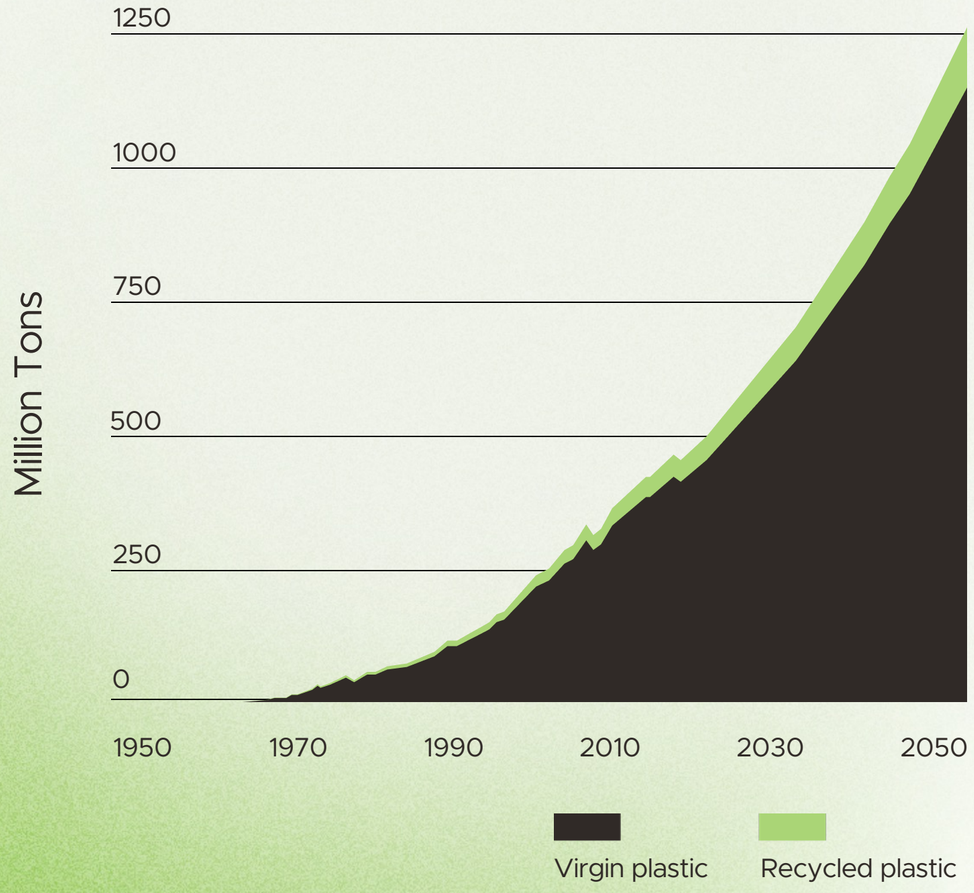
BIRCH BIOSCIENCES

We engineer enzymes for plastic recycling

Johan Kers, PhD
Cofounder and CEO
December 11, 2024

Global plastic consumption will double by 2050

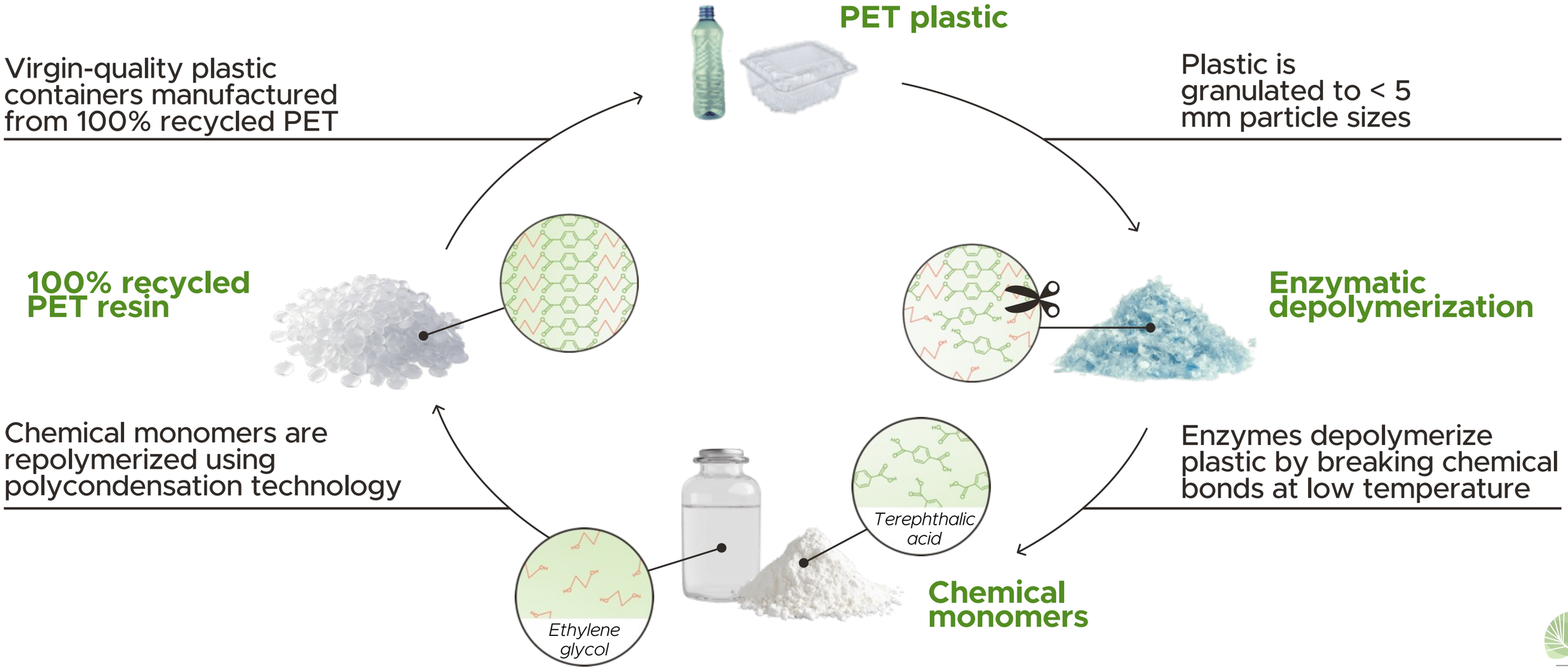


$500B plastic resin global market

Less than **9%** of plastic is recycled

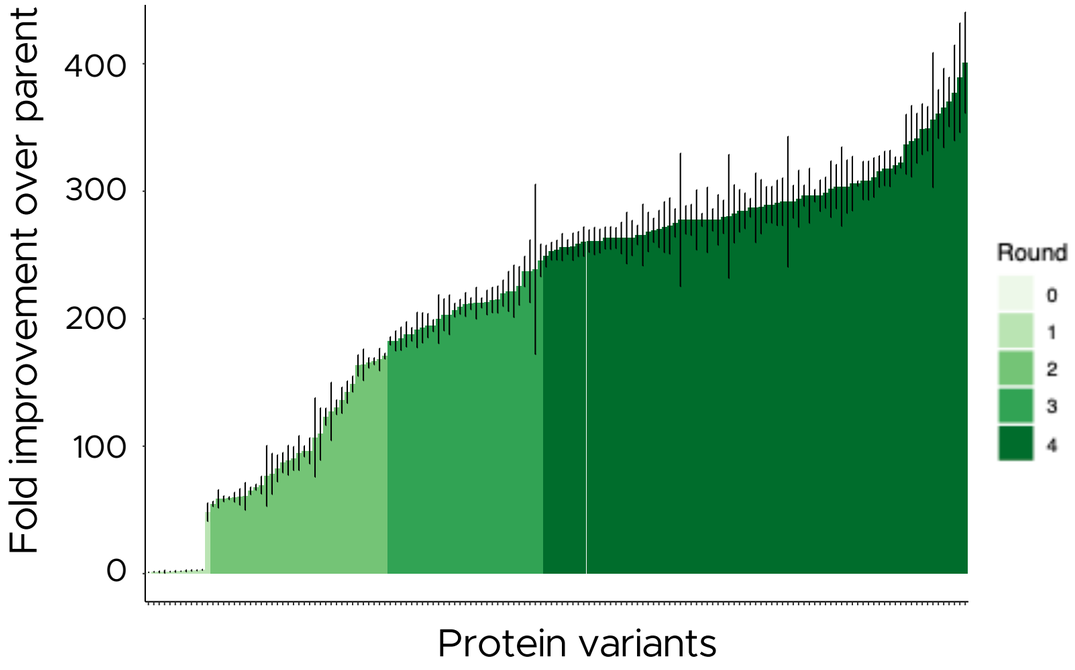
7% of global GHG emissions

How enzymatic PET recycling works

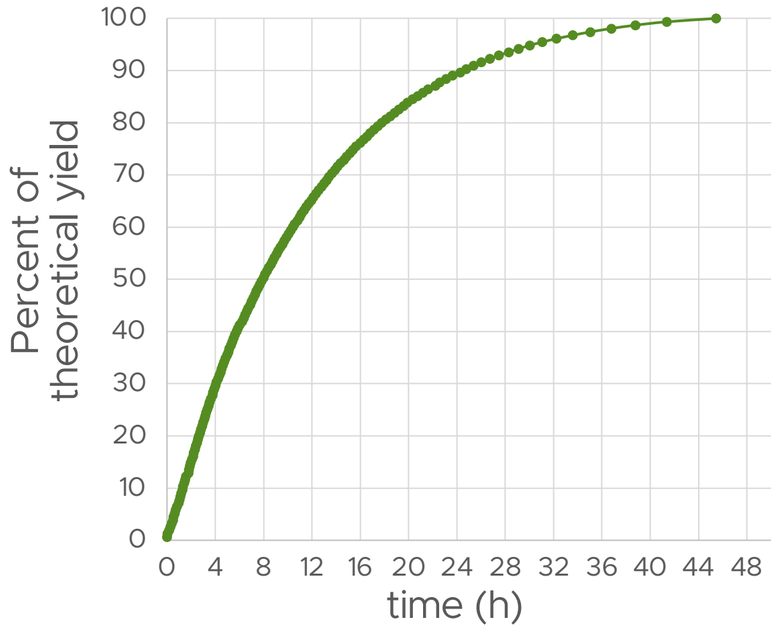


Birch is using AI to engineer **world class** enzymes

We've improved enzyme performance by **400X** over the past 12 months



Engineered enzymes break down **90% of PET plastic in 24 hours** using a scalable reactor process



USPTO Application 63/637,820

Birch Biosciences
Commercialization Timeline

2024

New facility

- PETase engineering
- Hire process development team
- Construct pilot plant

2025

Pilot plant, start of recycling revenue

- Optimize pilot plant operation
- Engineer enzymes for other plastic polymers

2026

Commercial partnerships

- Engineering and design for commercial plant
- Complete Joint Venture for commercialization
- Construct 10 kT commercial plant

2030

Recycling > 100 kT per year

- Validated commercial scale technology
- Global plan deployed for tech commercialization

It takes a village

business oregon

ELEVATE CAPITAL

ONAMI

DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

NSF

DARPA

Y Combinator

Unmet needs for Oregon cleantech companies

Support for infrastructure
→ we lack scalable industrial space for company clusters to share talent and resources

A **clear roadmap** for state support of companies as they grow
→ we need advocates and resources, not wishful thinking

A **level playing field** between Oregon and other states
→ revisit perspective on pre-revenue startups
→ we need a bias for action, an appetite for risk, a culture of excellence, and leadership that embody these traits

We need to invest in building clusters of generational companies