility. Over the last few years, landfills—the prevailing status quo for waste management in North America—posted the highest increase in tip fees since 2018. Today, less than 10% of the global economy is fully circular⁷, presenting significant opportunity in the prospective, structural transition of the remaining 90% of the \$100+ trillion global economy to a new economic paradigm.

10 years ago, our work sent a market signal and over the years, we have evolved as the market changed. Closed Loop Partners now comprises three separate businesses focused on three key development areas of the circular economy: our investment arm, Closed Loop Capital Management; our innovation and advisory group, the Center for the Circular Economy; and our operating group, Closed Loop Builders. Across our platform, we support over 1,000 green jobs dedicated to advancing the circular economy. We work with leading organizations, cutting-edge innovators and over 50 of the world's largest corporations committed to reducing waste across multiple areas—including plastics & packaging, organics, textiles and electronics.

- **2020 Government and business climate commitments double.** Commitments to reach net zero emissions roughly double in less than a year⁸, as many prioritize climate action in their recovery from the pandemic.

- **2020 Investor impact commitments reach new milestone.** Operating Principles for Impact Management hits 100 Signatories, validating private investor commitments to harness capital for good. Closed Loop Partners undergoes third party verification, advancing industry alignment with impact principles.



- **2020 Closed Loop Infrastructure Group achieves 1 million tons of materials kept in circulation.** Portfolio company operations enable the milestone, indicating continued momentum toward circularity in the U.S.

- **2020 Waste reduction policy grows.** New Jersey becomes the first state in the U.S. that passes a law banning single-use plastic and paper bags.

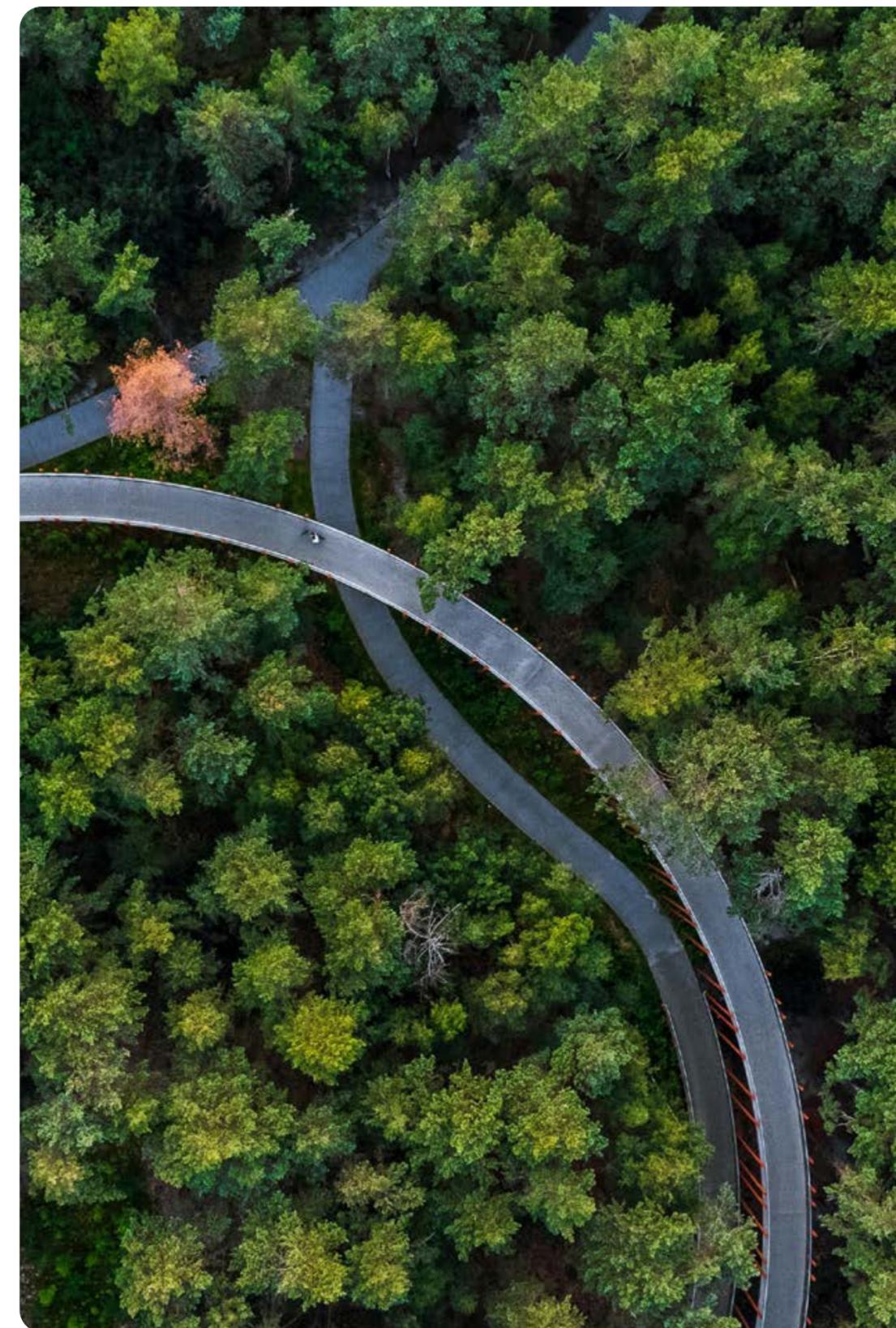
- **2020 Corporations join forces around bag waste reduction.** Closed Loop Partners' Center for the Circular Economy launches the Consortium to Reinvent the Retail Bag, bringing together leading retailers to advance solutions that reduce single-use bag waste.

2023 AND THE PATH FORWARD

In 2023, Closed Loop Partners experienced meaningful growth, as our stakeholders—including some of the world's leading corporations and financial institutions—accelerated significant capital investment, strategic initiatives and operational resources into the circular economy.

Most recently, Microsoft, Nestlé, PepsiCo, SK Group, Starbucks and Unilever joined Brookfield Renewable to invest nearly a billion dollars in Closed Loop Partners' first operating company, Circular Services. Across our ecosystem and over 10 years, we expanded circular economy infrastructure and services into over 20 new cities, deployed capital to over 80 companies and municipalities, and led some of the largest in-market initiatives to test the performance of circular solutions, including reusable bag adoption and compostable packaging disintegration. To date, our investments have kept 6 million tons of materials in circulation and avoided 17.5 million metric tons of greenhouse gas emissions.

Today, the circular economy is recognized as a core solution to climate change mitigation and a template for more efficient and resilient business operations. As more stakeholders recognize the financial and environmental opportunity of the circular economy, more capital is moving toward circular systems. More industry leaders are collaborating around shared waste reduction goals, leaders of countries are working together on





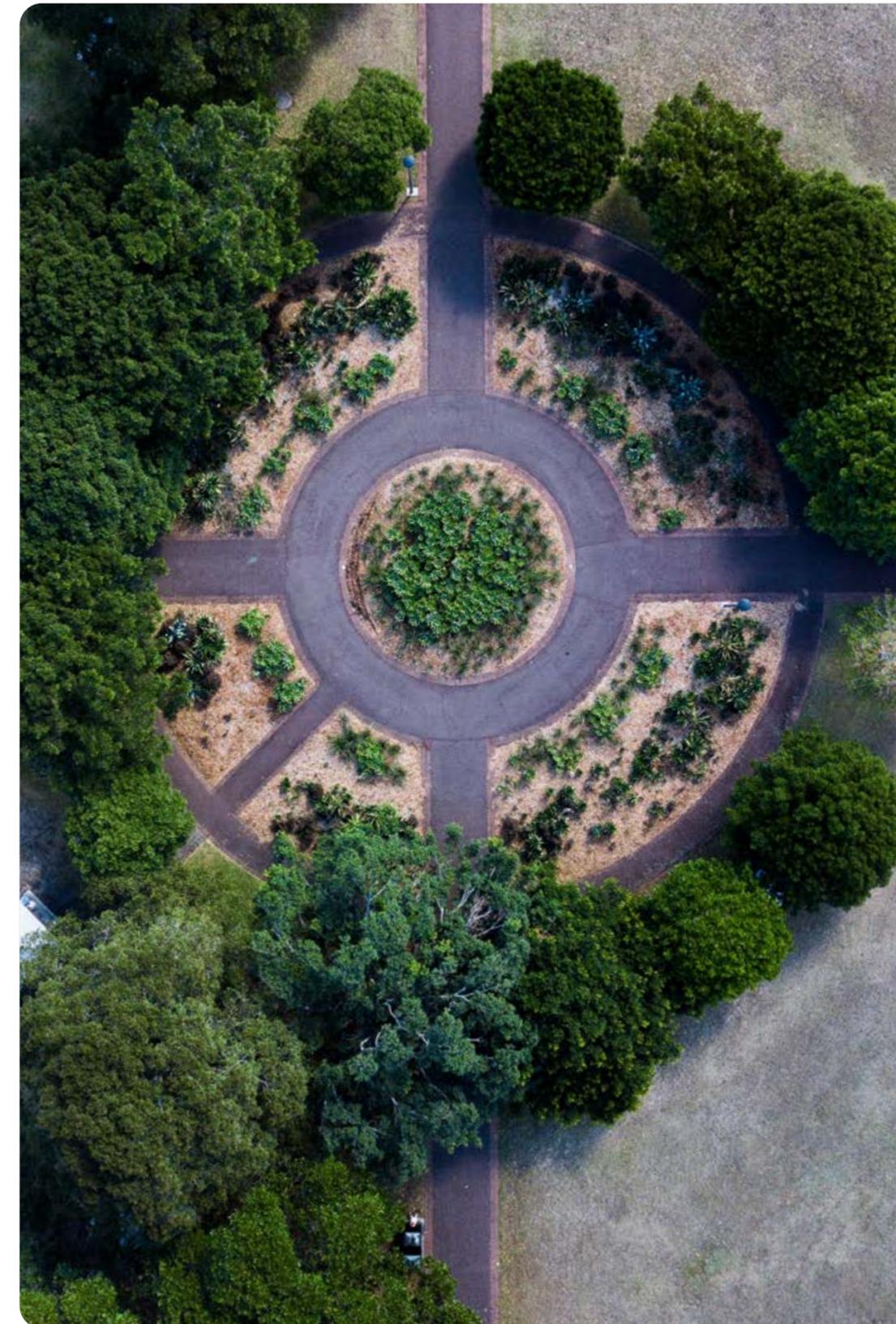
- 2021 EPR gains momentum** Two Extended Producer Responsibility for packaging bills are passed in U.S. states, out of more than a dozen proposed across the country, creating stronger pathways for material recovery.
- 2021 Corporates join forces around organics recovery.** Closed Loop Partners' Center for the Circular Economy launches the Composting Consortium with stakeholders across the composting value chain, to increase the recovery of food scraps and compostable food packaging and drive toward circular outcomes.
- 2022 Recycled commodities prove resilience amidst uncertainty.** Recycled commodities demand increases, while oil and gas prices suffer from severe price swings amidst geopolitical instability.



- 2022 Closed Loop Partners launches Circular Services.** Combining five businesses, with investment from Brookfield Renewable, Closed Loop Builders launches its first operating company to expand circular economy infrastructure and services for municipalities and businesses. Circular Services becomes the largest privately held recycling company in the U.S.

a global plastics treaty, U.S. states are proposing and passing bipartisan Extended Producer Responsibility (EPR) legislation to fund recycling programs, and C-suites of Fortune 100 companies are pushing to achieve ambitious circular economy and climate goals.

Transforming entire supply chains across multiple industries is the work of generations, but the world is changing faster today than it was 10 years ago. Through our work with current and past team members, investors, clients, advisors, portfolio companies and partners, progress that might have felt far-off 10 years ago is now our jumping-off point, laying the foundation for seismic shifts over the next 10 years and beyond.



- **2023 Landfill tip fees see highest increase since 2018.** The average fee across six states exceeded \$100 per ton⁹, challenging the landfill industry and strengthening the economic case for recycling.
- **2023 Largest reusable bag pilots launched.** Closed Loop Partners' Center for the Circular Economy launches the Consortium to Reinvent the Retail Bag's largest reusable bag pilot to date, testing reuse solutions to reduce single-use bags in 150+ stores across U.S. cities, catalyzing a national shift toward reuse.
- **2023 Commitment in Circular Services reaches nearly a billion dollars.** Microsoft, Nestlé, PepsiCo, SK Group, Starbucks and Unilever join Brookfield to invest in Circular Services' efforts to scale circular economy infrastructure and services.
- **2023 Closed Loop Partners reaches over half a billion in assets under management.** This marks a milestone for circular economy investment and sets the stage for more capital deployed into the circular economy.
- **2023 Circular Services processes over 1 million tons of materials.** This is made possible through a combination of best-in-class materials management facilities, new municipal recycling contracts and the acquisition of Midwest Fiber.
- **2023 The global economy is now 7.2% circular, according to the Circularity Gap Report.** This illustrates a lasting shift in value chains and highlights an opportunity to continue closing the gap, laying the groundwork for more work to come.

OUR NEXT DECADE OF IMPACT

As Closed Loop Partners enters our next decade of action and impact, we anticipate the transitional momentum to continue: profitability attracts more investment and supportive policy accelerates tailwinds for the transition of incumbent, inefficient supply chains to circularity.

According to the Circularity Gap report, the past five years alone have shown that the volume of discussions, debates and news coverage addressing this topic has almost tripled, reflecting a heightened awareness and interest in circularity. As policy and EPR legislation gain momentum in the U.S., we anticipate more capital dedicated to developing the circular economy. As the transition gains traction, we expect to see circularity applied to material types well beyond packaging—into organics, technology, textiles, clean energy creation, electronics, the built environment and more. As more organizations recognize the inherent link between the circular economy and decarbonization, we expect circularity goals to align with climate goals, driving business value. However, progress happens in steps—consistent commitment and continuous investment are needed to secure circular systems that encompass all material types and in all communities.

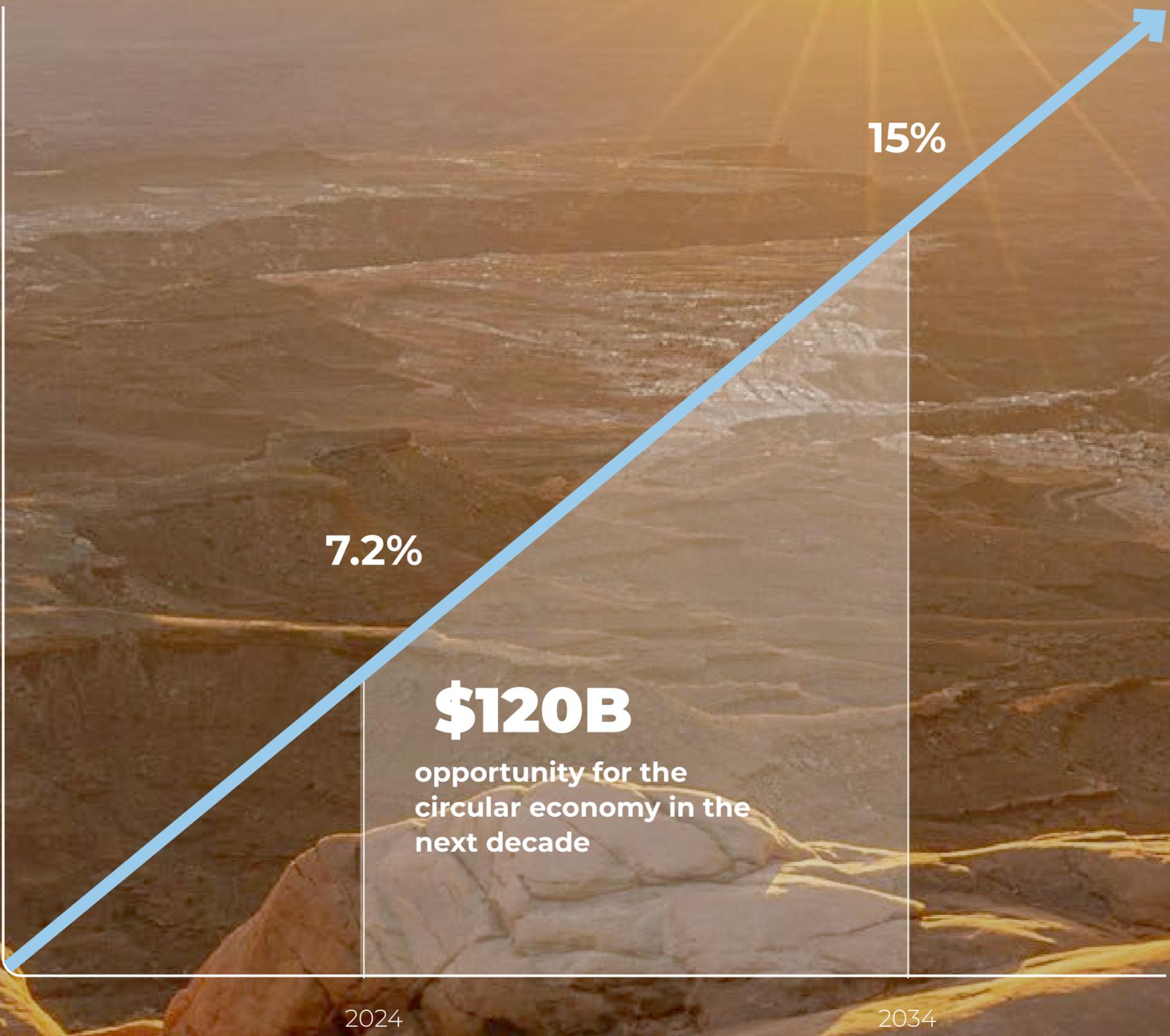
We have now reached a tipping point. Industries will not be returning to historic linear models;

the leaders of the future are champions of efficient, just, circular systems. With growing investment and evolving policy comes stronger underpinning infrastructure and market demand required to support the growth of a circular economy. The economics of circularity will continue to make even more business sense. As the renewable energy transition takes hold, so too will the circular economy become the new way to do business across all industries and all parts of the supply chain.

