

Harnessing CO₂ for Breakthrough Materials

Reinventing the \$620B plastics industry—from the ground up



Aanindeeta Banerjee

CEO & Co-Founder · ab@resourcechemicalcorp.com

INTRODUCTION

Plastics: World's Most Essential and Transformable Material



Why plastics dominate every industry?

- | | | | |
|---|---|--|---|
| Moldable
Into any shape or size | Customizable
With performance additives | Lightweight
Excellent strength to weight ratio | Cheap
Vs metals, glass and alternatives |
|---|---|--|---|

PROBLEM

Plastics Are Driving Climate and Pollution Crisis

CO₂-Emitting

5.3% of global CO₂

- Produced using oil or gas
- End-of-life incineration further emits

Waste Accumulating

260M tonnes/year

- Typical plastics have a 450-yr lifespan
- Choking oceans and landfills

Barely Recycled

Only 9% are recycled

- Additives & multi-layer plastics block recycling
- Current infrastructure can't keep up

9,200 million tonnes of plastic produced since 1950

WHY NOW

The Demand for a New Material Is Undeniable

Governments Acting

- EPR laws now in 40+ countries
- Single-Use Plastic bans expanding globally
- Sustainable Material Mandates tightening

Business Demand Shifting

- Better end-of-life options required by procurement teams
- Improved shelf life = cost savings across supply chain
- ESG commitments driving material substitution

Consumers Driving Change

- 26% of consumers will pay MORE for non-plastic packaging
- 80% of cosmetics customers actively seek plastic-free options
- Social media amplifying plastic backlash globally

The plastics industry must change. ReSource is the company built to to change the scenario.

PEF: All the Versatility of Plastic. None of the Guilt.

Like plastic, PEF is:

Moldable

Customizable

Lightweight

Cheap

IT ALSO
UNLOCKS
ADDITIONAL
FEATURES

Carbon Negative

Uses CO₂ & produced from inedible biomass, not oil & gas

Zero-Waste

Multiple end-of-life options: reuse, recycling, compostable, carbon-neutral incineration

Drop-in Recyclable

Uses existing recycling infrastructure

SOLUTION — ENTER RESOURCE CHEMICAL

PEF Doesn't Just Match Incumbents — It Outclasses Them

PACKAGING SUPERIORITY

>10x O₂ Barrier vs PET

Superior food preservation, extended shelf life

>15x CO₂ Barrier vs PET

Unmatched carbonation retention

>2x Moisture Barrier vs PET

Keeps products fresher, longer

Best-in-class UV shielding— superior to PET and Nylon. Fully recyclable, integrates into existing PET stream.

FIBER SUPERIORITY

Bacteriostatic

Without any additive

Enhanced Moisture Wicking

Faster moisture removal than PET, superior comfort

Superior Dyeability

Higher dye uptake than PET, excellent color fastness

Wrinkle Resistant

Excellent elastic recovery, holds shape better

PEF's superiority has always been known. Until now, it couldn't scale..

HOW IT WORKS

We Cracked the Process with Radically Simpler Chemistry

Other Processes

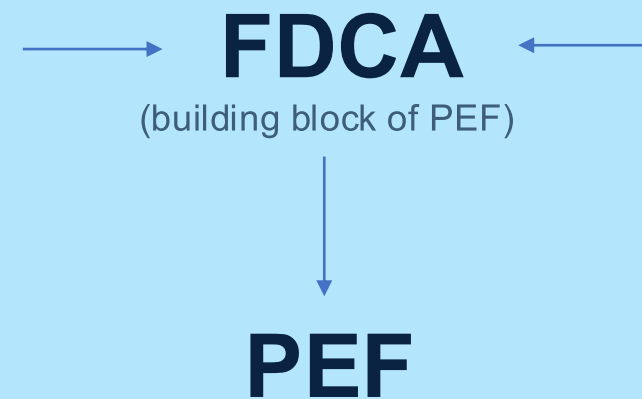
Starting Material: **Food**

- 68-step process, low yield
- High capex, high opex
- High cost

Patent-Protected RCC Process

Starting Material: **Inedible biomass + CO₂**

- 20-step process (70% reduction), high yield
- Lowers capex
- Lowers production cost



