



MOLLY MORSE, CEO
March 2019






IMAGINE THE FUTURE

Better biopolymers are critical
to achieving clean oceans and
environment



Global Plastics Market
740 billion lbs/yr (2016)

A large school of small, silvery fish swimming in clear blue water. The fish are densely packed and move in a coordinated pattern, creating a shimmering effect. The background is a deep, clear blue, suggesting an open ocean environment.

“There may be more
plastic than fish in the
ocean, by weight, by
2050” EMF

NATIONAL GEOGRAPHIC



PLANET OR PLASTIC?

18 billion pounds of plastic ends up in the ocean each year. And that's just the tip of the iceberg.

"Plastics aren't inherently bad. It's what we do, or don't do, with them that counts."

— SYLVIA EARLE
NATIONAL GEOGRAPHIC
EXPLORER-IN-RESIDENCE

Big consumer brands will start taking their packaging back

Los Angeles Times

Berkeley goes nuclear on single-use plastic

By THE TIMES EDITORIAL BOARD JAN 24, 2019 | 3:05 AM

NATIONAL LAW REVIEW

Global Companies Form Alliance to End Plastic Waste (APEW)

Thursday, January 17, 2019

The following companies are the founding members: BASF, Berry Global, Braskem, Chevron Phillips Chemical Company LLC, Clariant, Covestro, Dow, DSM, ExxonMobil, Formosa Plastics Corporation, U.S.A., Henkel, LyondellBasell, Mitsubishi Chemical Holdings, Mitsui Chemicals, NOVA Chemicals, OxyChem, PolyOne, Procter & Gamble, Reliance Industries, SABIC, Sasol, SUEZ, Shell, SCG Chemicals, Sumitomo Chemical, Total, Veolia, and Versalis (Eni)

California adopts strictest methane rule in the nation



Opinion » Political Op-Eds | Social Commentary

Live TV U.S. Edition +

Climate change: The more we know, the worse it seems

By Mark Lynas, for CNN

Updated 5:24 AM ET, Sat January 26, 2019



Why cold weather doesn't mean climate change is fake

Weather and climate aren't the same thing, meaning you can expect harsher winters in a warming world.

We strive to be a global leader in the bio-industrial revolution by
converting abundant methane gas into low-cost, high-value,
biodegradable materials