The next 10 years will be critical to delivering outcomes and building transparent, circular systems. There is much more work to be done in the next phase of this systemic shift. Together with strategic partners across our platform, we are focused on expanding our impact and rebuilding industries that are grounded in resource regeneration and positioned for a resilient future.

Sincerely,
Ron Gonen
Founder & CEO of Closed Loop Partners

The share of secondary materials consumed by the global economy.



“Based on current trajectories, we expect that over the next decade, the growth of the circular economy will more than double, driving an additional \$100+ billion of value to the global economy.”

RON GONEN, FOUNDER & CEO OF CLOSED LOOP PARTNERS

7.2% is from the 2023 Circularity Gap report.

\$120B opportunity is estimated by Closed Loop Partners and based on World GDP in current prices, projected GDP and the share of secondary materials consumed by the global economy.

OUR PLATFORM TODAY

Advancing the circular economy requires a fundamental shift away from an incumbent system dependent on waste. This generational change needs multiple stakeholders and solutions working alongside each other.

Building on 10 years of work, Closed Loop Partners operates three businesses, creating a platform that helps make systems change possible. We innovate, invest and build to optimize supply chains, advance natural resource efficiency and drive economic value.



INNOVATE

Center for the Circular Economy

Innovation center and advisory firm serving the world's largest retail, consumer goods and material sciences companies

INVEST

Closed Loop Capital Management

Investment firm managing venture, buyout, and catalytic capital strategies on behalf of corporate, institutional and family office partners

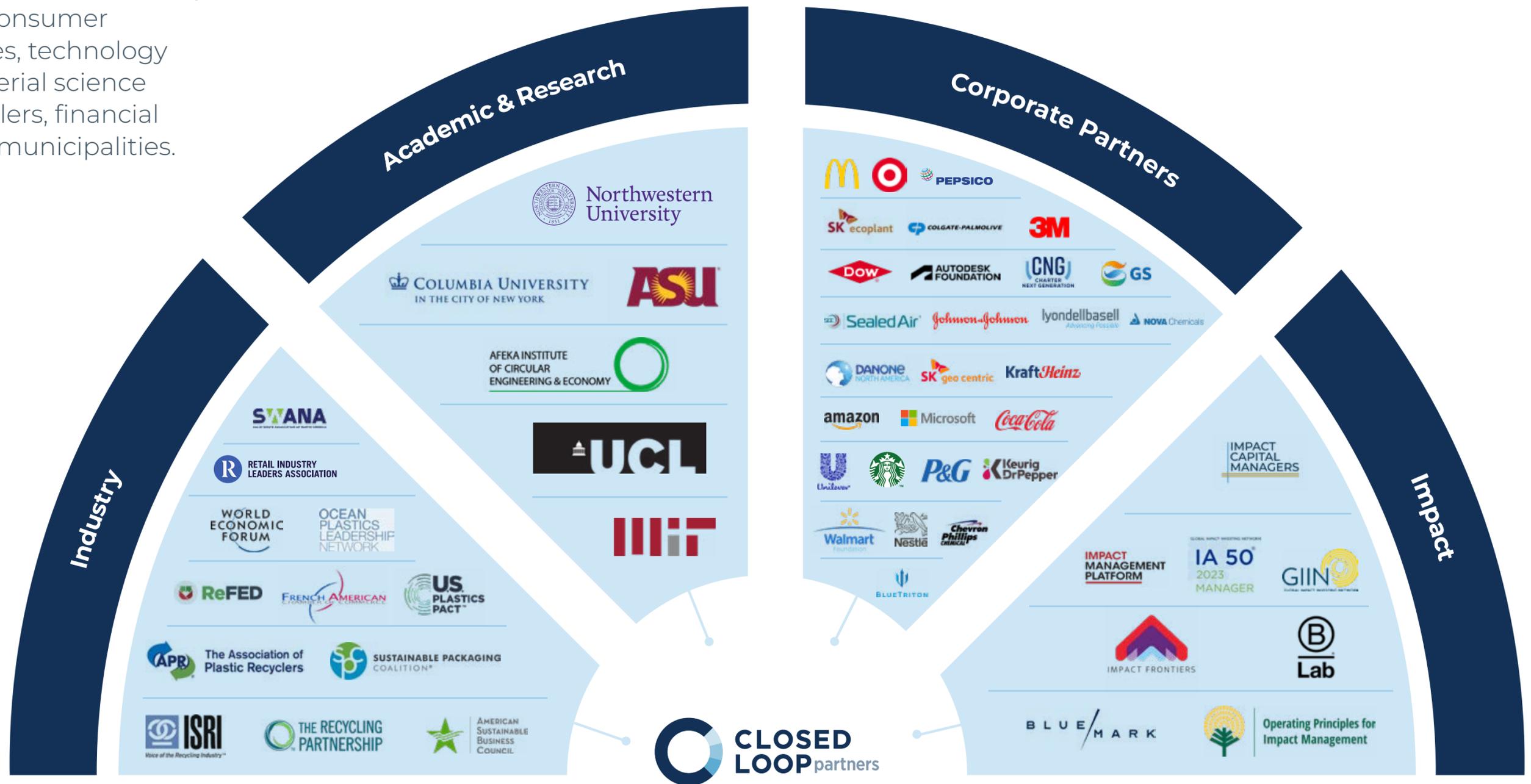
BUILD

Closed Loop Builders

Operating group that incubates, builds and scales circular economy infrastructure and services

OUR ECOSYSTEM OF PARTNERS

Closed Loop Partners has built an expanding ecosystem that connects entrepreneurs, industry experts, global consumer goods companies, technology companies, material science companies, retailers, financial institutions and municipalities.



Note: Logos featured in this graphic are a representative sample of our full ecosystem of partners.

OUR IMPACT OVER 10 YEARS

A decade of work has progressed an economic model focused on a profitable and sustainable future. By reducing dependence on the extraction of finite natural resources, and minimizing waste at end-of-use, we help keep valuable materials in circulation and avoid greenhouse gas emissions.

\$575M+

AUM*
Closed Loop Capital
Management



6M

tons of materials kept
in circulation



17.5M

metric tons of CO₂e
emissions avoided

160+

retailers
participated in
reusable bag in-
market tests

80+

investments made
to date

50+

global corporations
actively engaged
across the firm

**Global
Reach**

with an
operational
focus in the
U.S.

PORTFOLIO
COMPANIES ACROSS
5 CONTINENTS,
10 COUNTRIES, AND
29 U.S. STATES



Through our
portfolio companies
and broader
network, we impact
all 17 UN Sustainable
Development Goals.



Our firmwide
investments
contribute primarily
to SDG 12.

Portfolio companies across our funds
also benefit the following SDGs:



380+

U.S. policies mapped
on packaging, plastic,
organics infrastructure
and reuse

50+

recycling facilities
partnered with
for recovery tests,
capacity expansion
and more

AUM is assets under management, representing capital commitments to all Closed Loop Capital Management investment vehicles as of December 31, 2023. All figures shown are estimated, unaudited and subject to change. Please see important disclosures at the end of the report.

OUR IMPACT MEASUREMENT & MANAGEMENT

As the impact space rapidly changes, we lead with best practices and evolve our systems to be at the forefront of impact management and measurement.

“We are proud to have Closed Loop Partners as a part of our B Corp community since 2017. By powering the transition to the circular economy, they are helping change the status quo, making a significant mark on the world, and using business as a force for positive environmental, social and economic impact.”

BART HOULAHAN, CO-FOUNDER OF B LAB AT B CORPORATION

FOUNDATIONS OF OUR IMPACT STRATEGY

Closed Loop Partners builds our impact framework to lead industry standards. We believe that accountability for positive and potential negative impact relies on increased harmonization and standardization, as well as regulatory support.

STANDARDIZATION

Closed Loop Partners advocates for comparability and accountability across impact investing. We actively partner with organizations that help advance standardization of the measurement, management and reporting of impact outputs. Our processes are aligned with leading industry frameworks.

VERIFICATION

Closed Loop Partners has been through seven external verifications and counting: from internal ESG practices to carbon accounting and alignment to impact principles. At Closed Loop Partners, we are committed to regular, independent verification of the firm’s impact management practices.

TRANSPARENCY

As a signatory of the Impact Principles, we demonstrate our dedication to, and implementation of, a global standard for managing investments for impact via annual, publicly available disclosures. Our IMM playbook is featured in educational materials by the United Nations Development Programme’s SDG Impact¹⁰.



Operating Principles for Impact Management

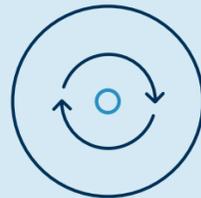


HOW WE DRIVE CHANGE

Our Theory of Change explains how our day-to-day activities as a firm are expected to lead to specific outputs, including materials kept in play and avoided emissions, and to drive greater outcomes, in the form of natural resources preserved and waste minimized. By investing, incubating and building solutions that accelerate the transition to the circular economy, we envision economic prosperity and growth that is decoupled from environmental degradation.



OUR PROGRESS TO DATE ACROSS CORE IMPACT KPIS



6 MILLION TONS

of materials kept in circulation

Materials kept in circulation are

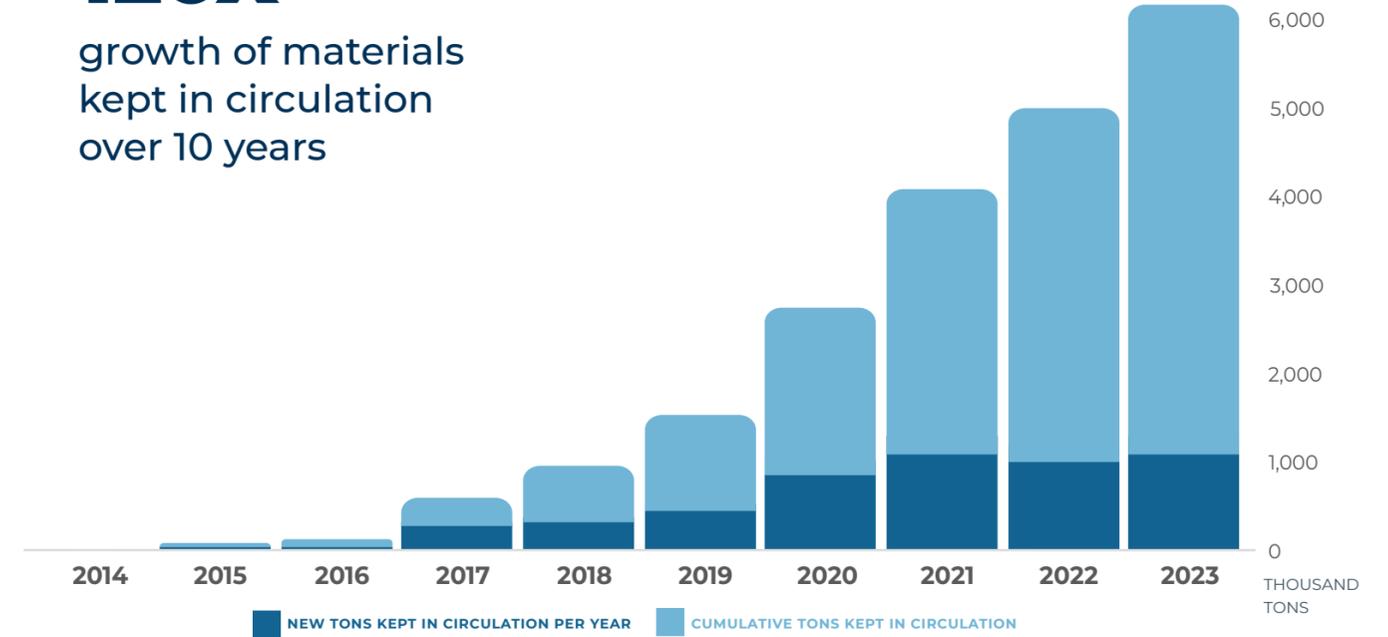
60X

the volume of the Empire State Building



120X

growth of materials kept in circulation over 10 years



17.5 MILLION METRIC TONS

of CO₂e emissions avoided

“Leading impact investors like Closed Loop Partners recognize the importance of adopting and aligning to market standards for impact management and reporting, as well as seeking third-party verification. These activities are key to scaling the impact investing industry with integrity, and we at BlueMark commend the firm for setting an example of what it means to be transparent and accountable for impact.”

CHRISTINA LEIJONHUFVUD, CEO OF BLUEMARK

IMPACT FRAMEWORKS IN PRACTICE

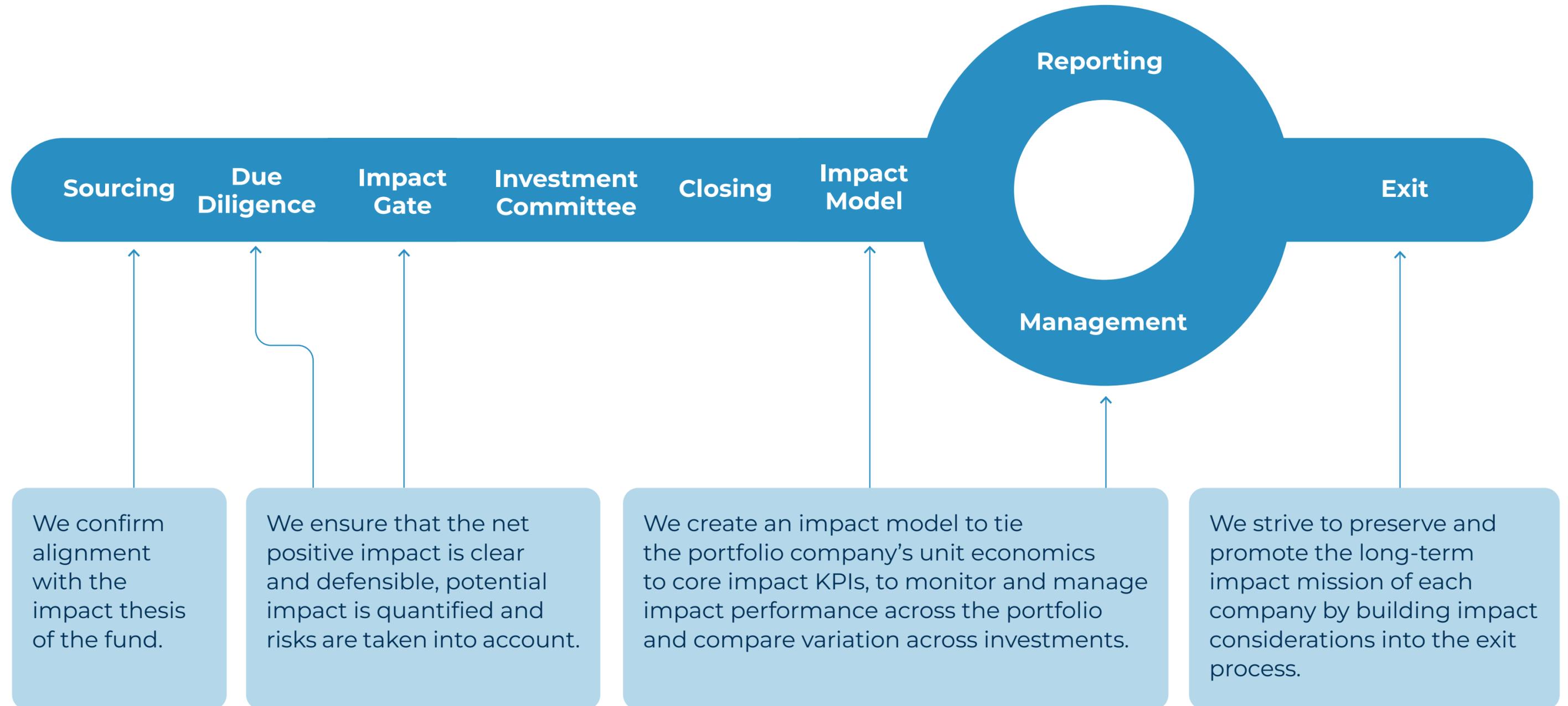
At Closed Loop Partners, we measure and manage our impact across four universal steps, integrating a variety of industry standards and frameworks.



