About the Capital Landscape Study

In 2017, Closed Loop Partners and Closed Loop Foundation conducted a study of the capital landscape supporting circular supply chains in North America. We looked at recent trends in investment activity, unmet demand, near-term forecasts, and projections to achieve a fully circular infrastructure by 2030. Through a series of surveys, interviews, and analyses of third-party data, we have gained several key insights about where capital is – and is not yet – flowing. Findings represent data from more than 130 municipalities, 440 private companies, and 260 investors, in addition to numerous experts who have advised us throughout this process. The research was conducted by Closed Loop Foundation with support from the Goldman Sachs Center for Environmental Markets and Wells Fargo Foundation.

This public preview includes analysis completed in September 2017.

The Cost of Linear Models

Linear supply chains cost us too much. In the US, municipalities are paying more than $5 billion a year to landfill recyclables, food, clothing and electronics. Globally, $80-$120 billion of economic value from plastic packaging material is lost each year.

Underpinning the linear economy is investment capital. In our research, we found approximately $10 billion a year in relevant deals, though much of it is supporting this linear infrastructure.

Concessionary Capital

In our experience deploying more than $30 million in loans and grants since 2015, we have often co-invested with other “concessionary” sources, primarily public (e.g., state grant programs) and private philanthropy (e.g., The Recycling Partnership grants). This type of capital is critical for creating more investable opportunities for mainstream investors.

The above map shows aggregate grants and concessionary capital by region, including Closed Loop Fund loans and Foundation grants. Based on our research, we found more than $800 million of concessionary capital going to recycling infrastructure and innovation (based on the most recent year of data available from each source).

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percent (80%) comes from public sources supporting general operations for recycling infrastructure as it exists today. Unfortunately, very little of this can be considered “catalytic,” unless municipalities are increasing their ability to benefit from recycling revenue or avoid landfill costs.

**The Upside: Transitioning from a Linear to Circular Supply Chain**

We are missing a tremendous opportunity to unlock trillions in economic value and create a lasting positive impact on the environment. In our analysis, the upside of building a circular supply chain has dramatic social, environmental, and economic benefits, including:

- **30 million more households** with access to convenient recycling
- **80 million tons** of material recovered from residential single stream recycling – a lift of 4x
- **250-350 million metric tons of CO2 equivalent** reduced
- **$7 billion** in new revenue opportunities from recycling for cities and recyclers
- **Innovation** in processing technologies and business models
- **$2 trillion** in annual US revenues generated by circular manufacturing

**Barriers to Investment and the Role of Catalytic Capital**

With $10 billion a year in investment dollars supporting the old linear model, too much capital is waiting on the sidelines. Why? In more than 20 interviews of investors, fund managers and advisors, we heard several themes:

- Private capital lacks sightlines across the system
- The supply side is controlled by a few players
- There is too much volatility in commodities markets
- Capital seekers lack longer-term offtake agreements
- Innovative technologies exist, but they are too early stage/unproven

Some mainstream investors have already figured out how to mitigate these risks and find value in circular supply chain opportunities. At the same time, “catalytic” concessionary capital can play an important role in de-risking investments, proving business models, and stimulating even more investment. Other supports, including subsidized R&D, long-term offtake agreements and price floors, loan guarantees, and green procurement or codes, can also help drive additional investment.

**The Role that Catalytic Capital, from Closed Loop Partners and Others, Can Play**

Closed Loop Fund was created to catalyze investment through the deployment of catalytic capital to scalable public and private models and innovations within circular supply chains. Our unique approach is helping to grow innovations and scale successful business models in the circular supply chain.

<table>
<thead>
<tr>
<th>Impact to date:</th>
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<tbody>
<tr>
<td>• <strong>1.5 million households</strong> represented</td>
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<tr>
<td>• <strong>250,000 tons</strong> diverted</td>
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<tr>
<td>• <strong>600,000 MTs of CO2E</strong> reduced</td>
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<tr>
<td>• <strong>$4.3 million</strong> in direct economic benefit to municipalities</td>
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