



**NULEAF TECH**

# Compact Ecosystems for Off-Grid Water Solutions

Investor Deck — Spring 2020

**Massive gaps in current wastewater infrastructure are leading sources of pollution!**  
The result is widespread disease and ecological destruction with billions of dollars lost each year in the US alone.



**Aging municipal treatment plants are crumbling in the face of rapid urbanization.  
Septic tanks aren't going to be able to pick up the slack.**

**Few options in between these two means that anyone that doesn't fit into the limited capabilities is suffering.**

## The consequences are accelerating for all of us.

But especially for small businesses and the already vulnerable that need on-site and modular treatment.



**Competitive Growing Industries**  
Businesses like microbreweries  
with specialized wastewater.

**Overwhelmed Treatment Plants**  
Expensive expansions means many  
are looking for buffer treatment.

**Vulnerable Rural Communities**  
Areas where septic tanks are not  
available or hard to replace.

# We're nature nerds that have watched too much Star Trek.

During the record-breaking drought in 2017, two native Californians started paving the way for modular treatment.

## History & Team

In 2015, we brought biomimicry to NASA Ames and incorporated in 2017.

We're native Californians that understand why personalized solutions and intersectionality are important to combat water scarcity.

We're ready to bust open a billion-dollar market so no one worries about dirty water and this precious resource is never wasted.

### Rachel Major — CEO & Co-Founder

- Environmental chemistry, management, and biomimicry

### Ari Ochoa — CTO & Co-Founder

- Microbiology, brewing, construction, and engineering

Our advisory board and other team members support us with business development, social media, outreach, and operations.



# We need help for a sustainable, equitable future of water. NuLeaf can create that pathway.

NuLeaf leverages our interdisciplinary mixture of biotech and engineering skills to combat water scarcity.



## The NuTree:

An on-site wastewater treatment device

Modular units from a single household to a growing business

Ease of use - no PhD required!

Low maintenance = affordable

All-natural treatment

Zero waste - water recycling + bioenergy

# Compact ecosystems for all your off-grid water needs.

All-natural water treatment made easy and beautiful with modular scalability.



Removing over 99% of contaminants, a single unit provides comprehensive treatment and recycling of over 350 gallons/day of wastewater without odor.

## Specifics:

- One unit costs \$5-7k and can treat approximately 350 gallons/day
- Compact (2.5m<sup>2</sup> footprint and 2m tall) yet modular design for scalability to easily expand capacity
- Easy to construct and operate for all levels of users

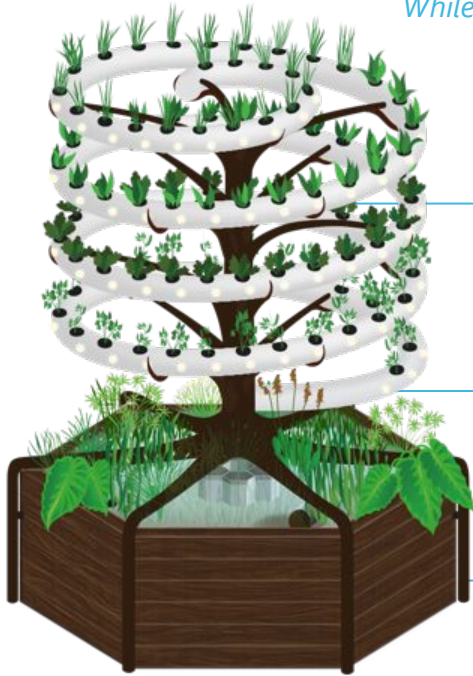
## Benefits:

- Recycles water without odor in a self-powered, natural system
- Creates clean water and crops for additional value
- Attractive design increases branding and aesthetic

## How it works

We combine three trusted, complementary technologies. This combination is covered in our US patent, which is currently pending. Significant engineering complexity is needed to combine these technologies in a single, easy to use system. This and our IP help make barrier to entry strong.

*The basin unit contains wetland plants that have a dense root system where special microbes live. While these microbes clean most of the wastewater, nutrient uptake by plants in the wetlands and in the vertical farming unit and digestion from the microbes in the MFCs all help clean the water.*



### 3 Vertical farming

Water is pumped to the top and the nutrients feed our plants  
The water can then be recirculated or piped off for reuse  
Depends on local regulations and user preference

### 2 Microbe-powered fuel cells

This water feeds the wetland microbes in our fuel cells.  
Their metabolism creates electricity that help to power our system  
This component of our system is currently in R&D

### 1 Engineered wetlands

Dirty water enters our engineered wetland ecosystem.  
Wetland microbes (which live on the plant roots) transform  
the waste into nutrient-rich water

## Current Traction and Bootstrapping

Our biggest hurdle is regulation, but we've had citizen support and success bootstrapping with urban farming units.

- **Customers:** Jaw Brew + Steel Bonnet Microbreweries, 1 Fortune 500 client, and several urban farming systems
- **In Progress:** Municipal units in the Pacific Northwest + Madagascar. Urban farming units for landscaping companies
- **Investment:** To date we've raised 150k+ from VCs and private angel investors.





## Market Pathway

A total US market of \$264 billion and \$61 million in our starter/focus markets.