Four universal steps developed by UN Development Programme (UNDP) and Duke University.

HOW WE OPERATIONALIZE

Assessing the impact of pipeline and portfolio companies consists of both one-time activities per deal, and continuous ongoing activities. Impact considerations are integrated into each stage of the investment process, as outlined within steps two and three of the four universal steps framework.



RECOGNITION AND NOMINATIONS

CLOSED LOOP PARTNERS



[Learn More](#)

IA 50 2022 and 2023: Closed Loop Partners was recognized among the 50 most impactful global fund managers with leading impact management processes for two years in a row. This demonstrates the firm's ongoing commitment to generating a positive impact through our work and portfolio.



[Learn More](#)

New Private Markets 2023: Closed Loop Partners was voted Best Impact Firm of the Year (Circular Economy) by New Private Markets. This award recognizes fund managers who are leaders in impact investing, across climate, financial inclusion, real estate, the food system, healthcare, education and the circular economy. This demonstrates the firm's impact, influence and reach achieved in 10 years.



[Learn More](#)

Private Debt Investor's Award 2023: The firm's catalytic capital strategy, the Closed Loop Infrastructure Group, was nominated for Private Debt Investor's 2023 Awards in the Responsible Investor of the Year – Americas category.

SELECT PORTFOLIO COMPANY HIGHLIGHTS



ERI: ERI received Verizon's Sustainable Supplier award and David Hirschler, Chief Sustainability Officer of ERI, was recognized among the 100 most responsible New Yorkers for ERI's work to advance electronics recycling.



MOLG: Rob Lawson-Shanks, Co-founder & CEO of MOLG, was recognized as one of Grist's 50 Fixers for MOLG's work to enable critical mineral recovery through design-for-disassembly and deconstruction for reuse of electronics.



ucrop.it: ucrop.it was named the Overall Challenge Winner of the 2023 THRIVE Global Impact Challenge, and the winner of the Reducing and Offsetting GHG Emissions category for advancing sustainable agriculture practices.



Fillogic: Fillogic was recognized in 2023 in the 2022 Supply & Demand Chain Executive list of Top Tech Startups for their digital solutions that help retailers break down silos and optimize supply chains.

INVESTING IN THE CIRCULAR ECONOMY

Investment catalyzes the circular economy, enabling transformative companies to bring solutions to scale.

CLOSED LOOP CAPITAL MANAGEMENT

Closed Loop Capital Management is Closed Loop Partners' investment arm managing venture capital, buyout private equity and catalytic capital strategies on behalf of global corporations, financial institutions and family offices. Across different strategies, our investment arm accelerates solutions at different points in their growth—from emerging innovations to established businesses.

**VENTURE
CAPITAL**

**BUYOUT
PRIVATE EQUITY**

**CATALYTIC
CAPITAL,
PRIVATE CREDIT**

“Transitioning to a circular economy represents a capital shift of \$4.5 trillion by 2030¹¹, according to research. There are strong tailwinds of consumer demand, cost-savings and resiliency driving the shift away from a linear economy. Closed Loop Partners has the expertise, thought leadership and differentiated execution ability to help capture the opportunity of this shift and drive positive economic, social and environmental outcomes through its investments.”

LYNN BARANSKI, GLOBAL CO-HEAD OF
BLACKROCK PRIVATE EQUITY PARTNERS

VENTURE CAPITAL

ACCELERATING BREAKTHROUGH INNOVATIONS FOR THE CIRCULAR ECONOMY

~\$85 million
assets under management*

39
companies invested in**

5,912
opportunities reviewed since 2017

*Assets under management represent capital commitments as of December 31, 2023.
**Companies invested in as of December 31, 2023.

WHAT'S THE CHALLENGE?

The growth of the circular economy over the last 10 years brought new solutions that are disrupting the status quo, with innovators and founders stepping up to the challenge of transforming legacy systems. But this transformation takes talent, capital and a network of support to move the needle and scale impact.

HOW ARE WE SOLVING IT?

The Closed Loop Ventures Group deploys early-stage capital, partnering with founders and companies who rethink how products are designed, manufactured, consumed and recovered, with the shared vision of reimagining supply chains and eliminating waste. We provide capital, connections to the broader Closed Loop Partners ecosystem, amplification and acceleration of these breakthrough technologies, and support for founders.

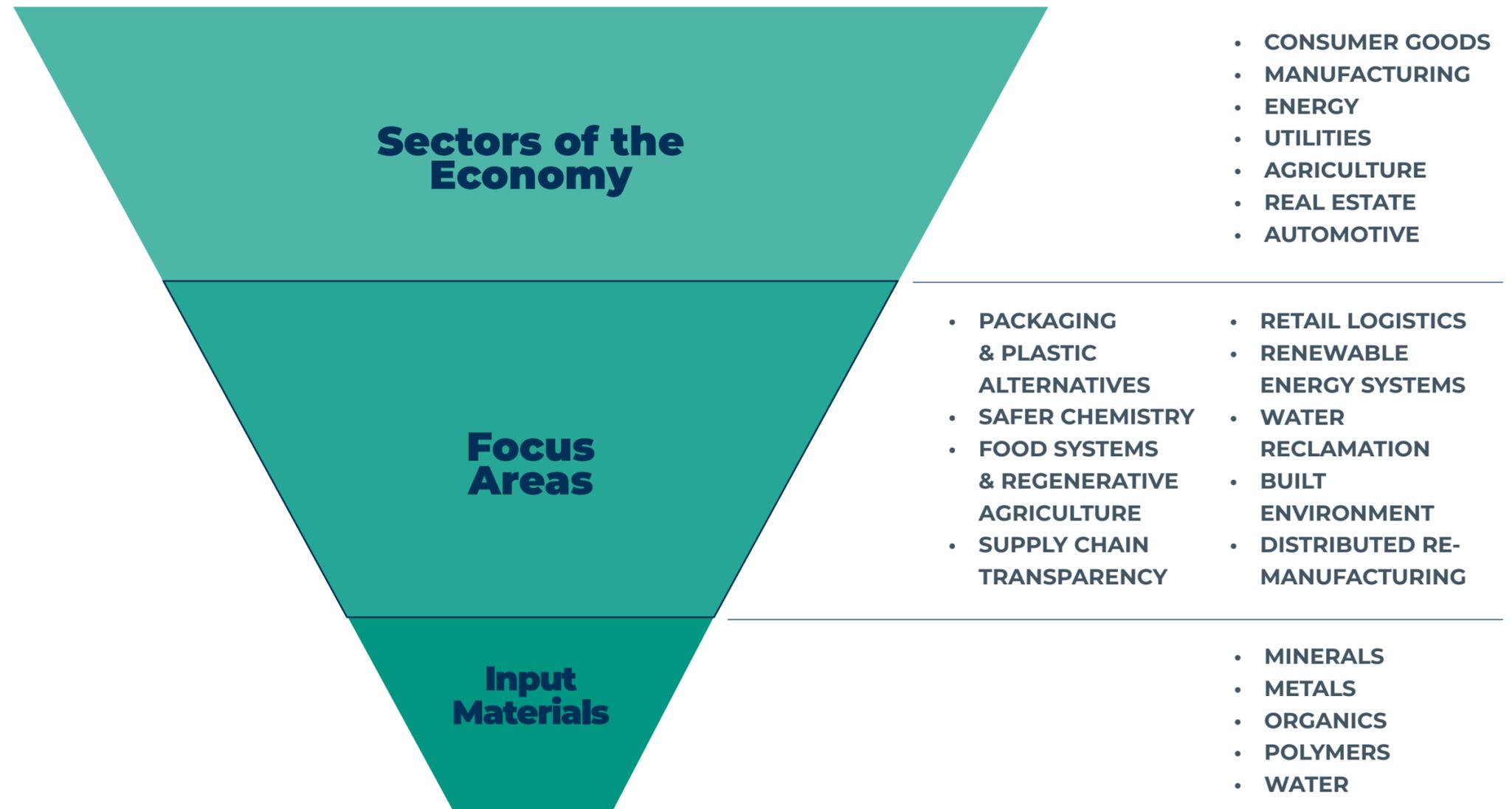


*ABC Categorization Framework by IMP

INVESTING IN CUTTING-EDGE INNOVATIONS THAT ENHANCE RESOURCE EFFICIENCY AND OPTIMIZE SUPPLY CHAINS

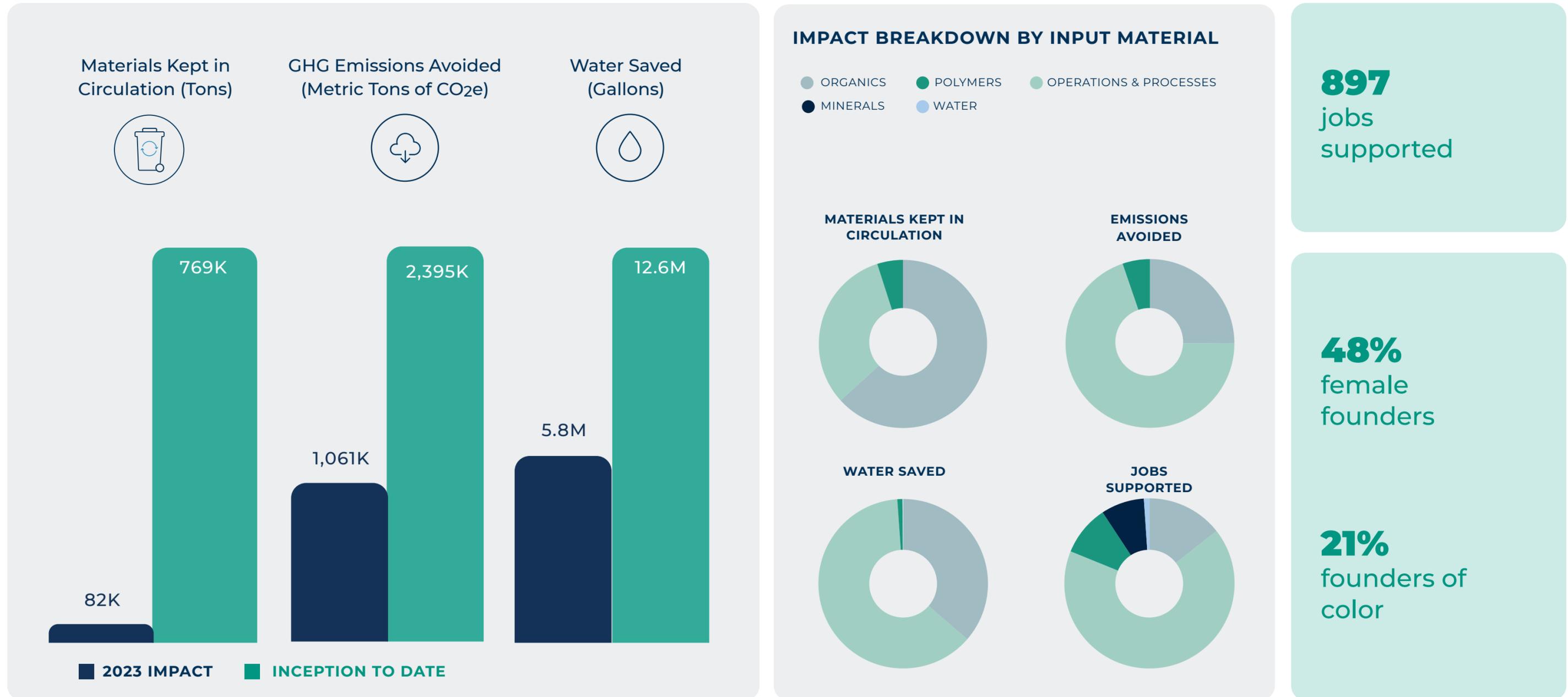
Our investments are strategically focused on advancing the circularity of foundational materials that underpin and significantly influence a wide array of vital sectors of the economy.

By accelerating innovations for these key materials, we can advance the broader transition to circular supply chains in high impact areas, ensuring that valuable resources remain in circulation, and fostering sustainability and resilience across major sectors of the global economy.



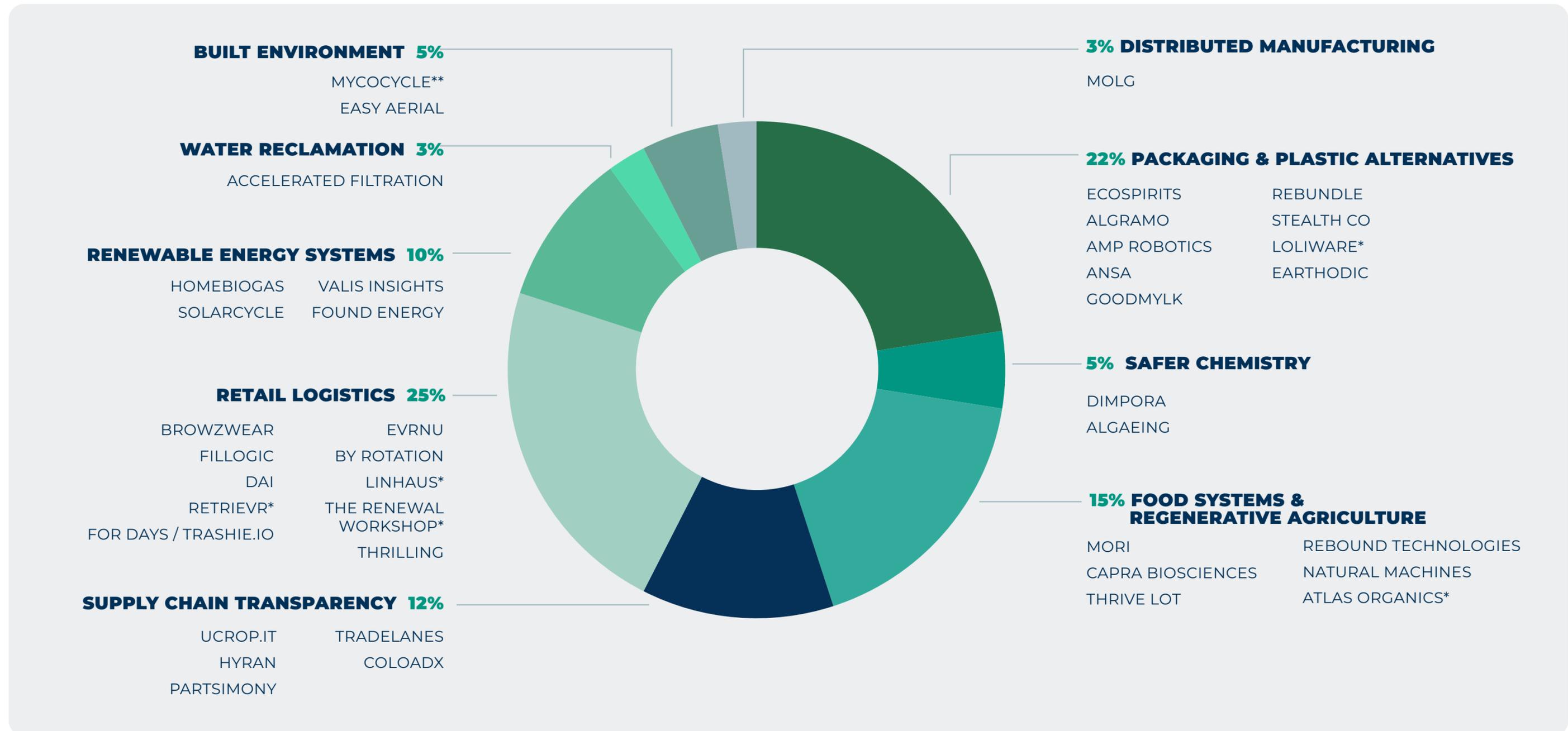
JUMPSTARTING IMPACT THROUGH VENTURE CAPITAL

By investing in circular solutions for materials including organics, minerals, polymers and water, the Closed Loop Ventures Group helps transform materials management, advancing net-positive social and environmental outcomes, while seeking to deliver market-leading financial returns for investors.



INVESTMENTS ACROSS FOCUS AREAS

Advancing systems change and reducing extraction and waste of natural resources requires innovative circular solutions. Recognizing that circularity supports and impacts entire industries, we advance circular solutions and processes for all sectors of the economy.



*Not in portfolio as of YE 2023.
 **Invested in portfolio after 12/31/2023.

ACCELERATED FILTRATION

Advancing a Waste-Free Water Management System

With world populations expected to exceed 9 billion by 2040, both urban and industrial demand for water will grow amidst increasing scarcity of clean water and increasing costs of waste water disposal. Technology developments in water processing are needed to enable resilient and robust global water management.

Accelerated Filtration has developed a novel and patented system for removing and concentrating suspended contaminants from high volume water streams without the need for disposable filters, chemicals or significant energy. Most commercial water filtration systems today handling high organic content suffer from clogging and significant labor and waste due to process inefficiencies and poor design. Accelerated Filtration's elegant suspended solids management system helps industries, including food processing and agriculture, recycle and reuse more of their processed water, keeping more valuable water in circulation.