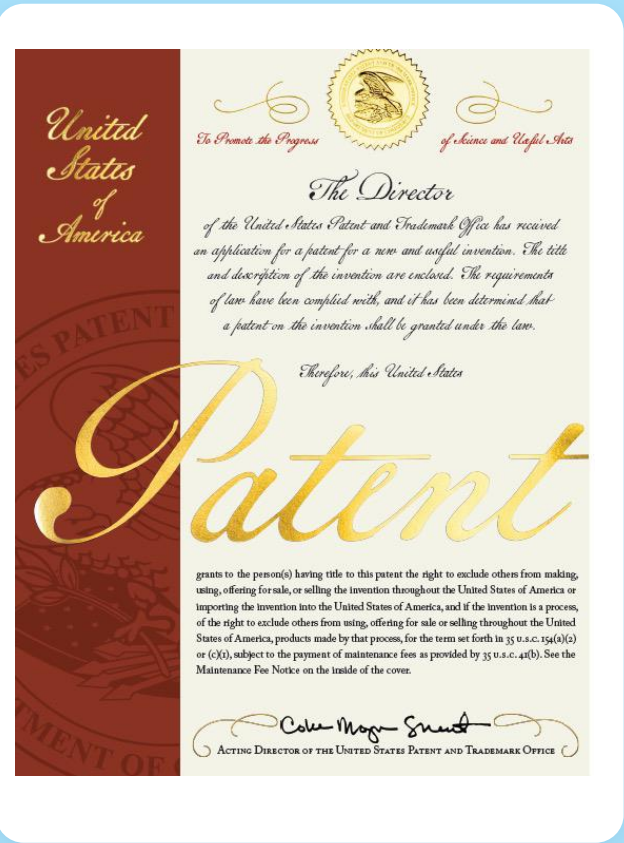
We have the first commercially scalable route to low-cost FDCA.

INTELLECTUAL PROPERTY

Strong Global IP Coverage of Technology

7
PATENTS GRANTED

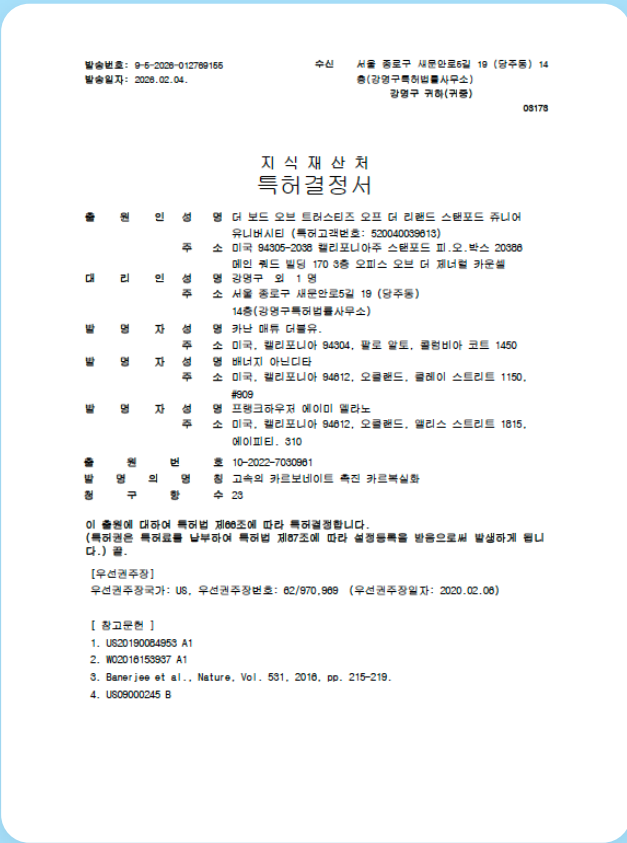
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PATENTS PENDING



