Oleo

Unlocking the future of fuel.

TomKatCenter FOR SUSTAINABLE ENERGY

BERKELEY LAB

Activate

AB PDU

gener8tor

Advanced Fuels are Essential, but Feedstock Costs Break Unit Economics

15 %

of **global air emissions** are driven by the **transportation** sector, which is heavily reliant on **liquid fuels.**

80 %

of **production costs** of advanced fuels are **driven by oil feedstocks**, creating a profitability issue even with the most economically viable path, **HEFA.**

Oleo Cuts Feedstock Costs By 22% & Enables Profitability for Energy Producers

Soybean Oil
$1200/ton

Oleo
$931/ton

Affordable

22% cost reduction

Oleo’s modeled production price of oil at commercial scale is an average of $931/ton, which is 22% lower than incumbent feedstocks.

Oleo Cuts Feedstock Costs By 22% & Enables Profitability for Energy Producers

Soybean Oil
$1200/ton

Oleo
$931/ton

Affordable

22% cost reduction

Oleo’s modeled production price of oil at commercial scale is an average of $931/ton, which is 22% lower than incumbent feedstocks.

Sustainable

8x Lower Carbon

+$1,000/ton in additional carbon credits

Oleo’s is Unlocking Domestic Energy by Valorizing Untapped Biomass Waste into Oil Feedstocks for the Production of Advanced Fuels

Lignocellulosic Biomass

Oleo’s Proprietary Biomanufacturing Platform

Carbon Negative Oil Feedstocks

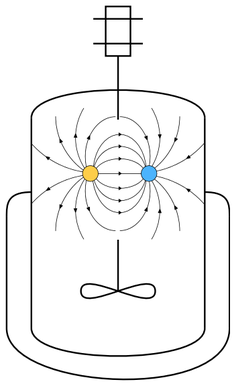
Patent Pending
USPTO PCT/US24/28032

Oleo's is Unlocking Domestic Energy by Valorizing Untapped Biomass Waste into Oil Feedstocks for the Production of Advanced Fuels

Patent Pending
USPTO PCT/US24/28032

Production of Valuable Co-Products Materially Improves Profitability of Oleo's Biorefinery Model

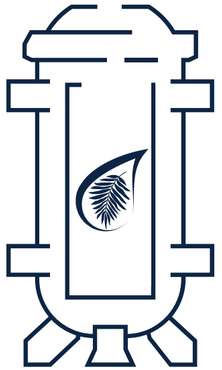
Lignocellulosic Biomass



Microwave Hydrolysis

Xylose

Glucose



Microbial Fermentation

TAGs & FFAs (C:16, C:18)

Yeast Protein

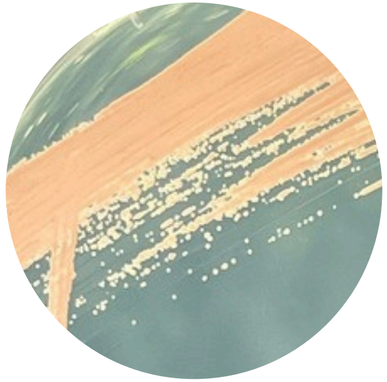
Lignin

Patent Pending
USPTO PCT/US24/28032

Our Competitive Edge: Proprietary Biology and Process IP

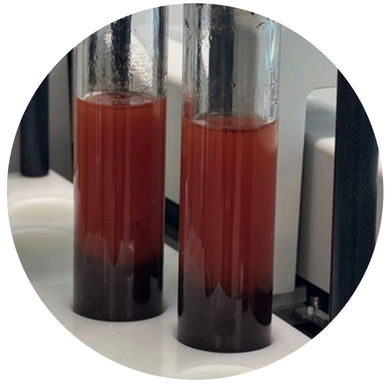
Methods Patent: Bioconversion

End-to-end methods patent pending (USPTO PCT/US24/28032). Exclusive option from Stanford executed April 2025. Intent to extend option in October and exercise option in January.