WHAT THEY DO

- Process water streams that are much more heavily loaded with solids—particularly fats, oils & greases—than conventional technology
- Enable higher rates of water conservation at lower cost



WHAT THEY UNLOCK

- Increased gallons of water processed, recovered and reused



HOW THEY ADVANCE CIRCULARITY

- Enables more water reuse and lower discharge of contaminated water into the environment
- Reduces the quantity of plastic filter bags that are landfilled

2023 HIGHLIGHT: INCREASING MANUFACTURING CAPACITY

In 2023, Accelerated Filtration increased their quality assurance and manufacturing capacity for their water filtration system—now operating at a production rate of five units per month. This, on top of their initial sales and customer installations, sets up the company for further growth in 2024. Moving forward, they will continue their work to make unusable water usable.

19% of global water use is associated with industrial consumption, exerting pressure on freshwater resources

6 water filtration units in operation

7 trials completed, 5 more currently in progress

VALIS INSIGHTS

Forging a Sustainable Future in Metal Recycling

Used metals are dramatically under-recovered in the U.S. Recycling rates for many metals lag below 60%, despite the high resale value of these materials. According to the EPA, around 7% of all municipal solid waste landfilled in 2018 was from steel—equivalent to 10.5 million tons.

VALIS Insights created an AI-powered software solution that improves the sorting process of mixed metals and allows domestic processors to maximize the resale value of their outputs. By providing insights on material and processing trends, they optimize sortation to recover the most valuable metals. As a result, processors can command higher prices for higher quality outputs and keep more metals in circulation.

WHAT THEY DO

- Track material volumes, quality trends, informing what to sort and when
- Incorporate live data from sorting systems already in use today
- Optimize decision making for procurement, processing and selling of recovered metal



WHAT THEY UNLOCK

- Increased tons of metals processed
- Increased tons of metals recovered in single streams
- Increased tons of virgin-extracted minerals displaced by recovered alternatives



HOW THEY ADVANCE CIRCULARITY

- Moves the industry away from exporting mixed metals overseas
- Increases metal streams that can be kept in local circulation
- Reduces emissions linked to material transportation and re-smelting

2023 HIGHLIGHT: GAINING MOMENTUM WITH PARTNERSHIPS, FUNDING & INDUSTRY RECOGNITION

In 2023, VALIS collaborated with Radius Recycling (formerly Schnitzer Steel Industries) to advance a pilot of their flagship VALI-Sort product with one of the largest scrap processors in the country. They also secured funding grants from the Department of Energy and the Environmental Protection Agency, supporting continued growth as they onboard new customers. Co-founders, Emily Molstad and Caleb Ralphs, were also named to the Forbes 30 Under 30 list for Industry & Manufacturing.

<60%
recycling rates for non-ferrous and ferrous metals in the U.S.

28%
of ferrous metals recycled in 2018

53%
U.S. aluminum consumption that could have been met through scrap (tons of scrap aluminum exported over tons of aluminum consumed in 2023)

MOLG

Circular Manufacturing Solutions Through Robotics & Design

With the renewable energy transition underway, there is a growing need to create more sustainable domestic sourcing channels for the critical minerals needed to support domestic manufacturing. A large part of this is recovering critical minerals that are already in circulation—embedded in the electronics in use today.

MOLG enables circular manufacturing using robotics and design software to ensure that one product's end is another's new beginning. Founded in 2021 and headquartered in Reston, VA, MOLG is commercializing solutions to enable design-for-disassembly and recover valuable materials from electronics—with their first commercial solution in the server disassembly space.

WHAT THEY DO

- Partner with IT Asset & Disposition (ITAD) companies to deploy microfactories that enable rapid, robotic disassembly of servers and other electronic products
- Work with original equipment and electronics manufacturers to embed disassembly into their products from the outset



WHAT THEY UNLOCK

- Increased number of servers processed/de-constructed
- Increased number of dual in-line memory modules recovered
- Increased speed of de-manufacturing servers compared to manual disassembly used today



HOW THEY ADVANCE CIRCULARITY

- Accelerates and promotes recovery and repair
- Shifts end-of-life options for electronics from shredding to reuse
- Minimizes the need for virgin materials by recovering components from existing products

2023 HIGHLIGHT: SCALING MICROFACTORY SOLUTIONS

In 2023, the MOLG team scaled their microfactory solution in partnership with Sims Lifecycle Services, with a full partnership launch announced in February 2024. The team looks to continue scaling with Sims and other new commercial partners in 2024.

180 seconds

processing speed to disassemble computers

300 seconds

processing speed to disassemble servers

100 million

servers estimated to be processed and recovered over the next 5 years

TRASHIE.IO FOR DAYS

Creating Circular Pathways for Textiles

New supply chain pressures, changing consumer values, technological developments and regulatory forces are transforming the landscape of the fashion industry. At every stage of the fashion supply chain, there are opportunities to reimagine how we make, sell and consume products.

For Days is advancing a new circular system for fashion through their new business, Trashie.io. The business is centered on their Take Back Bag, which consumers can purchase and fill with unwanted, clean textiles. Customers earn TrashieCash for recycling responsibly and are then connected to deals at their favorite retailers. Once consumers send back the Take Back Bag, Trashie.io sorts the collected textiles and connects them to available recovery pathways, helping keep 90% of collections out of landfill.

WHAT THEY DO

- Sort returned clothing to find the best recovery pathway
- Enable reuse of higher-grade items and downcycle lower-grade items
- Convert fibers to industrial rags, insulation, carpet padding and more



WHAT THEY UNLOCK

- Increased collection of used textiles
- Increased diversion of clothing items from landfill
- Avoided greenhouse gas emissions by reducing textile waste and avoiding the need for production of new materials
- Saved millions of gallons of water by avoiding the need for production of new materials



HOW THEY ADVANCE CIRCULARITY

- Bolsters collection and sortation infrastructure for textiles
- Feeds advanced textile recycling technologies that require clean feedstock streams

2023 HIGHLIGHT: LAUNCHING NEW PLATFORMS

Launching Trashie.io was a major milestone for For Days. Since Closed Loop Ventures Group first invested in the company, we saw their potential as an enabling service to help other brands convert to more circular operations. Trashie.io is this B2B platform and vision realized.

2.8 million
pounds of textiles collected

32 million
pounds of CO₂e emissions avoided

340 million
gallons of water saved

BUYOUT PRIVATE EQUITY

ACQUIRING AND GROWING PLATFORMS THAT SCALE CIRCULAR PRODUCTION

~\$200 million
assets under management*

6
investments completed to date

Buy and Build Strategy

plastics & packaging
circular technology
built environment
organics
textiles
energy transition
supply chain solutions

*Assets under management represent capital commitments as of December 31, 2023.

WHAT'S THE CHALLENGE?

The demand for sustainable supply chains is accelerating as companies and cities advance toward their zero waste and climate resiliency commitments. There is a growing need for robust technologies and platforms that can support the transition to a circular economy.

HOW ARE WE SOLVING IT?

The Closed Loop Leadership Group captures this market opportunity by identifying solutions, originating innovative opportunities, and building & scaling platforms and enabling technologies across plastics & packaging, organics, circular technology and textiles to develop, accelerate and modernize circular supply chains and recycling & reuse infrastructure.



*ABC Categorization Framework by IMP

STRENGTHENING IMPACT THROUGH BUYOUT PRIVATE EQUITY

By infusing capital into and partnering with groundbreaking businesses that are transforming supply chains, the Closed Loop Leadership Group is driving scale and making circularity mainstream, setting the foundation for systems that support a waste-free future.



SAGE

Giving Electronics Another Life

Most electronics today are disposed of after a single use—sending valuable materials to landfills and creating the need to manufacture more devices to meet growing demand. An overlooked source of climate risk is the emissions associated with creating a new product. Today, companies are demanding a more secure and responsible way to manage IT assets at the end of their first use.

Sage Sustainable Electronics' IT Asset Disposition (ITAD) services safely and securely refurbish used IT assets for another life. Through data destruction, testing and device refurbishment, Sage extends the useful life and increases the recovery value of IT assets for enterprises.

WHAT THEY DO

- Securely refurbish or recycle IT assets
- Resell or redeploy devices into the marketplace
- Recycle or shred only as a last resort



WHAT THEY UNLOCK

- Increased carbon savings
- More secure production and higher yields of like-new refurbished devices
- Maximized value of these devices in the marketplace



HOW THEY ADVANCE CIRCULARITY

- Increases reuse of IT assets
- Reduces virgin material extraction and GHG emissions associated with manufacturing new IT assets
- Reduces landfilling of toxic and hazardous materials

2023 HIGHLIGHT: JOINING FORCES FOR CIRCULARITY

Closed Loop Partners acquired a majority stake in Sage, marking a significant step towards advancing the circular economy within the ITAD industry. Today, Sage's clients include Fortune 100 companies across various industries, including finance, healthcare and defense. With Closed Loop Partners, Sage will have access to additional resources, a deep ecosystem of companies advancing the circular economy, and expertise to further enhance its services and expand its reach. **“First of all, they truly share our commitment to sustainability and reuse. That, of course, is always first on our list. But secondly, this partnership enables us to further expand our reach and increase our impact,”** said Sage CEO Bob Houghton, who co-founded Sage in 2014 alongside Jill Vaské.

600,000+
devices processed annually

Over 53%
of processed devices refurbished
and reused

APKUDO

Increasing Transparency, Decreasing Waste

E-waste is the fastest growing waste stream today, yet only 9.4% of e-waste is recycled in the Americas¹². A fragmented ecosystem, inefficient reverse logistics processes, manual device diagnostics and processing, and lack of transparency around quality means most electronics are not kept in circulation.

Apkudo's Software as a Service (SaaS) and robotics solutions manage the entire lifecycle of connected devices via a single operating system, from launch to end of life. By connecting the supply chain and increasing transparency, Apkudo increases the number of electronics kept in circulation.

WHAT THEY DO

- Use automation as a control mechanism with the flexibility to scale capacity up and down
- Use robotics to seamlessly capture data for use along the lifecycle of a device
- Strengthen quality assurance and testing of connected devices



WHAT THEY UNLOCK

- Greater speed as a competitive advantage to move devices faster into and out of facilities
- Greater transparency of device inventory and supply chain
- Improved decision making and pricing for devices
- Decreased sale of defective devices and the need for returns



HOW THEY ADVANCE CIRCULARITY

- Increases reuse, repair, refurbishment and resale of devices
- Reduces landfilling of used devices and spare parts that are usable in other devices
- Connects ecosystem of supply chain participants through transparent data sharing

2023 HIGHLIGHT: EXTENDING INDUSTRY PARTNERSHIPS

In addition to existing partners, FedEx, T-Mobile and Asurion, Apkudo continues to grow its ecosystem and now operates scaled automation on three continents with the addition of Basatne in the Middle East and Likewize in Europe.

5,000+
tons of electronics kept in
circulation

950,000+
metric tons of CO₂e emissions
avoided

CATALYTIC CAPITAL, PRIVATE CREDIT

CATALYZING CAPITAL INTO THE CIRCULAR ECONOMY

\$225+ million assets under management*

48 projects invested in to date

including **10** follow-on investments

297 impact-first investments reviewed in 2023

*Assets under management represent capital commitments as of December 31, 2023.

WHAT'S THE CHALLENGE?

Most capital today is still allocated to the linear “take-make-waste” economy that relies on the extraction and disposal of finite resources. This finance model is based on short-term financial objectives and investments that don’t take negative externalities or climate risks into account. Traditional capital also lacks the risk tolerance needed for new solutions, especially those that are capital-intensive and have yet to identify a path to scale. As a result, many circular solutions that need the most funding—including materials recovery facilities (MRFs), recycling technologies, novel business models or municipalities developing recycling infrastructure and services—are still underfunded.

HOW ARE WE SOLVING IT?

The Closed Loop Infrastructure Group provides flexible and risk-tolerant capital to support private companies, organizations and municipalities to launch or develop projects, ultimately aiming to attract further investment and meet the criteria of driving net positive environmental and social outcomes. We invest across collection, sortation, processing, end manufacturing and enabling technology projects that enhance the recovery and value of different recycled materials, resulting in the demand pull-through needed to improve the quality and quantity of materials kept in circulation across North America.



HOW WE ALIGN WITH THE UN SUSTAINABLE DEVELOPMENT GOALS

CONTRIBUTES TO SOLUTIONS

ACTS TO AVOID HARM







BENEFITS STAKEHOLDERS




*ABC Categorization Framework by IMP

OUR STRATEGIES TO STRENGTHEN CIRCULAR ECONOMY INFRASTRUCTURE

The Closed Loop Infrastructure Group invests across four key strategies that complement and operate alongside each other to bridge existing financing gaps and scale circular economy infrastructure across North America.



INFRASTRUCTURE

We finance scalable and sustainable **recycling infrastructure projects, equipment and new technologies across the collection, sortation and processing stages of the recycling value chain**, supporting equitable access to recycling for more communities. Our team focuses on the development of end markets at each stage and finances end manufacturing facilities across the U.S.



BEVERAGE

In partnership with the American Beverage Association's Every Bottle Back Initiative, we make targeted investments to improve the **collection, sortation and processing infrastructure for the industry's valuable PET plastic bottles**, so they can be made into new bottles.



CIRCULAR PLASTICS

We deploy debt and equity financing into **circular economy technologies, companies and projects to advance the recovery of polyethylene and polypropylene plastics**, targeting investable opportunities across the value chain.



LOCAL RECYCLING

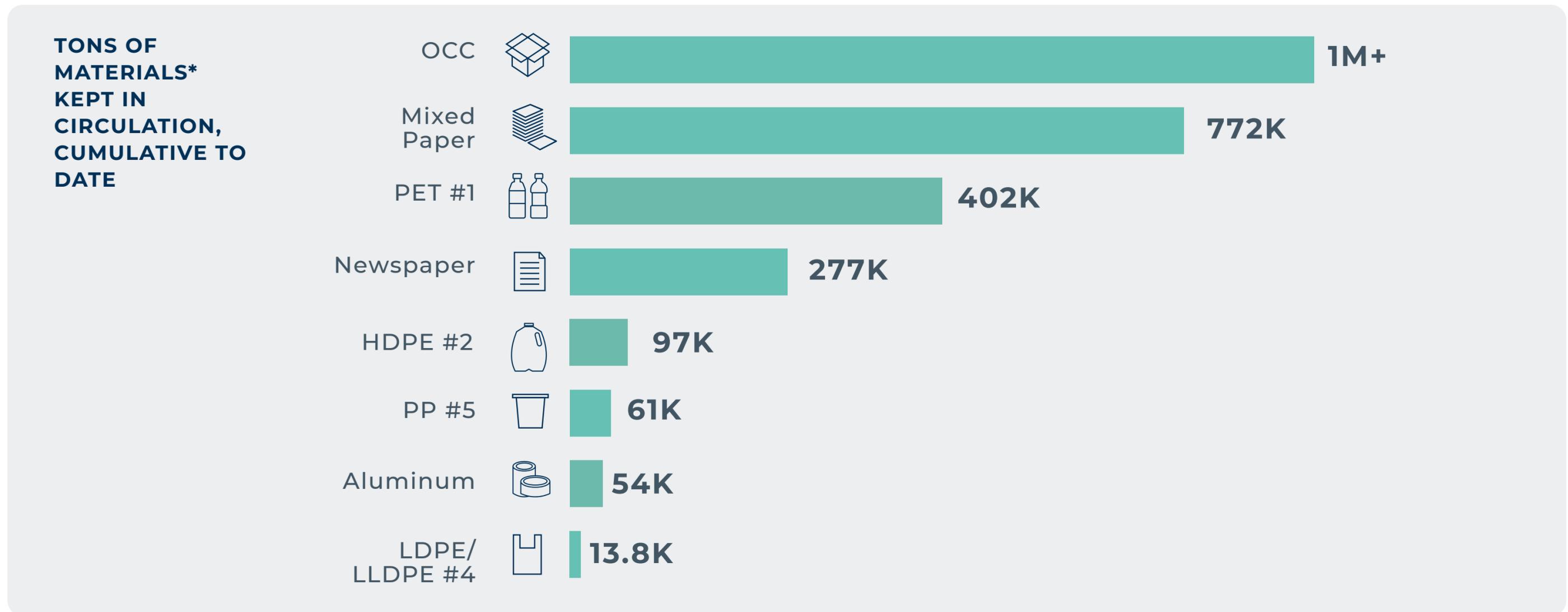
In partnership with PepsiCo Beverages North America, we invest in **new local recycling systems and technologies** to improve recycling access for more communities across the U.S., with a focus on geographies that are currently underserved.

ACCELERATING IMPACT THROUGH CATALYTIC CAPITAL

By deploying catalytic capital, which seeks to accelerate and de-risk the development of high-impact projects and companies, the Infrastructure Group bolsters infrastructure that supports a circular economy.