USA



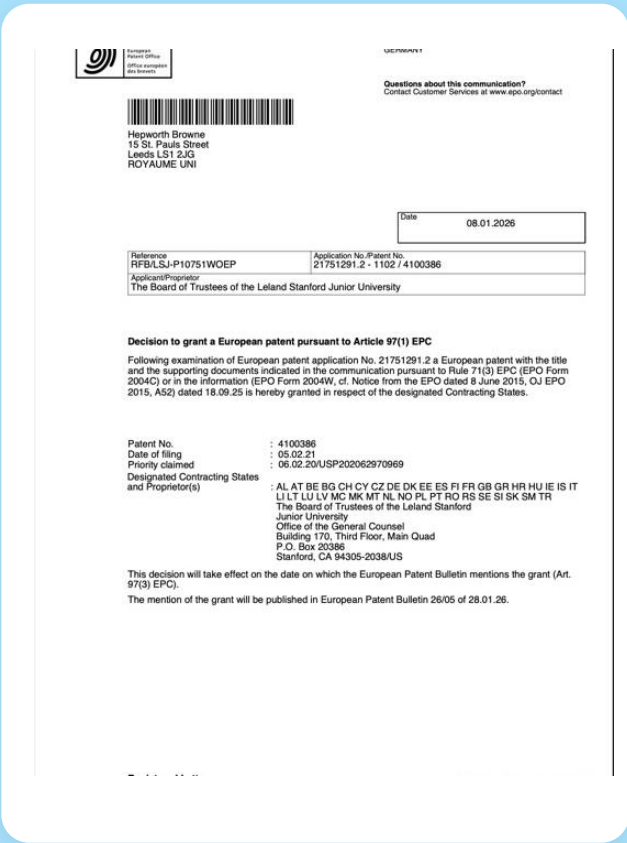
Japan



Korea



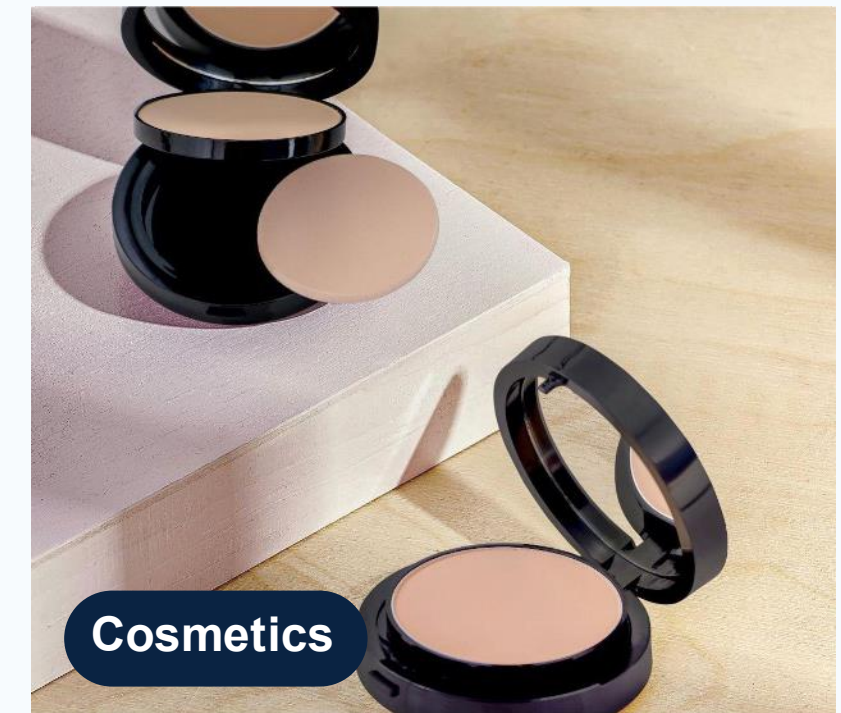
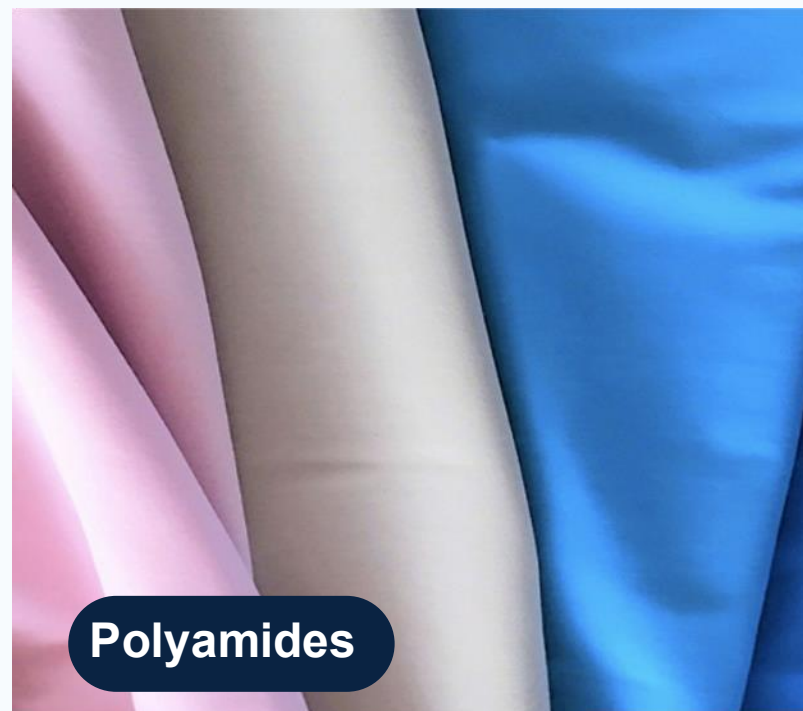
India