Proprietary Microorganism

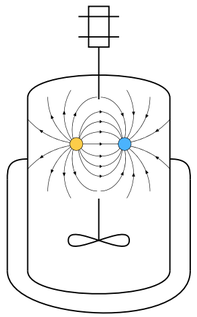
Oleo has isolated a rare deep sea oleaginous yeast strain that outperforms top repository strains in lipid production by over 2x when grown on lignocellulosic hydrolysate and accumulates 70% lipids by DCW.



Methods Patent: Pure C5 & C6

Oleo has developed a novel method for producing separate and pure streams of C6 and C5 sugars from lignocellulosic biomass for optimized fermentation. IP filed & owned by Oleo.

Technical Advantages Unlock Scale & Profitability

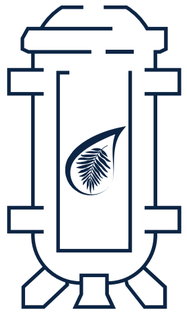


Microwave Hydrolysis

Energy-Efficient

65%

More energy efficient than conventional biomass pretreatment methods.



Microbial Fermentation

High-Yield

2x

Oil yields when compared to repository strains on cellulosic hydrolysate.

Oleo's Biomfg Platform

Flexible

30

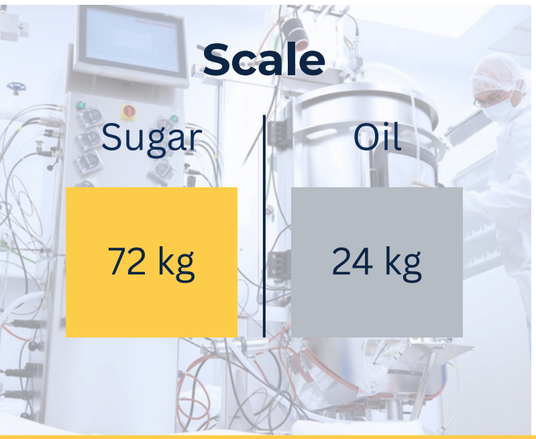
Validated on 30 different biomass sources offering unmatched scalability.

De-Risking Oleo's Technology and Demonstrating Cost Reduction Targets in 2026

Pre-Pilot

8 kW
Microwave Reactor

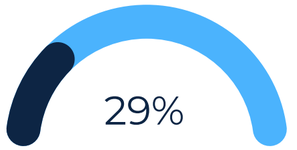
300 L
Bioreactor



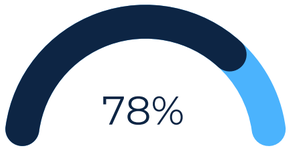
Achieving key benchmarks to demonstrate 22% cost reduction.