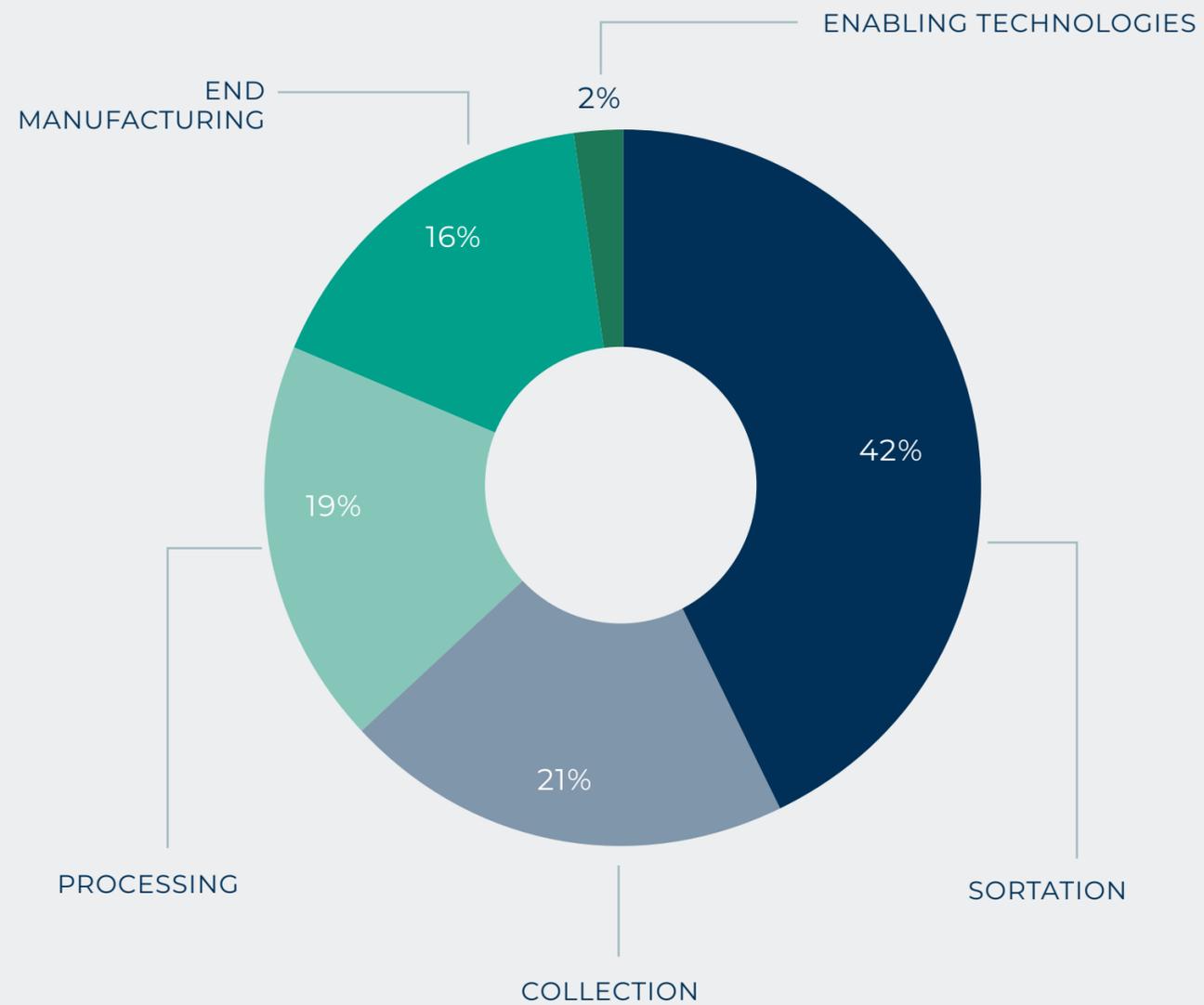
TONS OF MATERIALS KEPT IN CIRCULATION BY MATERIAL TYPE, CUMULATIVE TO DATE



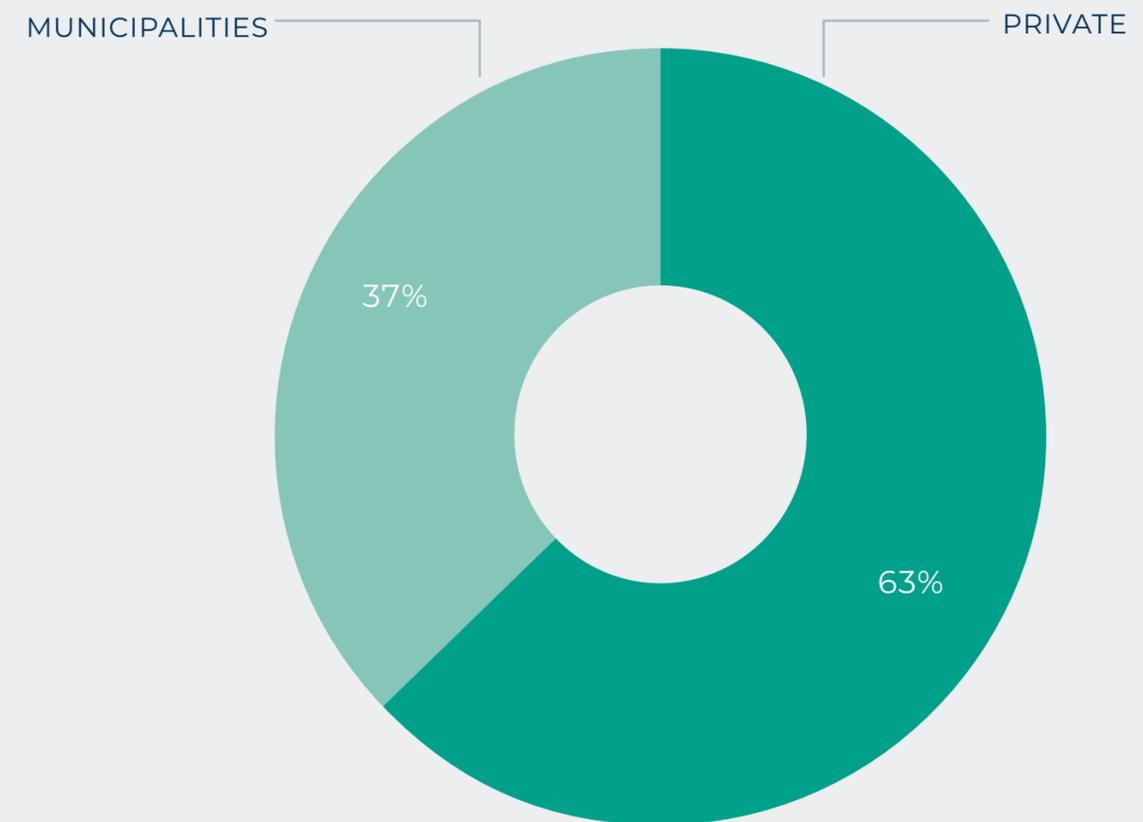
*Including but not limited to materials listed here.

PORTFOLIO SNAPSHOT

PORTFOLIO BREAKDOWN BY PROCESS WITHIN THE VALUE CHAIN, BASED ON THE NUMBER OF PROJECTS

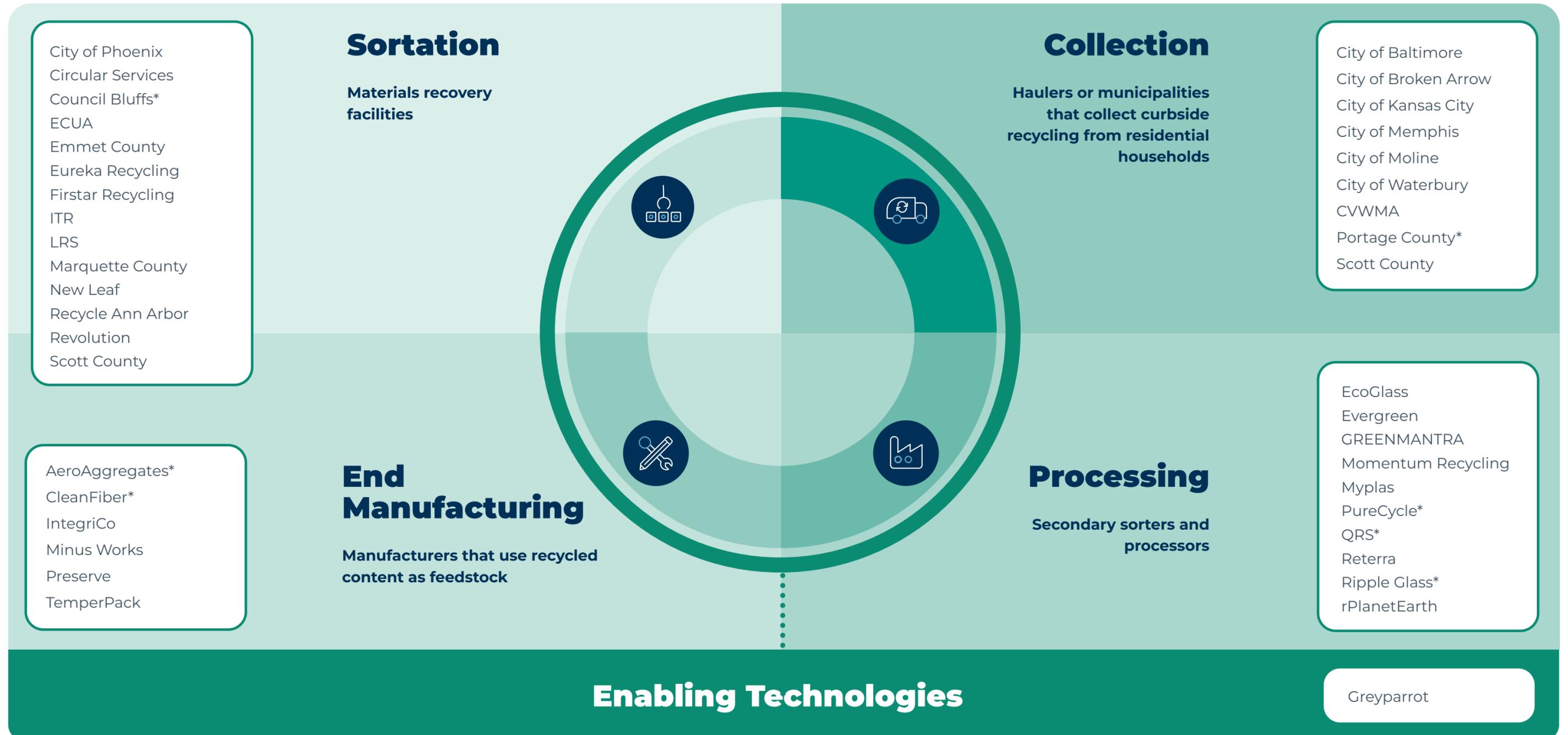


CAPITAL INVESTED TO DATE



INVESTMENTS ACROSS THE RECYCLING VALUE CHAIN

We invest across the entire circular value chain to strengthen the overall system, catalyze investments and scale impact outcomes.



*Closed Loop Partners is no longer an investor or lender

WASTE COMMISSION OF SCOTT COUNTY

Keeping the County Clean

To keep more materials in circulation, recovery infrastructure must have sufficient capacity and the technological capabilities to do so efficiently and economically. Upgrades for materials recovery facilities are critical to increasing tonnage processed and diverting more waste from landfill and into efficient recycling systems.

Founded in 1972, the Waste Commission of Scott County ("WCSC") is a public service authority responsible for the management of the waste disposal stream of Scott County, Iowa—the third largest county in Iowa. WCSC serves over 25 counties in Iowa and Illinois and over 185,000 total households. WCSC's relationship with Closed Loop Partners began nearly 10 years ago, when the Commission was first looking to finance upgrades to their recycling services. The success of our first loan resulted in multiple follow-on loans over the years, accelerating improvements in recycling access and operational capabilities, while supporting their mission to keep more materials in circulation.

WHAT THEY DO

- Collect recyclable materials from thousands of households
- Operate a residential recycling facility, a household hazardous waste facility, an electronics recovery center
- Educate the County's residents in proper waste management practices
- Invest in upgrades to recycling technology and capacity



WHAT THEY UNLOCK

- Improved capture of valuable recyclable material
- Increased sortation of valuable materials for recycling
- Increased revenue for WCSC and participating municipalities



HOW THEY ADVANCE CIRCULARITY

- Increases supply of recycled materials kept in circulation
- Reduces dependence on landfills and extraction

2023 HIGHLIGHT: GROWING INFRASTRUCTURE AND A GROWING TEAM

With the most recent funding from the Closed Loop Infrastructure Group, WCSC purchased and began the installation of four optical sorters, which make significant efficiency improvements to the sorting and processing of materials in their recycling facility. As the facility grows, their team is evolving as well, with a new Director, Bryce Stalcup, leading the Commission into its next phase of growth.

400+ new tons of HDPE and PP expected captured

~2,000 tons or 5% expected increase in inbound sortation capacity per year, while increasing volume of materials accurately processed by 600 tons

300+ net new tons of expected PET capture

GREYPARROT

Enabling Smarter Materials Management

In recycling facilities across the U.S., materials move through hands and machines working hard to get them to the end of the line—and the beginning of their next life. A balance of manual labor and automation enables the sorting and recovery of these materials in a closed loop system. Yet despite a multi-step sortation process, it is difficult to track what flows through the system at all times. This lack of visibility, digitization and automation results in many recycled materials losing potential value, in addition to millions of dollars' worth of valuable material being sent to landfill unintentionally.

Founded in 2019, Greyparrot is a leading AI waste analytics platform for the circular economy, working to apply AI to globally scale recycling and reduce materials going to landfill. Through their AI-powered 'Analyzer' units, the company provides deeper, more intelligent insights about material composition streams to maximize the efficiency of the sorting process and reduce the environmental impact of materials being sent to landfills. The Closed Loop Infrastructure Group participated in the company's Series A equity raise in 2022.

WHAT THEY DO

- Provide AI-enabled cameras to be placed throughout sortation facilities
- Track, in real time, materials moving along a belt
- Recognize how much valuable material ends up in the residue stream to determine how operations can be optimized and how materials can be re-run
- Enable further automation by providing API integrations that connect data to sortation equipment



WHAT THEY UNLOCK

- Improved data that allows sortation facilities to optimize operations
- Increased capture of more high-quality material
- Provides plant managers with full control over the sorting process



HOW THEY ADVANCE CIRCULARITY

- Increases capture rates of valuable materials thus keeping materials in play and reducing landfilling

2023 HIGHLIGHTS: COLLABORATING ACROSS THE ECOSYSTEM

In 2023, Greyparrot was selected by Closed Loop Partners' Center for the Circular Economy and its NextGen Consortium to track and categorize objects in the polypropylene stream and determine the volume of valuable food-grade material passing through the system. That insight can help determine the potential untapped value in these streams, including food-grade material, along with opportunities for recovery and separation into distinct value chains.

Currently, the company is able to provide insights on more than 89 waste categories and seven layers of data, including financial value, brand data and GHG emissions.

25+ billion
objects analyzed in 2023

100+
Analyzers deployed

19
countries with Analyzers deployed

GREENMANTRA

Increasing Resource Circularity for New Sectors

Innovative molecular recycling technologies are being recognized for their ability to expand the scope of what we can recycle, processing a wider set of plastic waste feedstock into like-new materials without compromising quality or being downcycled. Additionally, they have the potential to upcycle waste feedstocks into materials suitable for new markets that were not previously open to using recycled plastic, thereby incentivizing collection and diversion from landfill.

GREENMANTRA Technologies (“GREENMANTRA”) uses a proprietary thermo-catalytic process to transform used plastics, such as polypropylene and polyethylene, into high-value specialty polymers and industrial waxes that are used in industries such as building and construction. The Closed Loop Infrastructure Group provided a multi-million-dollar catalytic loan to GREENMANTRA in 2017 to fund equipment that would increase their annual processing capacity.

