Pure BioPlastics, Inc.

PBP is one of the few companies in the world producing cellulose, lignin and sugars from non-food biomass to make bioplastics.

Mission

The PBP mission is to provide enabling technologies to convert diverse biomass types into a range of sustainable products. Our vision is to become a significant force in the global transition to a bio-based economy.

Technologies

The PBP technology produces low-cost sugars from biomass. PBP is the exclusive licensee of the CCR technology that rapidly converts non-food biomass into pulp, lignin and sugars, each which can be made into bio-based plastics. Patented unit operations include advanced enzyme production systems and fermentation pathways to lactic acid and ethanol.

Infrastructure

PBP is located within an 8.5-acre industrial center housing executive offices, labs, analytical capabilities, expansion capacity and talented technical staff.

Products

PBP has exclusive global rights to the CCR technology relating to all applications for producing bioplastics. PBP will sub-license the PBP technology to **bio-refinery** builders, participate in project development engagements and sell CCR-derived cellulose, lignin, sugars and xylitol.

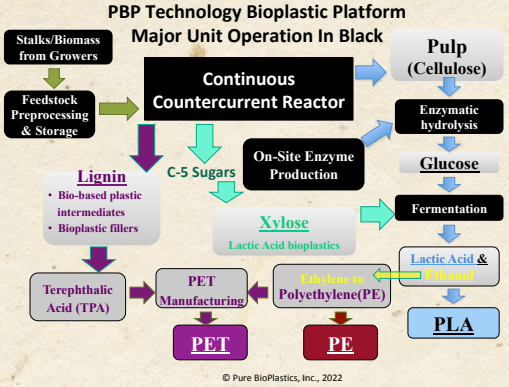
Financing

PBP is seeking strategic partners and equity financing for target initiatives including biorefinery scale-up projects.

PBP Technology Produces 100% Bioplastics and is Ready to Scale Up Today

PBP has a technology and business plan to reverse current wasteful and perilous approaches to producing and disposing of plastics. In proposing to tackle the global plastic problem, we recognize a multitude of complex issues drive the disposable plastic economy. These issues include a world littered with single-use plastic containers that will take thousands of years to break down.

The PBP business plan addresses many of these issues by providing enabling technologies to develop industrial-scale biorefineries that supply railcar quantities of 100% biobased plastic bead to manufacture bioplastic products. After significant proof-of-concept data, the PBP technology is now positioned to scale up its suite of biorefining technologies in a stepwise commercialization program to meet the growing demand to replace oil-based plastics with more sustainable, 100% bioplastics.



Black boxes are key PBP biorefinery unit operations

Contact Us

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Pure BioPlastics

After over 100 years of a petroleum-dominated economy and society, PureVision Technology is advancing bio-based technologies capable of transforming readily available non-food biomass into 100% bioplastic products.

The principal breakthrough is the company's **Continuous Countercurrent Reactor (CCR)** technology, where biomass is rapidly converted into pulp, lignin and sugars. These three raw materials are the starting materials to manufacture reusable, recyclable and biodegradable plastics.

Pure BioPlastics, Inc. (**PBP**) has been established by parent company PureVision Technology to scale up advanced biorefining technologies to supply bio-based solutions to the destructive global dependence on oil-based plastics.

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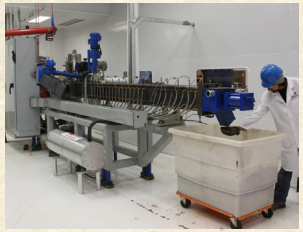
An Innovation Company

We are currently converting industrial hemp at small-scale into intermediates for bio-composites and extruded plastics to be made into building materials and bio-composites.



Rapid and continuous pre-treatment technology. Using the CCR, we produce clean cellulose (pulp) in minutes from non-food biomass in a continuous process.

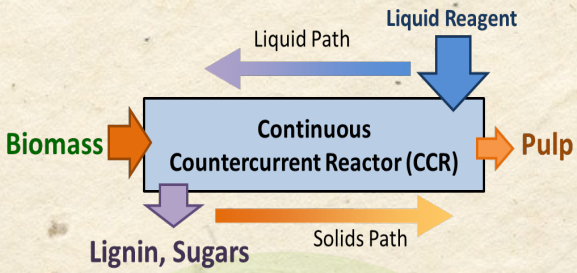
CCR-processed pulp and sugars are used to grow on-site cellulase enzymes. The cellulose is treated with enzymes to produce glucose sugar, followed by fermentation into lactic acid, and further refinement to polylactic acid (PLA). Glucose is also the starting material for polyethylene. The hemi-sugars can be used to produce chemicals, fuels, and plastics. The pilot-scale 200-liter hydrolysis reactor at PBP headquarters is able to convert CCR-derived pulp into lactic acid.

Lignin is a remarkable bio-material that makes up ~20% of typical biomass. It can replace oil-based products including plastics, adhesives, graphene and chemicals. CCR-derived lignin is distinguished from conventional lignin by its low molecular weight, allowing it to be formulated into plastics.

The PBP team has significant data showing well-defined pathways to produce 100% biodegradable, reusable and recyclable PLA from biomass.

Pure BioPlastics, Inc.

We are differentiated from others in our industry by owning advanced biorefining technologies, decades of experience processing biomass and a value-added agriculture approach.



The CCR technology is a continuous process that rapidly (in minutes) fractionates biomass into pulp, lignin and sugars. Countercurrent processing decreases water, energy and chemical usage.

The major PBP biorefining operations include:

- Feedstock handling/pre-processing/storage
- CCR operations that produce pulp, lignin and sugars
- On-site enzyme production
- Enzymatic hydrolysis (employing enzymes to convert solid pulp into glucose)
- Fermentation of glucose into lactic acid
- Bioplastic manufacturing of polylactic acid

PBP offers real, bio-based solutions to begin reversing the unsustainable reliance on fossil fuels.

Pure BioPlastics is at the forefront of developing cost-effective pathways to produce biobased plastics. With a focus on creating lactic acid from biomass to make PLA, PBP also has developed elegant pathways to produce sugar-based polyethylene and lignin-based terephthalic acid (TPA), the main components in PET.

PBP's Business Model -- Use Non-Food Biomass to Make Bio-based Plastics.

The market for sustainably sourced, bio-based products is exploding. PBP is working with complementary companies to bring a wide variety of products to market including PLA, which can be made into countless bio-based products for many industries.

PBP Is Actualizing the Vision!

Our next-generation biorefining technologies, lab-scale and pilot-scale documentation, R&D infrastructure, and a step-wise plan to develop PBP refineries minimize risks, costs and the time required to achieve large-scale manufacturing. PBP is seeking financial resources and strategic partners to launch a sustainable bio refining platform to produce next-gen plastics from biomass.

The PBP Opportunity

PBP has a proven and significant alternative to both petroleum and GMO food-based business models by using widely available, non-food biomass to make bio-plastics. The PBP business model includes working intimately with universities, along with strategic partners to advance the R&D, technology implementation, financing, scale-up and deployment of PBP refineries.

PBP refineries will convert locally grown biomass including agricultural residues into value-added products, create green jobs, stimulate rural economies, and profitably manufacture and sell bio-based products.