Sugar Conversion Efficiency

Sugar to Cell Biomass Conversion Efficiency



Extracted Lipid Production Rate



Percent Lipid Accumulation

Compatibility testing with energy producers

June 2026

July 2028

Seed Funding Drives $4.8M in Revenue by 2028

Pre-Pilot

8 kW
Microwave Reactor

300 L
Bioreactor

Scale

Sugar	Oil
72 kg	24 kg

Pilot

100 kW
Microwave Reactor

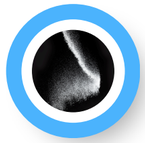
15,000 L
Bioreactor

Scale

Sugar	Oil
218 T/Yr	1 T/Batch

June 2026

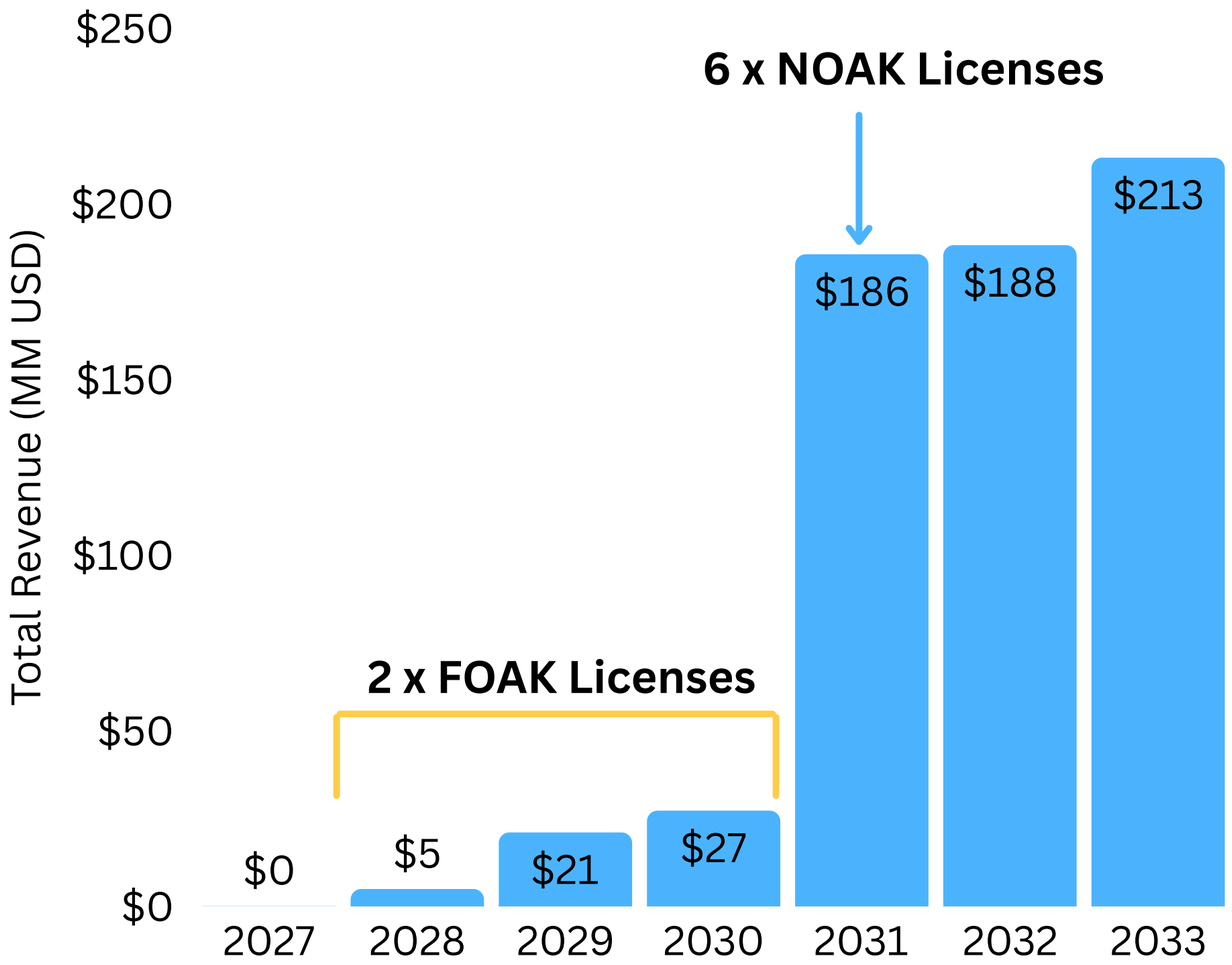
July 2028



Generate $687,000 in ARR via Sugar & Lignin Sales

Generate $4M in Revenue from Technology Licensing Agreements

Technology Licensing Unlocks $213M in Revenue by 2033 and $7B Across Plant Lifecycles



2 First-of-a-Kind Facilities

$13.5M in Licensing Fees

2% Royalty

6 Nth-of-a-Kind Facilities

$25M in Licensing Fees

3% Royalty

Biomass Supply Secured to Support a $4.8B ARR Licensing Opportunity

Domestic Siting

No. of Plants:
8 - 2 x FOAK, 6 x NOAK

Scale:
605,000 tons of oil produced

Opportunity:
$4.8B in Annual Revenue

NSJV, California

Almond Byproducts
4 Million Tons/yr
$15-125/ton

GPX

Midwest

Soy Byproducts
130 Million Tons/yr
$15-130/ton

ADM

Pacific Northwest

Woody Biomass
15 Million Tons/yr
$15/ton

INTERFOR

Capturing 3% of the $21B Global Oil Feedstock Market Annually

Oleo's **oil product** is ready to ship to energy producers, our key customers who will upgrade the oil into advanced fuels.