WHAT THEY DO

- Upcycle polyethylene and polypropylene waste into high-value specialty polymers and industrial waxes



WHAT THEY UNLOCK

- Increased diversion of plastics from landfills and the environment
- Increased high-value, sustainable materials to support the construction industry, among others



HOW THEY ADVANCE CIRCULARITY

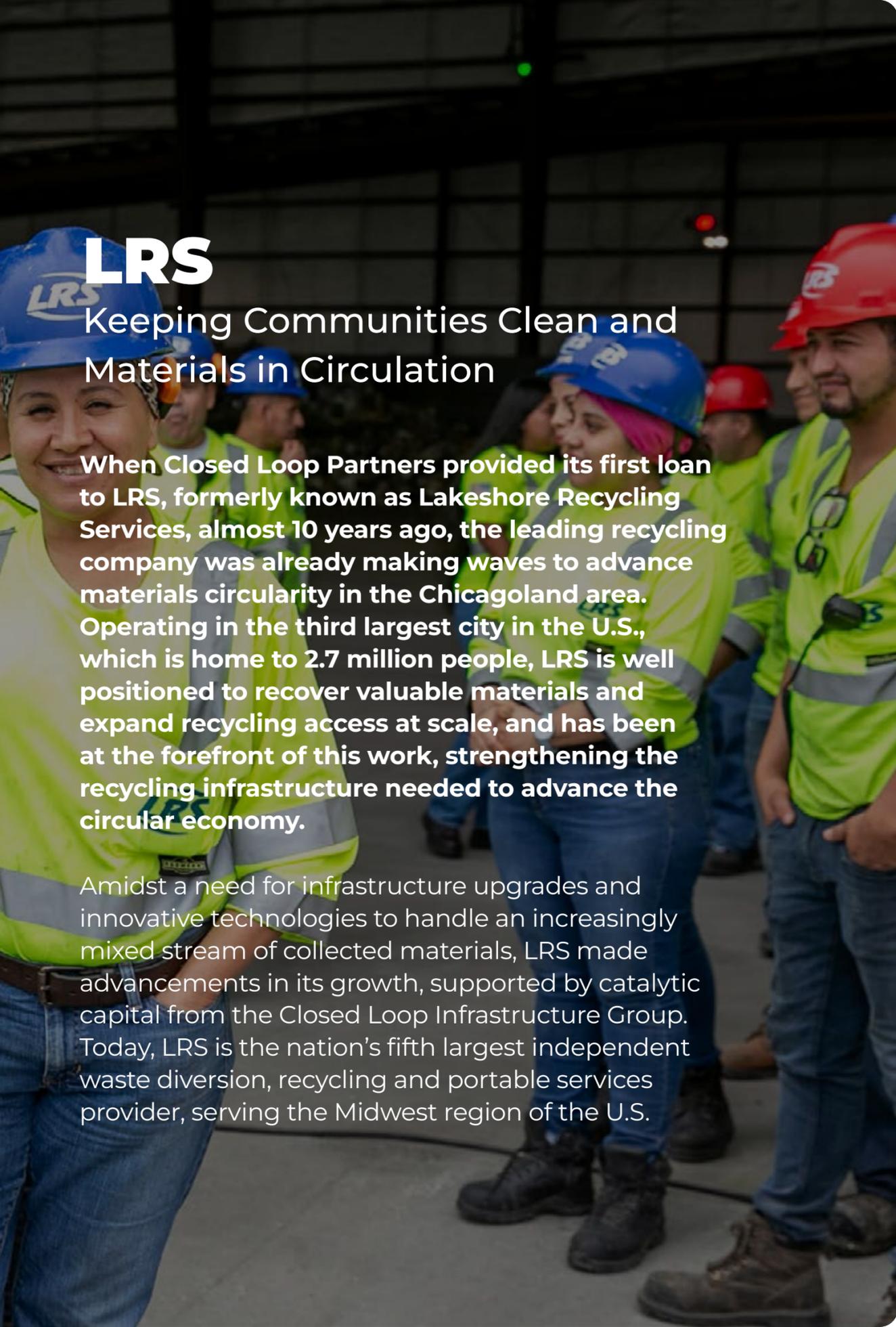
- Keeps valuable materials in circulation, diverting plastics away from landfill or incineration
- Displaces virgin polymers, reducing the extraction of fossil resources and reducing carbon emissions

2023 HIGHLIGHTS: GROWING CAPABILITIES, GROWING MARKET

GREENMANTRA had a strong year in 2023, exceeding their financial targets, extending the agreement with their biggest customer, and bringing on new customers in the building and construction market. They also purchased new lab equipment that improves their in-house analytical capabilities and identified new target markets for their upcycled specialty polymers.

They voluntarily conducted an Environmental Production Declaration, the European standard of transparently communicating the environmental performance of a product.

50+ million
pounds of plastic waste
diverted from landfills to date



LRS

Keeping Communities Clean and Materials in Circulation

When Closed Loop Partners provided its first loan to LRS, formerly known as Lakeshore Recycling Services, almost 10 years ago, the leading recycling company was already making waves to advance materials circularity in the Chicagoland area. Operating in the third largest city in the U.S., which is home to 2.7 million people, LRS is well positioned to recover valuable materials and expand recycling access at scale, and has been at the forefront of this work, strengthening the recycling infrastructure needed to advance the circular economy.

Amidst a need for infrastructure upgrades and innovative technologies to handle an increasingly mixed stream of collected materials, LRS made advancements in its growth, supported by catalytic capital from the Closed Loop Infrastructure Group. Today, LRS is the nation's fifth largest independent waste diversion, recycling and portable services provider, serving the Midwest region of the U.S.

WHAT THEY DO

- Provide residential recycling services, including hauling / collection and sortation
- Offer affordable roll-off container services, construction & demolition recycling, portable restroom rentals
- Employ technology across the MRFs with a mission to divert materials from landfill



WHAT THEY UNLOCK

- More efficient materials sortation and recovery
- Increased recycling access for more communities
- Reduced labor risks at the facilities, and more new jobs to manage new equipment—increasing job quality and safety



HOW THEY ADVANCE CIRCULARITY

- Keeps valuable materials in circulation, diverting away from landfill or incineration
- Establishes more robust circular systems in the region

2023 HIGHLIGHT: NEW FACILITY EXPANSION

In 2023, LRS, the largest recycling company in the Chicagoland area, reached another pivotal moment of growth: the launch of the Exchange, a newly constructed MRF in Chicago. The state-of-the-art MRF is now operational and expected to divert 224 million pounds of recycled material per year. It will house cutting-edge system components, including new AI-powered equipment and other technologies to advance efficient materials sortation and recovery in the Chicagoland area.

70
facilities owned and operated

~2,300
full-time employees

INNOVATING FOR THE CIRCULAR ECONOMY

Innovation pushes the boundaries of what is possible, unlocking fresh perspectives to design new ways of operating. Creativity breaks through the limitations of linear systems and shapes the future of how consumers shop and how cities function, creating massive shifts that will advance consumer and brand value.

CENTER FOR THE CIRCULAR ECONOMY

The Center for the Circular Economy drives collaborative partnerships and groundbreaking insights to tackle the toughest material challenges and accelerate a more circular economy.

PRE-COMPETITIVE COLLABORATIONS

INSIGHTS & ANALYTICS

ADVISORY SERVICES

SELECT HIGHLIGHTS OF WORK & IMPACT OVER 10 YEARS

160+ retailers participating in city-wide pilots to bring your own bag

450+ innovations sourced by the global Beyond the Bag Challenge

380+ U.S. policies mapped on packaging, plastic, organics infrastructure and reuse

Largest disintegration study in U.S. history evaluating the breakdown of compostable packaging in compost piles



\$1.7M deployed to infrastructure to boost packaging recovery

THE CENTER'S APPROACH TO CREATING TANGIBLE IMPACT

Systems change requires a suite of solutions working alongside each other to mitigate unintended consequences and scale impact. Across different industries—from plastics and packaging to organics, electronics, textiles, the built environment and more—our impact has extended across:



Convening Diverse Stakeholders

We convene stakeholders across the value chain—from design to end-of-life recovery, and everything in between.



Driving Results Through Experimentation

We roll up our sleeves, testing in-field and in-market to validate assumptions and enable our partners to operationalize at-scale impact.



Targeting Areas of Influence

We connect the building blocks of the circular economy, leveraging our broad ecosystem and areas of expertise.



OUR WORK IN PRACTICE

We take a holistic approach to innovating, testing and scaling the circular solutions of the future, connecting upstream innovation to downstream recovery infrastructure and end markets. Our work to date has advanced circularity for iconic products ranging from the shopping bag to the coffee cup—and lays the foundation for innovative solutions across more industries and materials.



ACCELERATING CIRCULAR FOODSERVICE PACKAGING

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. By advancing innovative material solutions and scalable reuse models, while unlocking infrastructure pathways for recovery, we look to identify, accelerate and scale commercially viable and circular cup solutions.

Launched in 2018, the NextGen Consortium is a multi-year consortium that addresses single-use foodservice packaging waste by advancing the design, commercialization and recovery of sustainable foodservice packaging alternatives. The Consortium brings leading brands, industry experts and innovators together to reimagine foodservice packaging, open access to recycling and accelerate sustainable and circular solutions to reduce waste on a global scale. Today, the Consortium works to redesign the single-use cup so that it's widely recyclable, compostable or reusable.

MANAGING PARTNER



FOUNDING PARTNERS



SECTOR LEAD PARTNERS



SUPPORTING PARTNERS



ADVISORY PARTNER





We tested the recovery of reusable cups

In early 2023, the NextGen Consortium collaborated with Van Dyk Technology Center to test how a dozen different styles of reusable polypropylene (PP) cups would sort within a MRF and see if they would end up in the correct material bale, in this case PP. The test provided new insights on what actually happens when reusable cups end up in the recycling system at end-of-life, and how reusable cups can be better designed for consistent reuse and eventual recyclability.



We provided insights to increase paper cup recycling

In 2023, the NextGen Consortium released a report with new findings to accelerate paper cup recycling in the U.S. The report, *Closing the Loop on Cups: Collective Action to Advance the Recovery of Paper Cups in the U.S.*, assesses the role of each stakeholder across the paper cup recovery value chain—including paper mills, MRFs, brands, consumers and local communities—and provides recommended actions to increase paper cup recovery opportunities and advance a more circular system. The insights help guide the industry to increase recovery and reuse of these valuable materials.

“There has never been a more critical time for industry collaboration to shift away from single-use packaging, promote reuse and champion recyclability. Starbucks’ work with the NextGen Consortium has been an important part of our ongoing efforts to reduce single-use cup waste, part of our larger goal to reduce waste sent to landfills by 50% by 2030.”

MICHAEL KOBORI, CHIEF SUSTAINABILITY OFFICER OF STARBUCKS





REDUCING SINGLE-USE BAG WASTE

The short use—12 minutes, on average—and long lifespan of the single-use plastic bag have led to rising concerns. It’s estimated that 100 billion plastic bags are used per year in the U.S.—and single-use plastic bags are among the top 10 items found on beaches and waterways, wasting valuable materials and contributing to a global waste challenge.

Launched in 2020, the Consortium to Reinvent the Retail Bag is a multi-year collaboration across retail sectors that identifies, tests and implements viable design solutions and models that more sustainably serve the purpose of the current retail bag. The Consortium drives forward a circular future for retail by reducing single-use plastic bags through education, incentives, nudges and policy, by encouraging and scaling reusable bag solutions, and by identifying renewable material substitutions when reusable bags aren’t an option, and the necessary infrastructure is in place.

MANAGING PARTNER



FOUNDING PARTNERS



SECTOR LEADS



SUPPORTING PARTNERS



ENVIRONMENTAL PARTNERS





2023 PROJECT HIGHLIGHTS



We tested new reusable bag systems

In 2023, the Consortium to Reinvent the Retail Bag launched its largest collaborative, in-market reusable bag tests, marking a milestone in accelerating a national shift toward reuse in the U.S. The Bring Your Own Bag Pilot tested solutions—including signage, marketing and customer prompts about reusable bags—to see how collective retailer action could encourage more customers to shop with their own reusable bag in stores in Denver, Colorado; Tucson, Arizona and surrounding areas. Simultaneously, the Returnable Bag Pilot tested a new ‘returnable bag’ service model across multiple stores in New Jersey, to support customers when they forget to bring their own bag, offering them the opportunity to buy a bag at checkout, and return them to any participating store to get their deposit back.



We analyzed policy that enables waste reduction

As bag policy in the U.S. evolves, including New Jersey’s 2022 implementation of Get Past Plastic—the most restrictive bag policy in the U.S.—the Consortium analyzed and compared the efficacy of different bag policies, collecting critical data on the impact of policy on single-use plastic bag usage. These insights help retailers and policymakers understand the impact of removing single-use bags and advance best practices for future policy, driving more positive outcomes for the environment, customers and retailer operations.



ADVANCING THE RECOVERY OF FOOD SCRAPS AND COMPOSTABLE PACKAGING

The U.S. composting industry is evolving to accept and process more food waste; around 70% of composters who process food also process some format of food-contact compostable packaging, with the understanding that these materials can bring in more food waste to their facilities. As compostable packaging increases, it is critical to ensure alignment across every point on the value chain to ensure valuable materials are not wasted.

The Composting Consortium is a multi-year collaboration across the entire compostable packaging value chain to test industry-wide solutions and build a roadmap for investment in technologies and infrastructure. The Composting Consortium is on a mission to build a world where organics are kept in a circular economy. Certified food-contact compostable packaging can offer a means to reduce food waste and mitigate climate impacts by diverting food scraps toward composting infrastructure.

MANAGING PARTNER		FOUNDING PARTNERS	
SUPPORTING PARTNERS		INDUSTRY PARTNERS	ADVISORY PARTNERS
COMPOSTER PARTNERS			

2023 PROJECT HIGHLIGHTS



Unpacking Labeling and Design: U.S. Consumer Perception of Compostable Packaging

CLICK TO READ THE REPORT

We provided design best practices for compostable packaging recovery

The Composting Consortium partnered with leading composting industry group, the Biodegradable Products Institute (BPI), to publish first-of-its-kind, publicly available data on how U.S. consumers perceive compostable packaging today. The findings reveal how different approaches in design and labeling affect how consumers and end-users recognize and dispose of compostable product packaging, identifying labeling techniques that can improve the diversion of food-contact compostable packaging to the correct material stream.



DON'T SPOIL THE SOIL
THE CHALLENGE OF CONTAMINATION AT COMPOSTING SITES

CLICK TO READ THE REPORT

We measured the performance of compostable packaging at composting sites

The Composting Consortium conducted in-market tests to fill gaps in data needed for the industry to recover more food scraps and compostable packaging. The Compostable Packaging Disintegration Pilot evaluated the disintegration of 30+ types of certified compostable products and packaging across facilities with varying climates, composting methods and equipment. The Contamination Pilot engaged 10 compost manufacturers across the U.S. to capture contamination volumes and decontamination practices and quantify contamination rates at facilities. This data informs the Consortium's work to align the growth of compostable packaging with the operational and business needs of industrial composters.



BREAKING IT DOWN
THE REALITIES OF COMPOSTABLE PACKAGING DISINTEGRATION IN COMPOSTING SYSTEMS

CLICK TO READ THE REPORT

An aerial photograph of a river winding through a lush, green landscape. The river is a deep blue color, contrasting with the vibrant green of the surrounding vegetation. A road with a bridge crosses the river in the lower-left quadrant. The overall scene is a natural, scenic view of a waterway in a forested area.

BUILDING THE CIRCULAR ECONOMY

Scaling the circular economy requires robust infrastructure, disruptive solutions and innovative business models that transform the way we manage materials. As businesses and communities transition to more sustainable and economically sound value chains, existing infrastructure must be enhanced, and new services built, to support a more resilient, circular system.

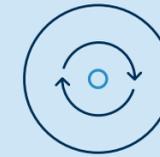
CLOSED LOOP BUILDERS

Closed Loop Builders is Closed Loop Partners' operating group. We incubate, build and scale circular economy infrastructure and solutions across the U.S.

BUILDING CIRCULAR ECONOMY INFRASTRUCTURE

ACQUIRING AND PARTNERING WITH BEST-IN-CLASS FACILITIES

EXPANDING MATERIALS CIRCULARITY



1.1M+
tons of materials managed



1.6M+
metric tons of CO₂e emissions avoided

18
live facilities

4
facilities under development



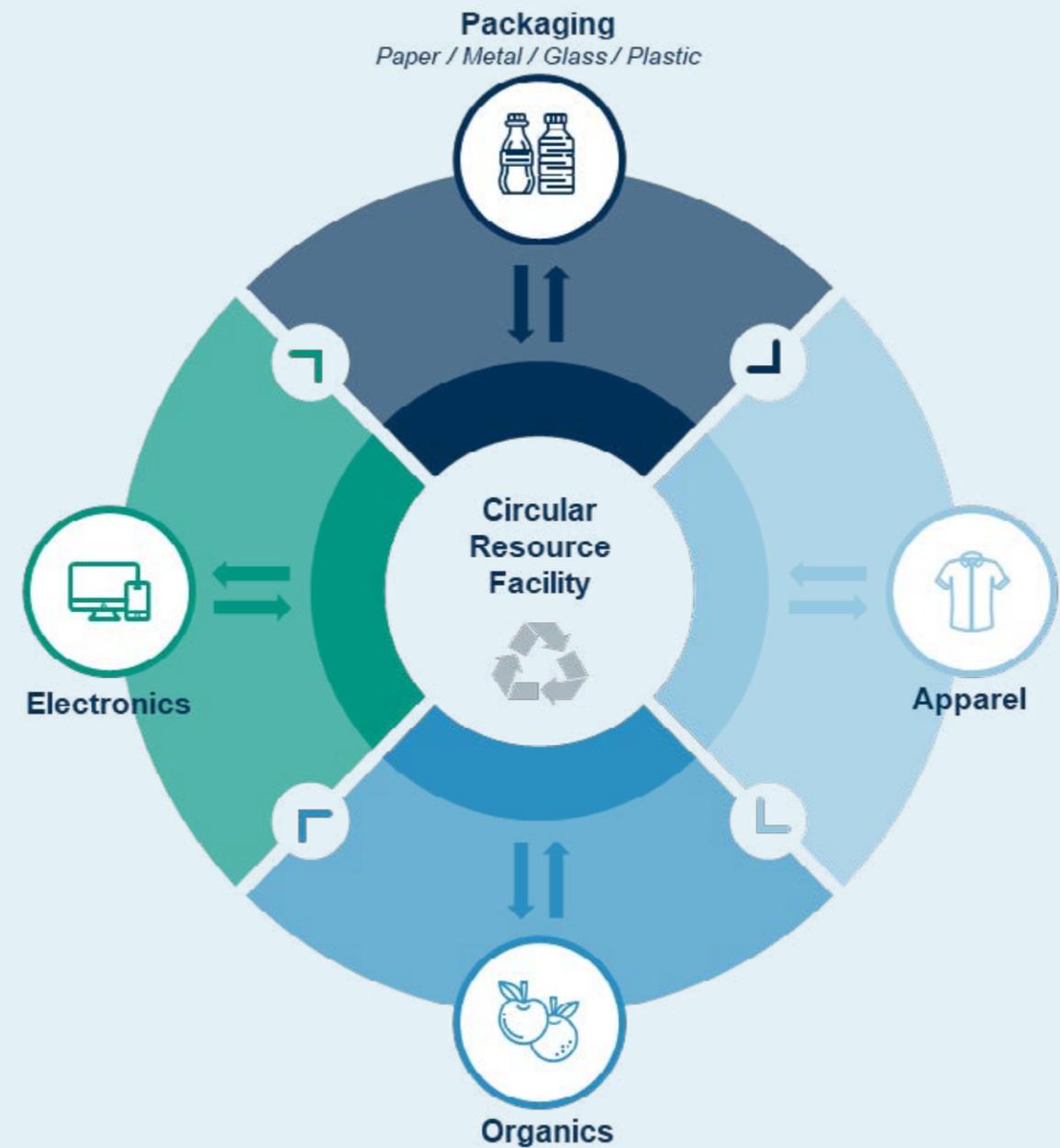
7/10 largest U.S. cities with Circular Services operations

900+ jobs supported



Circular Services is the first company launched within Closed Loop Builders.

