

Do you think infinite recycling is possible?

Lavergne's "Closed Loop" is a prime example of how plastics reaching the end of their life can live again — and then again! — as renewed plastic products, either the same product or as part of an entirely different product.

Let's see how it all works.

Recycled Plastics Could Still Go to Landfill

We're always inspired by the great progress made in plastics recycling. Looking across the industry, we're seeing some great outcomes, including:

- Polypropylene (PP) found in prescription bottles or snack food bags is being recycled to make flower pots or buckets,
- Polyethylene Terephthalate (PET) found in drink bottles or dish soap containers is being recycled to become fibres in fleece sweaters or lawn furniture
- High-density Polyethylene (HDPE) found in detergent bottles or snack food boxes recycled to become pipes or pallets

These are just a few select examples. There are PP, PET and HDPE plastics all around us and there are a myriad of opportunities for more recycling.

The unfortunate fact is recycled products like flower pots, pipes and clothes could still end up in landfill. Recycling is great, but it doesn't eliminate the landfill problem. Over time, those plastics degrade as their molecular structures break down and cause environmental damage.

Closed Loop

The best scenario is a "Closed Loop." A Closed Loop diverts plastics from landfill through a circular ecosystem. When plastic products reach the end of their useful lives — think about an empty water bottle, used ink cartridges or an old computer mouse — they're recycled to create resins for new products.

Lavergne's Innovative Closed Loop

Lavergne successfully operates a Closed Loop. The plastics we collect and make into resins become products that are recycled again, often numerous times.

It's no accident — we designed it that way. It's all part of our goal "making plastic circular."

In a pure Closed Loop, recycled plastics are remade as the same product. The best example is our work with HP on its ink cartridges. Used HP ink cartridges come back empty, and Lavergne turns them into resins that are returned to HP to make new cartridges.

In another version of a Closed Loop, plastic products are recycled for use in new products. Lavergne is also a leader in this area — we're recycling empty water bottles and e-waste to create parts for electronics, automobiles, appliances and more.

Lavergne's Closed Loop uses three innovative practices.

- **Adding fresh recycled materials from multiple sources** — How are we able to create resins that allow HP ink cartridges to be recycled over and over again? We add fresh recycled materials from different sources. In the case of HP ink cartridges, we use the old ink cartridges as a solid base, then add materials from other sources like empty water bottles made with valuable PET.

- **Using additives to protect the molecular chain** — We know plastics break down over time. It's a big challenge facing manufacturers and recyclers. Lavergne's recycling process takes early action to minimize that chemical breakdown. In a specially-designed procedure, our expert engineers use selected additives to strengthen the molecular chain.
- **Engaging a Reactive Compounding process to strengthen the molecular make-up** — Our Reactive Compounding process takes the process a step further by strengthening the plastic's molecular structure, creating a stronger, more resilient resin.

Steps 2 and 3 are unique to Lavergne. Both are scientifically-driven benefits that set Lavergne apart from the rest and allow us to achieve a pure Closed Loop. "Our plastics have more lives than cats!" said Yoan Lavergne, head of marketing.

The Heart of our Circular Model

Lavergne's Close Loop is the heart of [our circular model](#). It's a system committed to designing out waste and pollution, keeping products and materials in use and regenerating natural systems. Whereas the linear model saw products used and dumped the landfill, the circular model diverts from the landfill and keeps materials in the cycle.

Embrace Closed Loops. Sustain the Future.

Our shared sustainable future will be built on a wide array of closed loops. Whether you're a partner, stakeholder, researcher, let's explore your needs to make your plastic circular.

[Contact](#) Lavergne today.