**MANGOMATERIALS™**

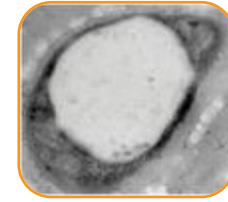




Waste facility



Methane emissions



Microbial process



PHA biopolymer



Biodegradable products

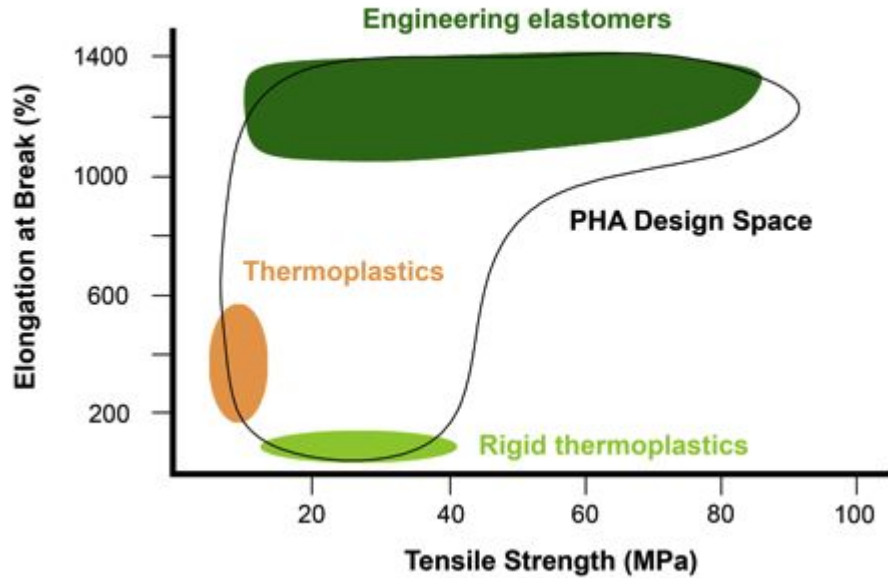




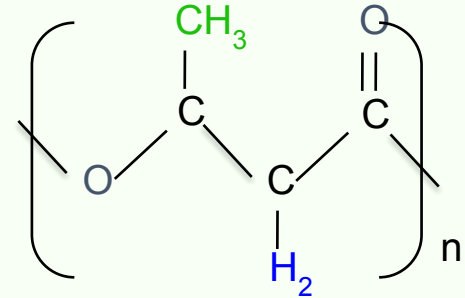
The methane from U.S. landfills can make **7 billion lbs** of Mango Materials PHA every year.