With nearly \$1 billion in commitments from leading organizations including Brookfield, Microsoft, Nestlé, PepsiCo, SK Group, Starbucks and Unilever, Circular Services is advancing materials management for the circular economy. It is now the largest privately held recycling company in the U.S., serving municipalities and commercial properties in some of the nation's largest and fastest-growing cities.



“We have been partnering with Closed Loop Partners since their earliest days and are invested across five of their funds. When the firm established Circular Services, we knew we needed to be an active partner in this business to drive impact. We look forward to continuing our work in partnership with them to help transform the packaging supply chains of the future.”

TODD SQUAREK, CHIEF SUSTAINABILITY OFFICER OF PEPSICO BEVERAGES NORTH AMERICA

PROVIDING 21ST CENTURY SUPPLY CHAINS WITH SUSTAINABLE MATERIALS & SOLUTIONS

As more of the world's leading businesses require more sustainable materials for their supply chains, there is a critical need to increase the supply of recycled materials circulating in the market. Circular Services is creating the circular economy infrastructure to make this possible.



ADVISORY SERVICES

Education and Tours
Waste Assessments
Zero Waste Planning
Materials Testing



COLLECTION

Residential (doorstep)
Industrial
Distribution Centers
Retail Locations
Manufacturing Sites
Special Events



PROCESSING

Sortation by Material
Baled Commodities
Organics-to-Energy
Secure Document
Destruction



BROKERAGE

Recycled Commodities
Sales



HOW CIRCULAR SERVICES DRIVES IMPACT

By employing innovative technology within reuse, recycling, remanufacturing and re-commerce solutions, Circular Services helps improve regional economic and environmental outcomes, and builds resilient systems that keep food & organics, textiles, electronics, packaging and more in circulation and out of landfills or the natural environment.

Circular Services SOUTH

Phoenix, Arizona
 Austin, Texas
 San Antonio, Texas*
 Houston, Texas*
 Dallas, Texas
 Tyler, Texas
 McKinney, Texas*
 Little Rock, Arkansas
 Sarasota, Florida
 West Palm Beach, Florida
 Lee County, Florida

Circular Services EAST

New York City, New York
 Rockland County, New York
 Jersey City, New Jersey
 Cumberland County, New Jersey
 Philadelphia, Pennsylvania
 Toledo, Ohio*
 Bloomington-Normal, Illinois
 Decatur, Illinois
 Springfield, Illinois
 Peoria, Illinois
 Urbana, Illinois
 Terre Haute, Indiana

*Facility under construction.

BY BUILDING CIRCULAR ECONOMY INFRASTRUCTURE

Circular Services builds and operates facilities that collect and process valuable commodities for the supply chains of major consumer brands, including: packaging (paper, metals, glass, plastics), organics, apparel and textiles, and consumer electronics.

In 2023, Circular Services started operations to provide essential recycling and circular economy services in Phoenix, Arizona, and Rockland County, New York. By working closely with city officials, our teams upgraded these facilities

to help ensure more valuable materials are appropriately sorted and put back into materials supply chains.

In Texas, the Circular Services team broke ground on a new 200,000-square-foot materials recovery facility (MRF) for the City of San Antonio. The new facility includes an education center and the latest technologies to enable increased capture of recycled materials and production of high-quality commodity bales. The San Antonio MRF is on schedule to open in 2024.



THROUGH ACQUIRING AND PARTNERING WITH BEST-IN-CLASS FACILITIES

Circular Services acquired Midwest Fiber Recycling, growing its portfolio of MRFs with operations in Illinois and Indiana. This marks Circular Services' expansion into the Midwest of the U.S., to support existing recycling infrastructure and services in the region and increase the recovery of valuable materials for use in domestic supply chains.

On top of adding five locations and a transfer station, the acquisition of Midwest Fiber expands Circular Services into the materials brokerage business. This line of business allows Circular Services to enable even more materials to be kept in circulation, by matching the supply and demand of recycled commodities in other MRFs and industrial partners with processors of these materials.



BY EXPANDING MATERIALS CIRCULARITY

As material streams grow more diverse, and sometimes, more challenging to recover, a combination of technology, innovative business models and partnerships are critical. Circular Services is laying the groundwork to advance circular supply chains for an evolving materials landscape. Examples of our efforts in 2023 include:

SMALL FORMAT PACKAGING

In partnership with the Center for the Circular Economy, Maybelline New York and Circular Services conducted initial research and testing at Circular Services' New York City MRFs on small format packaging recovery. The collaboration found that a notable amount of valuable rigid small format plastics could be diverted from these MRFs annually.

Today, the Center for the Circular Economy, Circular Services, L'Oréal Groupe and Maybelline New York are engaging additional brand partners across varied sectors, including healthcare and food and beverage industries, to expand the research and develop a pathway to advance "smalls" recovery in the U.S.

FILMS & FLEXIBLES

Flexible plastic packaging is the fastest growing packaging category, with U.S. households generating an estimated five million tons every year. Today, most MRFs are not designed to sort flexible packaging and consider it a contaminant that has potential to disrupt MRF operations and detract from the value of other baled materials.

In 2023, Circular Services was awarded a grant from The Recycling Partnership's Film and Flexibles Coalition to install additional equipment to sort film and flexibles at our new MRF in San Antonio, Texas. The operation of this new equipment will provide valuable data and insights on the requirements to sort film and flexible material at a MRF.

BLACK PLASTICS

Black plastics—often used for food take-out and delivery packaging—are typically not sorted properly in most MRFs, even those with a high level of sortation automation.

Through the use of optical sorters, high-resolution near infrared technology, and advanced algorithms, Circular Services is now able to sort black plastics at its Jersey City, Brooklyn and Rockland County MRFs and divert this material from landfill.

“Transforming entire supply chains across multiple industries is the work of generations, but the world is changing faster today than it was 10 years ago. Through our work with current and past team members, investors, clients, advisors, portfolio companies and partners, progress that might have felt far-off 10 years ago is now our jumping-off point, laying the foundation for seismic shifts over the next 10 years and beyond.”

RON GONEN, FOUNDER & CEO OF CLOSED LOOP PARTNERS

TEAM

The Closed Loop Partners team
dedicated to advancing the circular
economy.

ABOUT THE CLOSED LOOP PARTNERS TEAM

Since Closed Loop Partners' founding in 2014, our ethos has been to embrace diversity across our firm, attracting smart, dedicated and mission-driven team members from wide-ranging backgrounds. We continue to evolve our policies, procedures and efforts regarding diversity, equity and inclusion (DEI), governance and code of conduct at the firm.

Throughout 2023, our employee-led DEI committee continued to advance an action-oriented approach toward developing short-term, medium-term and long-term goals. From hiring practices, to educational resources, investment practices, impact and many others, we will continue to advance inclusive diversity at the firm, at our portfolio companies and in the communities we service. Most importantly, we expect any statements we make to be accompanied by actions and results.



*Defined as a person who is not white.

ADVANCING CIRCULARITY IN OUR COMMUNITIES

In 2023, Closed Loop Partners organized volunteer activities that reflect our commitment to supporting our communities, diverting waste from landfill and strengthening our team.



Second Annual Clean-Up

The Closed Loop Partners team cleaned up the Midtown neighborhood of New York City. We collected 300 pounds of trash to be safely disposed of by the New York City Department of Sanitation.



Streetwise Partners

The Closed Loop Partners team helped StreetWise alums prepare for internships, working through common technical interview questions and practicing with mentees to prepare them for job opportunities in the space.



Fab Scrap

The Closed Loop Partners team worked with Fab Scrap at their Brooklyn facility in New York City to sort textiles for resale & reuse. At Fab Scrap, small scraps are shredded to create insulation, padding and furniture fillers, while larger items are resold.



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Languages Spoken

- Arabic
- Cantonese
- English
- Filipino
- French
- German
- Hebrew
- Portuguese
- Russian
- Spanish
- Swedish

THE CLOSED LOOP PARTNERS TEAM



Ron Gonen
Founder & CEO



Jessica Long
Chief Strategy
Officer & Head
of Closed Loop
Builders



Tazia Smith
Chief Operating
Officer & Head
of Capital
Partnerships



Talia Jarvis
Chief Legal,
Compliance &
Administrative
Officer



Kate Daly
Head of the Center
for the Circular
Economy



Amy Wagner
Chief Financial
Officer & EVP of
Circular Services



**Alicia
Mandelkow**
Chief of Staff



Bridget Croke
Head of Corporate
Partnerships



Lauren Rodriguez
Senior Director,
Corp. Partnerships



Luba Shabal
Senior Director of
Impact Strategies



Greg Budetti
Director of Capital
Partnerships and
Investor Relations



Erik Avni
SVP of Corporate
Finance &
Accounting



Michael Arnett
Director of Fund
Finance &
Accounting



Renee Harris
Corporate
Finance
Administration
Associate



Astha Jain
Fund Accounting
Associate



Jackson Pei
Co-Head of Closed
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Group



Derek Trott
Senior Associate,
Closed
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**Utsab
Roychowdhury**
Associate, Closed
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Michael Gajewski
Senior Operating
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Danielle Joseph
Head of Closed
Loop Ventures
Group



Aly Bryan
Investor,
Closed Loop
Ventures Group



Meredith Vass
Director of People
& Talent



Kate Krebs
Director of Public
Policy



Bea Miñana
Director of
Communications



Jennifer Louie
Head of Closed
Loop Infrastructure
Group



Ray Hugel
Director, Closed
Loop
Infrastructure
Group



Kristin Taylor
Director and
Origination Lead,
Closed Loop
Infrastructure Group



Brendan Keefe
Associate,
Closed Loop
Infrastructure
Group



Akshatha Bhat
Associate,
Closed Loop
Infrastructure
Group



Mark Schmidt
Head of North
America, Organics



Bob Anderson
VP, Circular
Services



Tim Horchar
Director of Business
Ops, Circular
Services



**George
Freyermuth**
Director of
Investments,
Circular Services



Lillian Childress
Senior Manager,
Growth and
Innovation
Circular Services



Elena Spinelli
VP Accounting,
Circular Services



Malikh Mack
Senior Accountant,
Circular Services



Stephanie Boriskin
Office Manager /
Operations &
Compliance
Associate



Kim Tran
Executive Director,
Operations &
Development, CCE



Georgia Sherwin
Sr. Director,
Strategic Initiatives &
Partnerships, CCE



Daniel Liswood
Sr. Project
Director, CCE



Matt Pundmann
Sr. Project
Director, CCE



Paula Luu
Sr. Project
Director, CCE



**Sarah Pamplona
Santos**
Sr. Project
Director, CCE



Carol Lobel
Sr. Director,
CCE



Anh Giang
Project Innovation
Director, CCE



Carol Grzych
Program
Manager, CCE



Caroline Barry
Program
Manager, CCE



Sonia Mahajan
Program
Manager, CCE



Theresa Mullaley
Program
Manager, CCE

OUR PORTFOLIO COMPANIES

CLOSED LOOP VENTURES GROUP PORTFOLIO

INVESTMENT	LOCATION	FOCUS AREA	SUMMARY	POTENTIAL FOR IMPACT
Accelerated Filtration	MI, USA	Water Reclamation	High Suspended Solids water filtration technology.	Advances water reuse across a range of industries and applications.
Algaeing	Israel	Safer Chemistry	Micro-algae conversion to textile fibers and dyes using proprietary blends and strategic feedstock sources.	Reduces dependence on plastic fibers and toxic dyes for textiles by providing solutions produced from a renewable resource, micro-algae.
Algramo	Chile	Packaging & Plastic Alternatives	Smart-dispensing model for consumer-packaged goods (e.g., shampoo, detergents, soaps) using behavioral economics to incentivize reuse of packaging.	Reduces single-use and unrecyclable consumer packaged goods packaging and offers high-quality products at an economic value to populations, regardless of socioeconomic status.
AMP Robotics*	CO, USA	Packaging & Plastic Alternatives	Robotics and artificial intelligence company developed by a CalTech PhD focused on increasing sortation and product identification efficiency at recycling facilities.	Improves the quantity and quality of recycled commodities recovered from co-mingled waste streams.
Ansa (formerly Griin)	Israel	Packaging & Plastic Alternatives	On-site coffee bean roasting technology for commercial or at-home coffee machines, enabling the purchase of green coffee beans, which decentralizes coffee supply chains, mitigates multi-laminate packaging, reduces transport and food waste, and increases farmers' product control.	Eliminates unnecessary transportation and packaging by transporting more robust green coffee beans, and enables on-demand, zero-carcinogen roasting.
Atlas Organics*	SC, USA	Food Systems & Regenerative Agriculture	Developers of composting projects throughout the Southeast U.S. Projects feature long-term contracted offtake alongside municipalities.	Diverts food waste from landfill and turns it into a valuable soil amendment. Increases the accessibility of composting.
Browzwear	Israel and Singapore	Retail Logistics	3D fashion design software, development and merchandising solutions.	Reduces GHG emissions and water use associated with manufacturing samples, reduces GHG emissions associated with transporting physical samples around the world, and reduces excess materials produced that end up in landfill.
By Rotation	United Kingdom	Retail Logistics	Peer-to-peer fashion rental platform.	Reduces textile waste by advancing reuse.
Capra Biosciences	VA, USA	Food Systems & Regenerative Agriculture	Biomanufacturing platform for high-value commodity chemistry utilizing food waste as feedstock.	Utilizes food waste as feedstock, lowers emissions associated with production of chemicals.
CoLoadX*	NY, USA	Supply Chain Transparency	Partial-container shipping marketplace to procure more efficiently, and more effectively track, the movement of e-commerce products.	Reduces waste in the global supply chain by making international logistics simpler and more efficient.
DAI*	United Kingdom	Retail Logistics	Professional performance wear, sustainably made for work, that feels like yoga.	Demonstrates a fully circular business model without compromising on quality and comfort.
dimpora	Switzerland	Safer Chemistry	PFC-free waterproof and vapor permeable membrane to eliminate toxicity and increase recyclability in the production of outdoor performance apparel.	Replaces forever chemicals (PFAS) with high-performance, fully recyclable coatings.

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CLOSED LOOP VENTURES GROUP PORTFOLIO (CONT.)