$21B TAM
Global Oil Feedstock Market RD & SAF

$7.8B SAM
Domestic Oil Feedstock Market

$726M SOM
Oil Revenue from 605,000 ton oil /yr

Strategic Partnerships Across Biomanufacturing, Fuels, and Energy Enable Commercialization

Sugar Key Customers

Oil Key Customers

Customer Traction:

4 Letters of Support

5 NDA/MTAS

7 R&D Collaborations

Oleo has active and ongoing engagements with all companies on this slide, de-risking our value chain and GTM.

The Oleo Team

Founders

Gabriella Dweck, co-CEO & CPO

Kelly Redmond, co-CEO & COO

Technical Team

Nick Robertson, Ph.D
Lead Fermentation Engineer
PhD, Synthetic Biology

Mairui Zhang, Ph.D
Lead Process Engineer
PhD, Bioprocess Engineering

Advisors

Dr. Seth Snyder
Technical Advisor
Former Director INL, waste-to-energy, investor CEVG

Derick Jiwan
Go-to-Market Advisor
Innovation & Business Development

Investors & Funders

Partners

With $1.6M Oleo:

- Achieved TRL 4 & scaled to the 10L bioreactor setting.
- Built out a fulltime team of four
- Demonstrated the ability to produce carbon negative oil feedstocks at price parity with seed oils.
- De-risked value chain through partnerships with agribusinesses & energy majors.

Dec 24 → Jun 26

With $1.6M Oleo:

- Achieved TRL 4 & scaled to the 10L bioreactor setting.
- Built out a fulltime team of four
- Demonstrated the ability to produce carbon negative oil feedstocks at price parity with seed oils.
- De-risked value chain through partnerships with agribusinesses & energy majors.

$6.5 Million Seed Unlocks Commercial Deployment

- Build of microwave hydrolysis demo-unit producing 218 tonnes/yr cellulosic sugar.
- Early revenue & technology licensing from biomass to sugar platform.
- Produce tons worth of oil product via 15,000L fermentation at CMOs.
- Demonstrate price parity and carbon intensity score in production environment, achieving TRL 7.
- Secure path to technology licensing.

Dec 24 — Jun 26 — July 28

Oleo

Unlocking the future of fuel.