Year 1: Craft alcohol in California

Year 2-3: Pacific Northwest

Year 3+: Vulnerable communities



**Sustainably-minded sector with a rapidly-growing, competitive market hindered by water.**

**Leverage credibility to enter more conservative markets like municipalities and agriculture.**

**Drive down manufacturing costs to deliver fully off-the-grid, affordable units to those in need.**

We're currently partnering with Venture Networks, SOSV, and RebelBio for a Series A for three years of funding to expand throughout the Pacific Northwest. Our projected revenue by year three is \$68 million with a 525% return on investment.

## What are the gaps in our competitor's systems?

A distinct lack of effective on-site treatment and modularity in wastewater systems large or small.



Most competitor systems **start** with a \$100,000 bill and a large footprint.

They often look like ugly gray boxes with too few recycling initiatives.

NuTrees are more effective with a better price point and superior modularity - all with the perks of green design.

# Strategy

80% of the world's water goes untreated - NuLeaf unlocks these markets.

## Why Breweries First

- Breweries pay 2x as much for their water as comparable industries
- Water costs can cut into up to 30% of profits for breweries
- ROIs could be less than a year for some breweries
- Close ties with municipalities and the agriculture industry make an ideal jumping off point

## The Power of Natural Beauty

A distinct look and appealing greenery can stand alone as an advertisement for itself.

Such visible products bolster bootstrap revenue sales as we work through regulations.

This visibility can also be leveraged to get customers in otherwise fiscally-conservative sectors and eventually developing communities.

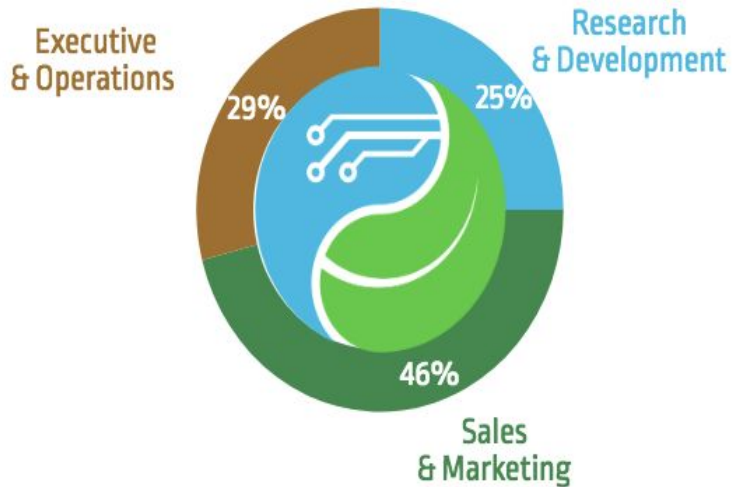
It is an educational and approachable way of showing the power of looking to nature to solve some of the world's most critical problems around resource independence.



# Current round and projections

Leverage a seed/angel round into a Series A round.

## Use of Funds for Series A round



## Projections (in Millions USD) Post Series A:

Year	1	2	3
Sales	1.98	17.79	68.08
Cost of Sales	1.19	11.01	44.62
Gross Margin	.79	6.77	23.46
Operating Expenses	5.41	6.58	8.31
Cumulative Income	-4.46	-4.23	8.26
EBITDA	-4.43	.33	15.4
Operation Margin	-225%	1.30%	18%

Based on expansion into the Pacific Northwest.

## 3 Year Plan

### Overall Impact Goals

- Prove to small and medium businesses, residents, and municipalities that wastewater treatment is affordable and available
- Drive down costs to make units available in developing and vulnerable communities

#### Year 1

1. Overcome regulatory barriers for municipal and brewing NuTree units
2. Complete integrate the microbial fuel cells for an energy neutral system
3. Integrate NuTrees into office to be a living demonstration of our tech

#### Year 2

1. Complete pilot systems for municipal, agriculture, and further food & beverage applications
2. Spread throughout other alcohol producers in California, like breweries and wineries
3. Set up manufacturing and maintenance hub in Southern California

#### Year 3

1. Set up manufacturing and maintenance hub in Portland/Seattle area
2. Fully launch municipal and agricultural units throughout California, and continue research for food & beverage and start research for additional accessories, like solar panels
3. Expand into alcohol producers and urban farming throughout the Pacific Northwest, and prep expansion across the US

## Mentors & Advisors

A combination of business savvy and an uncompromising commitment to a sustainable future through biology.



**Bill Liao**  
General Partner at SOSV

Extensive work with biotech startups

Special focus on sustainable development



**Kim deMora**  
CEO of Biomedical Startup

10+ years in synthetic biology

Business Development and Manufacturing



**Caitriona Keller**  
Analyst at RebelBio

15+ years experience in Global Financial Markets

Financial Markets and Financial Risk Management

**On-site and modular wastewater treatment is a necessity for a just, sustainable future.**

**Our purpose is to empower everyday people to treat and recycle their water using nature's methods.**

**Help us pave the way for a future of wastewater treatment that is modular, all-natural, and on-site for everyone.**





**NULEAF TECH**

# Thank you

Better Solutions, Naturally

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