POLYHYDROXYALKANOATE

A versatile family of biopolymers suitable for most plastic applications

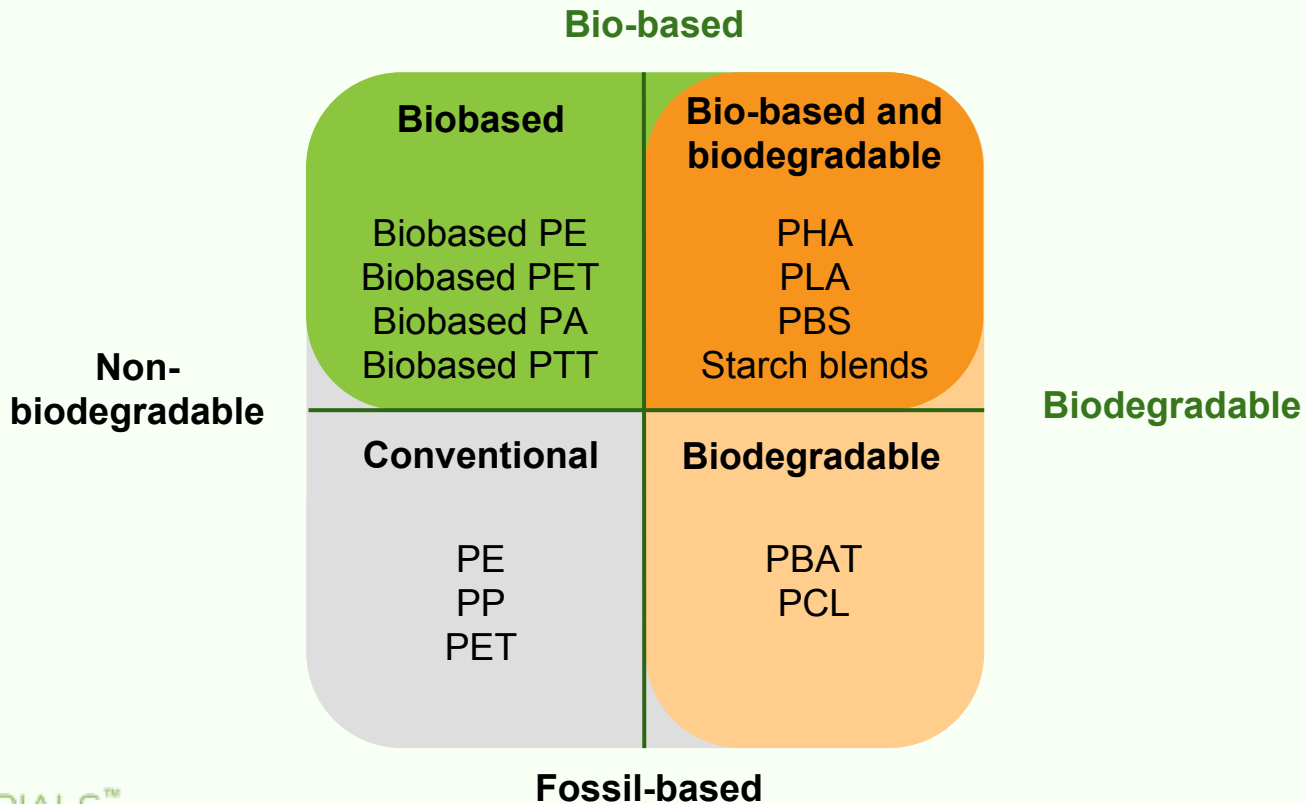


Poly-3-hydroxybutyrate (P3HB)
is a preferred subtype



Polymer Types

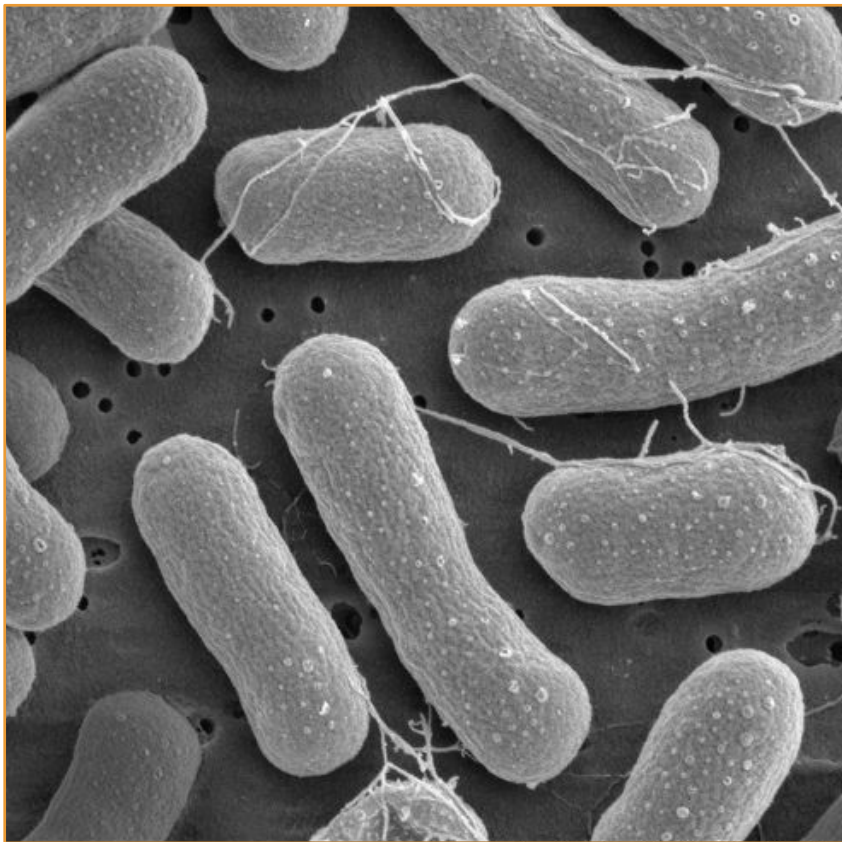
Mango Materials' PHA is both bio-based and biodegradable