Europe

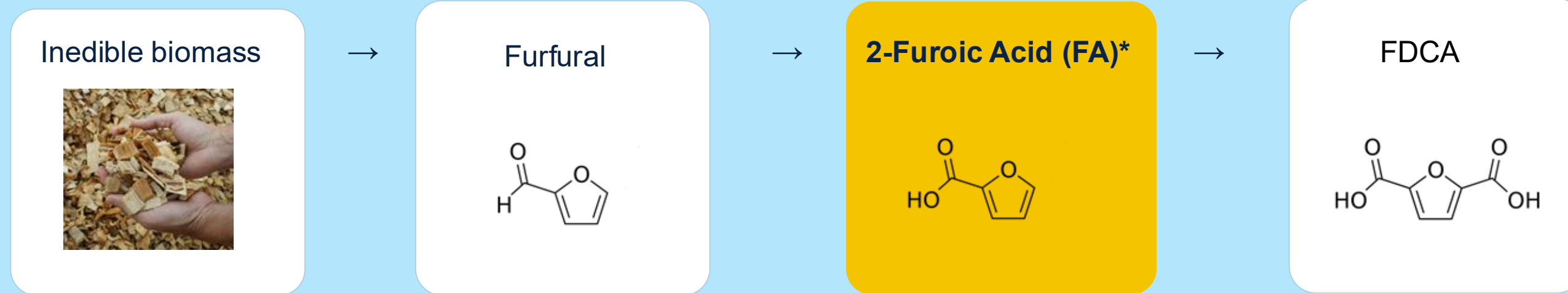
PRODUCT APPLICATIONS

FDCA Unlocks Diverse Market Opportunities



Same Platform, Two Markets: FA and FDCA

FA opens additional Revenue Path Alongside FDCA



Validate real-world demand, secure early offtake signals, and de-risk commercialization while preserving the FDCA opportunity.

* Existing specialty chemical market

Producing FA and FDCA at our Pilot Facility

Total Area	20,500 sqft
Office	3,000 sqft
Power	800 Amps @480V



FUNDING

Backed by Leading Investors

Investors

khosla ventures



Since 2021

\$26.1M

Raised Total

\$9.2M

Non-Dilutive



U.S. DEPARTMENT
of **ENERGY**

Office of Science



America's
SEED FUND
SBIR.STTR

Activate

We are Building the New Circular, Robust & Low- Carbon Plastics Economy