Thank You

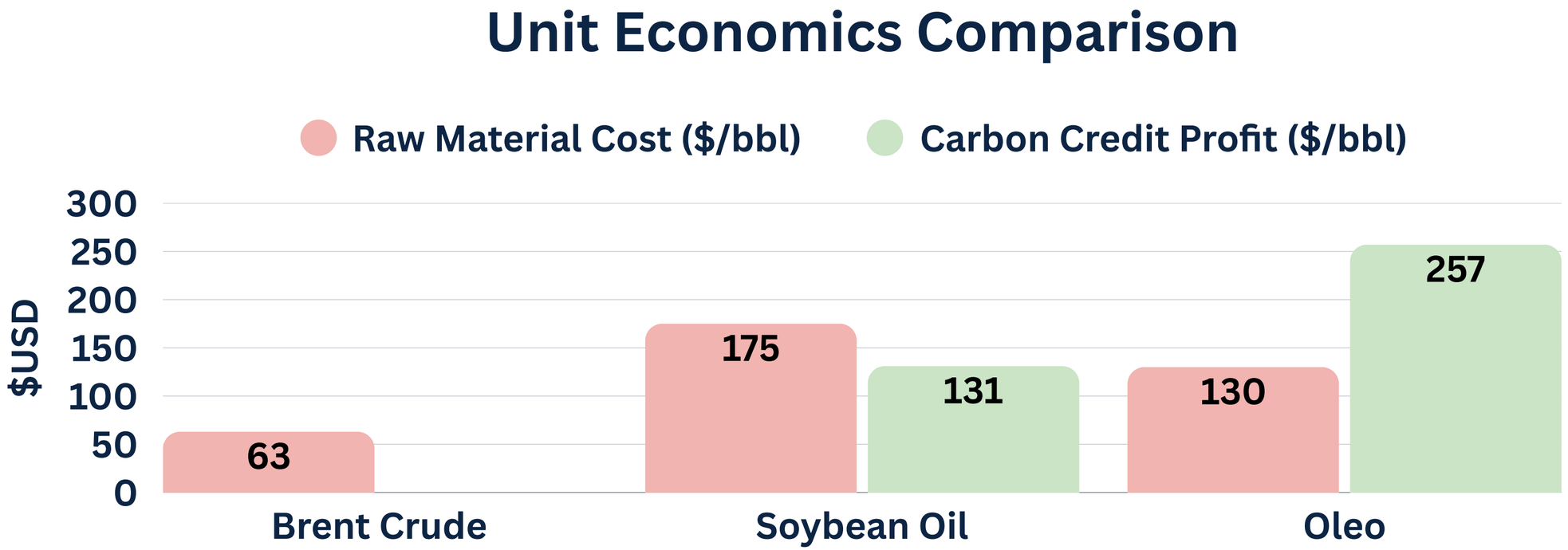
kelly@oleospos.com

gabriella@oleospos.com

https://www.oleo.earth

717 Potter Street, Berkeley California, 94720

Oleo vs Incumbet Cost Comparison by Barrel



Oil Cost ($/bbl)		$63	$175	$130
Credit ($/bbl)	-	$0	$131	$257
Net Cost ($/bbl)		$63	$44	$-127

Oil Feedstock Competitive Matrix (Incumbents)

Company	Oleo	Palm Oil (RBD)	Canola Oil	Soybean Oil	UCO	Tallow/greeses
Oil type	TAGs & FFA	TAGS	TAGS	TAGS	Mixed TAGs/FFA	TAGs
CI Score	-489	35-60	53	40-55	23	35
Cost ($/unit)	$903/t	$975–$1,150/t (mid-2025)	$1,213/t (US, Mar 2024)	$1,014/t (US, May 2025)	$1,103/t (US Gulf, Mar 2025)	$1,235/t (tech tallow early 2025)
Domestic Availability	700,000 t/yr by 2035	1.7-1.8Mt/yr	900,000t/yr	12.5Mt/yr	1.4Mt/yr	2.2 Mt/yr
Food competitive	No	Yes	Yes	Yes	No	No

Oil Feedstock Competitive Matrix (Innovators)

Company	Oleo	Alder Fast Pyrolysis Oil	Circe Bio-oil	Cemvita Bio-oil	Viridos Algal Oil	ErgBio	Terra Oleo
Oil type	TAGs & FFA	oxygenated biocrude, not a drop in replacement to existing processes	TAGs & FFA	TAGs & FFA	TAGs & FFA	TAGs & FFA	TAGs & FFA
CI Score	-489	estimated negative	estimated negative	0.23	estimated negative	estimated similar to Oleo's	high if relying on 1G sugar
Cost ($/unit)	$903/t	unknown	estimated $30/kg	unknown	unknown	estimated high due to use of ionic liquids and CBP	estimated over $1600/t due to cost of sugar
Domestic Availability	700,000 t/yr by 2035	Likely high due to ability to valorize woody biomass	limited by design of novel bioreactors at commercial scale	limited by commercial supply of glycerol feedstock (6.9 tons globally)	limited by efficiency of algal farming	Likely high due to ability to valorize woody biomass	limited by lack of technology to produce cellulosic sugars

Oleo’s Process Reduces the Cost of Oil Feedstocks By 22% with an 8x Lower CI Score

Affordable

22% cost reduction

Sustainable

8x Lower Carbon

Oleo’s modeled production price of oil is $931/ton, which is 22% lower than incumbent feedstocks. Carbon Credits are not factored into our unit economics, and instead represent additional $1,000 in revenue potential and profitability for energy producers. Full technoeconomic and lifecycle assessment results can be found in Oleo’s data room.