Disposal Environments



POLYHYDROXYALKANOATE



Nature's plastic

WASHSAFE™

OCEANSAFE™

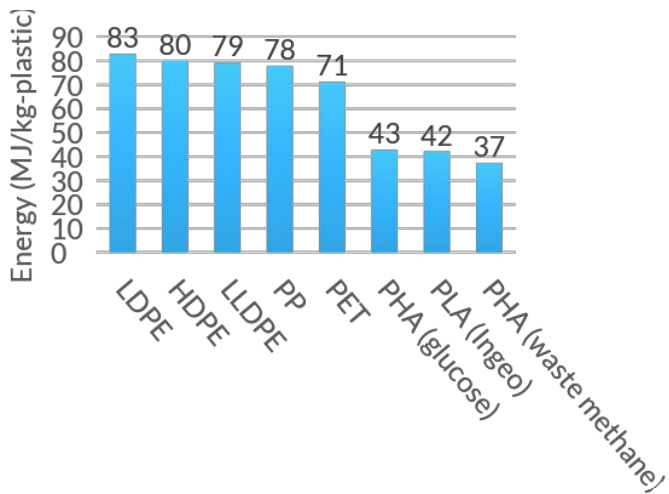
FISHSAFE™

ClimatePositive™

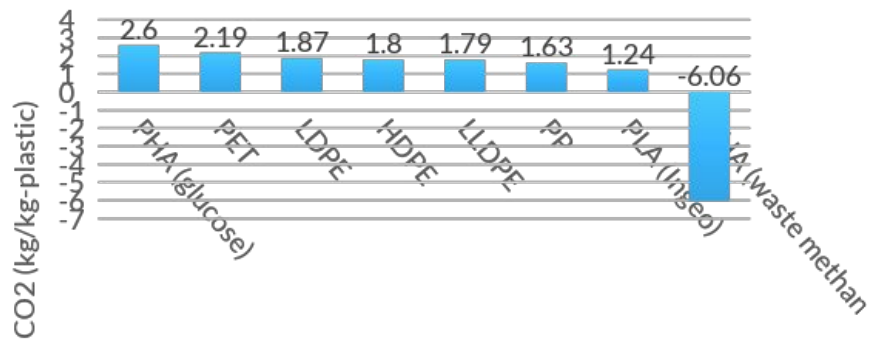


PHA has Low Environmental Impact

Unlike traditional plastics, PHA from methane can reduce greenhouse gas emissions



PHA requires much less energy than traditional plastics



PHA from waste methane can be carbon negative!

Business Model

1. Sale of end product



Methane producer
partnership



Powered by **MANGOMATERIALS™**

Sale by Brand Owner

2. Licensing fee

3. Bacteria & media supply



Up-Scaling



Bench scale



Pilot

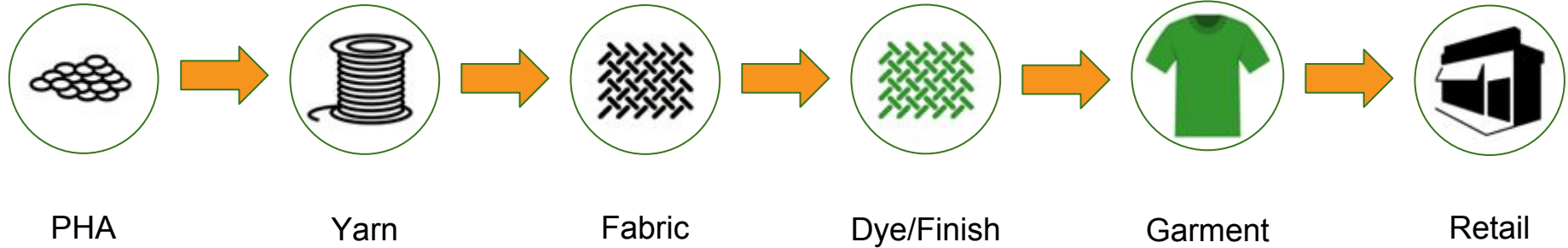


Launch Facility



Commercial
Full-Scale

Partnerships Through the Supply Chain



By co-development and commercializing with customers & partners in a value chain collaboration model

The Future

We can commercialize biopolymers faster with your help

- What is ideal “end of use”?
 - Take-back programs?
 - Digestibility? Compostability? Recycling? Landfill?
- How should we label?
 - Confusion with “marine biodegradable”
 - “Backyard compost”, “industrial compost”
- How does this fit in with those that deal with waste?



In the words of our customer:

Finally an environmentally-oriented company designed for me. It understands my need for inspiration from nature. It respects my beliefs and cares about the details. It knows that environmental justice and piece of mind are important to me.



Compostables & Biodegradables are the answer



2 weeks, aerobic compost,
PHA fibers

Where scientific innovation meets environmental justice.

 MANGOMATERIALS™

For further information

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