Earthodic	Australia	Packaging & Plastic Alternatives	Lignin-based coating for paperboard applications to increase water-resistance.	Increases paper sent to the appropriate management pathway, such as recycling or composting, rather than incineration or landfill.
Easy Aerial	NY, USA	Built Environment	Autonomous drones currently being deployed for security use cases and open to developing circular economy-related products.	Potential to improve the quality and efficiency of recycling operations (e.g., increasing the quality of material coming into materials recovery facilities by enhanced hauler visibility systems).
ecoSPIRITS	Singapore and United Kingdom	Packaging & Plastic Alternatives	Low carbon, low waste packaging technology for premium spirits and wine.	Eliminates all packaging waste in the supply chain and dramatically reduces transportation and associated carbon emissions.
Evrnu	WA, USA	Retail Logistics	Fiber technology company that converts garment waste into new, high-quality fiber for the creation of new clothing, partnering with brands.	Diverts and recovers cotton fiber waste and converts it to new fibers, thereby reducing the need for virgin cotton fibers.
Fillogic	NY, USA	Retail Logistics	Leading platform for localized logistics that enables more efficient and sustainable supply chains for retailers by converting underutilized space in malls into micro-distribution hubs.	Reduces transport emissions, uses smaller warehouse spaces more efficiently and maximizes the useful life of retail products.
Found Energy	MA, USA	Renewable Energy Systems	Energy production system utilizing recycled aluminum from scrap sources treated with a unique catalyst that can be used to produce clean hydrogen onsite.	Enables onsite hydrogen production utilizing seawater and recycled aluminum in a fully circular energy generation system.
Goodmylk	CA, USA	Packaging & Plastic Alternatives	Powdered oat and almond milk alternative.	Allows for waste minimization onsite at cafes, optimizes water use and reduces transport emissions through powdered plant-based milk alternatives.
HomeBiogas	Israel	Renewable Energy Systems	Biogas company that develops anaerobic digesters that convert food, organic and yard waste into renewable energy and liquid fertilizer.	Diverts food waste from landfill and increases its value as usable fuel, reduces indoor air pollution from dirty cookstoves and offers “free” fertilizer.
Hyran	DE, USA	Supply Chain Transparency	Supply chain operational software to reduce waste and excess inventory with more rapid manufacturing in fashion.	Reduces excess production of garments compared to business as usual, leading to less waste and emissions associated with manufacturing and transportation.
Linhaus*	NY, USA	Retail Logistics	Custom jewelry from recycled metals and diamonds, including lab-grown diamonds.	Avoids extractive diamond and gemstone mining by increasing demand for recycled metals and lab grown diamonds.
Loliware*	NY, USA	Packaging & Plastic Alternatives	Biodegradable, compostable single-use cups and straws manufactured from algae.	Reduces the need for unrecyclable plastic straws with hyper-compostable alternatives.
MOLG	VA, USA	Distributed Re-mfg.	Software that supports design for disassembly, and a hardware microfactory to re/de-manufacture small electronics, such as phones, laptops and servers.	Enables design-for-disassembly and part recovery to create new products.

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CLOSED LOOP VENTURES GROUP PORTFOLIO (CONT.)

Mori (formerly Cambridge Crops)	MA, USA	Food Systems & Regenerative Agriculture	Silk protein-based food coating technology that extends the shelf life of produce, meat, seafood and prepared food for 2-3x on average. Being commercialized by an MIT PhD.	Extends the shelf-life and freshness of food, minimizes food waste, limits greenhouse gas emissions and water waste created by the food supply chain, and reduces the reliance on plastic packaging.
Mycocycle	IL, USA	Built Environment	Fungi-based solution that breaks down and detoxifies waste materials from the built environment and produces harvestable raw materials that can go into products.	Diverts waste materials from landfill and reduces emissions associated with extraction and incineration.
Natural Machines	Spain	Food Systems & Regenerative Agriculture	Manufacturer of 3D printers for food. The new generation kitchen appliance can be used in commercial or retail kitchens to turn food scraps into intricate designs.	Makes use of food scraps in commercial kitchens, diverting discarded food from landfill.
Partsimony	NY, USA	Supply Chain Transparency	Digital marketplace for manufacturing supplier searches to localize production, decrease lead times and compare pricing for small and enterprise-level hardware companies.	Helps hardware companies turn designs into products with less time, capital and frustration than ever before.
Rebound Technologies	CO, USA	Food Systems & Regenerative Agriculture	Freezer technology that dramatically reduces food waste by “boosting” the efficiency of cold storage, reducing compressor use and keeping food fresher for longer.	Cuts fresh food waste at logistics sites, and reduces energy consumption for freeze-point cooling.
Rebundle	MO, USA	Packaging & Plastic Alternatives	Natural fiber-based and compostable hair extension alternatives to polypropylene and PVC hair extensions.	Advances hair extension alternatives, with more comfort and less waste.
Retrievr*	NY, USA	Retail Logistics	Routing software and market broker that enables a recycling service to collect textiles and electronic waste at your home.	Diverts textiles and electronics from landfill through dedicated collection and recycling.
SOLARCYCLE	TX, USA	Renewable Energy Systems	Tech-driven platform provides solar asset owners a process for retiring solar systems and repurposing them for new uses.	Keeps valuable materials in circulation by advancing the recycling of solar panels.
Stealth Co.	-	-	Company is in stealth; information is not yet available.	Company is in stealth; information is not yet available.
The Renewal Workshop*	OR, USA	Retail Logistics	Apparel refurbishment service building a “certified pre-owned” business model.	Diverts textiles that would otherwise be sent to landfill or incineration.
Thrilling	CA, USA	Retail Logistics	Vintage clothing marketplace, leveraging the infrastructure of pre-existing “sorters”/vintage clothing store owners to accelerate the circular economy.	Increases accessibility to vintage clothing and promotes resale of clothing.
Thrive Lot	TN, USA	Food Systems & Regenerative Agriculture	Digital marketplace connecting homeowners with agroecologists to regenerate & grow food in backyards, eliminating toxic chemicals and lack of biodiversity in existing lawns.	Grows organic, nutrient-rich food, creates habitats for wildlife, builds resilient soil and rekindles connections with nature.

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TradeLanes	CA, USA	Supply Chain Transparency	Bulk shipping transaction management software to ensure timely negotiations, arrival and tracking for commodity products, such as metals and grains.	Saves exporters 30-80% on supply chain management by digitizing and automating supply chains, particularly related to recycled paper and bulk foods.
Trashie.io For Days	CA/NY, USA	Retail Logistics	Offers textile recovery services through the Take Back Bag, which consumers can purchase and fill with unwanted, clean textiles. Trashie.io then sorts and connects collected textiles with available recovery pathways.	Reduces textiles that get disposed of in landfills.
ucrop.it	Argentina	Food Systems & Regenerative Agriculture	First-mile, farmer-centric blockchain platform for crop traceability, incentivizing regenerative agricultural practices for commodity crops.	Enables the growers to obtain greater profitability and incentivizes sustainable agricultural practices.

CLOSED LOOP INFRA-STRUCTURE GROUP PORTFOLIO

INVESTMENT	LOCATION	FOCUS AREA	SUMMARY	IMPACT BY 2030
AeroAggregates*	PA, USA	End Mfg.	Manufactures foam glass aggregate, ultra-lightweight fill material, for infrastructure projects throughout the Mid-Atlantic region.	Serves as an end market for curbside recycled glass.
Circular Services	USA	Sortation	Builds and operates facilities that collect and process valuable commodities for the supply chains of major consumer brands, including: packaging, organics, apparel and textiles and consumer electronics.	Operates 20 recycling facilities and serves seven of the 10 largest municipalities in the nation.
City of Baltimore	MD, USA	Collection	Expanded Baltimore residents' access to safe, effective recycling and improved collection infrastructure.	The distribution of larger recycling carts to an expanded geographic area increases the amount collected and processes additional recyclable materials, including beverage bottles and cans.
City of Broken Arrow	OK, USA	Collection	Purchased recycling carts for single-stream curbside collection and recycling collection vehicles, serving up to 35,000 households across the city.	Collects recyclable materials, including beverage bottles and cans.
City of Kansas City	MO, USA	Collection	Expanded its residential recycling program through the deployment of approximately 170,000 new recycling carts for its residents.	Increased the City's collections services and reduced litter across the City, impacting approximately 380,000 residents.
City of Memphis	TN, USA	Collection	Introduced universal single-stream curbside recycling across the city in 2016. More efficient carts and trucks bring significantly more material to the area's materials recovery facility.	Recovers more tons of single-stream recyclables.
City of Moline	IL, USA	Collection	Expanded access to curbside recycling services and introduced new 96-gallon carts for up to 19,000 households. Moline's recycling will go to nearby Scott County, another project financed by the Closed Loop Infrastructure Group.	Collects and processes additional recyclable materials, including beverage bottles and cans.
City of Phoenix	AZ, USA	Sortation	Upgraded its North Gateway materials recovery facility to enable greater diversion of plastics from landfill and to improve the quality of baled paper.	Recovers more tons and better quality commodities out of single-stream recyclables in the City of Phoenix.

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CLOSED LOOP INFRA-STRUCTURE GROUP PORTFOLIO (CONT.)

City of Waterbury	CT, USA	Collection	Rolled out new recycling carts for their residents in the fifth largest city in the state, with a population of approximately 110,000 people.	Enhances recycling rates in the city through improved collection of recyclable materials.
CleanFiber*	NY, USA	End Mfg.	Manufactures a cellulose insulation made from recycled fiber.	Turns more tons of cardboard waste headed to the landfill into valuable insulation product.
Council Bluffs*	IA, USA	Sortation	The Council Bluffs Recycling Center sorting facility serves 42,500 households in a rural community.	Recovers more tons of post-consumer recyclables.
The Central Virginia Waste Management Authority	VA, USA	Collection	Upgraded 24-gallon recycling bins to 95-gallon carts for jurisdictions in the Richmond area.	New carts for over 90,000 households increases quantity of recyclables collected.
Emerald Coast Utilities Authority	FL, USA	Sortation	Materials recovery facility serves up to 250,000 households across Escambia County, the Florida panhandle and eastern Alabama.	Recovers more tons of single-stream recyclables.
Emmet County Recycling	MI, USA	Sortation	Upgraded its existing materials recovery facility to improve sortation of various containers.	Expands capacity to process valuable recyclable materials and expands coverage to additional communities.
Eureka Recycling	MN, USA	Sortation	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.	Recovers more tons of single-stream recyclables.
Evergreen	OH, USA	Processing	Plastics reclaimer and rPET manufacturing facility.	Expands services to process recycled PET plastic into food-grade recycled rPET pellets used to manufacture new bottles.
Firstar Recycling	NE, USA	Sortation	The largest full-service recycler in the state of Nebraska ensuring comprehensive recycling in the greater Omaha and Lincoln metro areas.	Keeps materials in circulation and generates millions of dollars in savings and revenues for the County.
GREENMANTRA	Ontario, Canada	Processing	Transforms recycled polyethylene and polypropylene into an industrial wax used in construction products.	Diverts valuable materials from landfills and creates end markets for hard-to-recycle plastics.
Greyparrot	United Kingdom	Enabling Technology	A leading AI waste analytics platform for the circular economy.	Increases transparency and automation in recycling to unlock the financial value of waste and keep our planet clean.
IntegriCo	LA, USA	End Mfg.	Manufacturer of composite railway products including railway crossties and composite grade using 100% recycled plastics.	Returns more tons of waste plastics to supply chains in the form of plastic railroad ties.
ITR/Ecoglass	TX, USA	Sortation, Processing	ITR provides collection, sortation and processing capacity for post-consumer single-stream in the Houston, TX market. Ecoglass is a vertically integrated glass processor that receives feedstock from ITR's materials recovery facility.	Recovers and returns more glass to supply chains.

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CLOSED LOOP INFRA-STRUCTURE GROUP PORTFOLIO (CONT.)

LRS	IL, USA	Sortation	Illinois' largest private waste company, specializing in recycling and waste diversion programs for Chicagoland businesses and homeowners, dumpster services and portable restroom rental.	Recovers and returns to supply chains more tons of single-stream recyclables in the Chicagoland region.
Minus Works	NY, USA	End Mfg.	Manufacturing and technology company focused on bringing innovative products to the cold chain industry, including sustainable, high-performance coolant for the shipping of perishables.	Reduces waste in the shipping of perishable products and avoids emissions through freezing process innovations.
Momentum Recycling	CO, USA	Processing	Glass cullet processor and recycling services provider, with operations in Salt Lake City and Denver.	Processes glass to be used in container, fiberglass and abrasives markets.
Myplas	MI, USA	Processing	Looks to use recycled HDPE and LDPE to produce pellets, which ultimately can be used to make recycled products like pallets, conduit, pipe and bags.	Aims to process and keep in circulation hard-to-recycle plastics.
New Leaf	NJ, USA	Sortation	Operates a small-scale materials recovery facility for Cumberland County Investment Authority.	Recovers and processes more materials and significantly reduces residue rates.
Portage County*	OH, USA	Collection	A rural county in Ohio, southeast of Cleveland, with a population of 165,000 residents.	Improves their landfill diversion rates by investing in collection infrastructure.
Preserve	MA, USA	End Mfg.	Manufactures everyday household goods, such as tableware, food storage containers, razors and toothbrushes from 100% recycled plastic.	Manufactures products from recycled plastics.
PureCycle Technologies*	OH, USA	Processing	Uses a proprietary process to purify colored and contaminated polypropylene into an FDA-grade pellet.	Returns to supply chains more tons of post-consumer recycled polypropylene.
QRS of Maryland*	MD, USA	Processing	Was a plastics recovery facility that sorted and processed post-consumer mixed plastics with limited markets into a washed flake.	Recovered and returned mixed plastics into supply chain.
Recycle Ann Arbor	MI, USA	Sortation	Built a state-of-the-art materials recovery facility that allows for enhanced sorting of valuable recyclable materials.	Recovers and returns to supply chains more tons of recyclables in Michigan.
Reterra	TX, USA	Processing	Advanced recycling company that turns waste byproduct streams of PET plastic that are produced during the recycling process into high-value intermediary products.	Creates a market for material that would otherwise typically end up in a landfill, while improving the overall economics of PET recycling.
Revolution Systems	CO, USA	Sortation	Manufactures low-cost, modular materials recovery facility systems for small communities.	Recovers recyclables from rural and underserved areas via modular materials recovery facility equipment.
Ripple Glass*	MO, USA	Processing	Glass recycling company that helps keep glass out of landfills and in circulation.	Helps hundreds of communities keep glass out of their landfills.
rPlanet Earth	CA, USA	Processing	World's first completely vertically integrated manufacturer of post-consumer recycled PET packaging products, creating a much needed market for PET packaging collected from curbside recycling programs across California.	Returns to supply chains more tons of post-consumer recycled PET packaging.

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CLOSED LOOP INFRA-STRUCTURE GROUP PORTFOLIO (CONT.)

Scott County	IO, USA	Collection, Sortation	Purchased new single-stream recycling carts and upgraded their materials recovery facility with optical sorters.	Collects and recovers more tons and better quality commodities out of single-stream recyclables in the Twin Cities area.
TemperPack	NV, USA	End Mfg.	Solves thermal packaging challenges through sustainable design. TemperPack specializes in bringing custom solutions for clients to scale in the perishable food and life sciences industries.	Reduces the amount of expanded polystyrene used for cold-chain insulated packaging.

CLOSED LOOP PRIVATE EQUITY GROUP PORTFOLIO

INVESTMENT	LOCATION	FOCUS AREA	SUMMARY	POTENTIAL FOR IMPACT
Apkudo	MD, USA	Electronics	Platform designed by and for electronics reverse logistic operations.	Enables transparency across the lifecycle of electronic devices, supports smart decision making and strengthens repair, resale & recycling markets.
Balcones Resources*	TX, AR, USA	Plastic & Packaging	The largest privately held recycling company in Texas, with 25 consecutive years of profitability and dividend payments to shareholders.	Recovers more tons and better quality commodities out of single-stream recyclables in Texas and Arkansas.
ERI	CA, USA	Electronics	The nation's leading electronics recycler, strengthening circular electronics supply chains that benefit people, the planet and business.	Processes electronic waste at its eight certified locations, serving every zip code in the U.S.
Single Stream Recyclers*	FL, USA	Plastic & Packaging	A bolt-on acquisition of Balcones Resources; it is the first artificial intelligence-powered recycling company in the United States.	Recovers more tons and better quality commodities out of single-stream recyclables in Sarasota, Florida.
SMR*	NY, NJ, FL, USA	Plastic & Packaging	Provides key services for New York City's curbside recycling system.	Collects, sorts and processes materials from over 10 million people.
Sage Sustainable Electronics	OH, USA	Electronics	Offers ethical IT Asset Disposition (ITAD) services dedicated to refurbishing used IT assets for another life, and recycling or shredding only as a last resort.	Increases reuse of IT assets, reduces virgin material extraction and GHG emissions associated with manufacturing new IT assets and reduces landfilling of toxic and hazardous materials.

CLOSED LOOP PARTNERS PORTFOLIO

INVESTMENT	LOCATION	FOCUS AREA	SUMMARY	POTENTIAL FOR IMPACT
Just Salad	NY, USA	Reuse	Fast-casual restaurant concept with a mission to make everyday health and everyday sustainability possible.	Enables reuse through their Reusable Bowl Program, encouraging sustainable eating on the go.

*Closed Loop Partners is no longer an investor or lender.

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ACKNOWLEDGMENTS

Collaboration is at the core of accelerating the transition to a circular economy. Our limited partners have exhibited leadership in coming together to advance a new economic model that keeps resources in circulation. The municipalities, operators and entrepreneurs that we have invested in demonstrate the vision and execution required to achieve a more profitable and sustainable future. The Closed Loop Partners team brings together a powerful ecosystem, leveraging our platform to advance systems change. We want to thank all our partners for their collaboration to achieve our shared goal of a waste-free world.

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