

Green Nanochemistry for a Thriving Future



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CEO/Founder



Company Overview

- **Who we are:** Founded in 2012 in the Bay Area. A nanochemistry company utilizing renewable, non-toxic inputs to allow water & oil components to interface on the nano-scale.



Sylvatex Laboratory, The Lawrence Berkeley National Labs, Molecular Foundry, Berkeley, CA



USDA / Sylvatex Research Collaboration, USDA Albany Research Center, CA



Sylvatex Headquarters, San Francisco, CA

- **Our Goal:** Support the growth & use of renewables; using our novel technology and simple production process - create innovative business models that require low capital cost and can work within the current infrastructure.
- **Our Mission:** Harmonize Product, Nature, Industry
- **Commercial Plan:** First application alternative fuel - Co-locate at ethanol facilities to use their ethanol and corn oil as key inputs. Primary target is California market, production & Revenue 2017

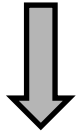


Technology Platform Addresses Several Huge & Growing Markets

Green Nanoparticles

Future Directions

Current Applications

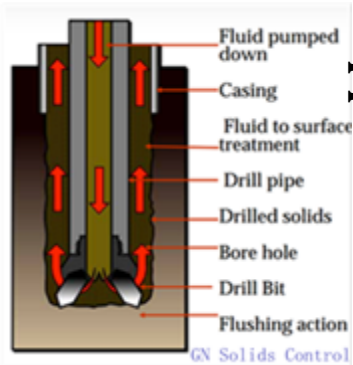


Low Carbon Fuels

Processing Material

Industrial Stabilizers

Drilling Fluids



Low Carbon Diesel Fuel

Industry Material Production

Stabilizers for food, pharmaceutical, cosmetics, agrochemicals, paints, oil etc.

Drilling fluids in oil & gas extraction

\$1.8 T Market

\$25B Market

Applications



Solving Current Industry Pain Points

Pain Points

Petroleum Industry Needs:

- Purchase Low Carbon Credits and/or
- Produce Low Carbon Fuel

End Users Needs:

- Low emission Diesel & Marine Fuels
 - Extend life of current diesel fleet (on/off road)
 - Access Emission Control Areas

Bio-Feedstock Provider Needs:

- Diversify Markets
 - New, Growing markets to drive demand
- Markets that value carbon to provide new revenue stream

Industry Processing Needs:

- Greener production
- Low cost Material & Processes
- Increase electrochemical performance



Need Solutions that Create Stable, Low Carbon Products



Focus Learning = Broader Market Opportunity

- Technology Targets:
 - Very low cost product
 - Large scalability
 - Variable Inputs
- Deep Understanding of:
 - Commodity markets
 - Biobased feedstocks
 - Regulations
 - Carbon Market drivers



Focused on low cost, scalable solutions for the Bioeconomy

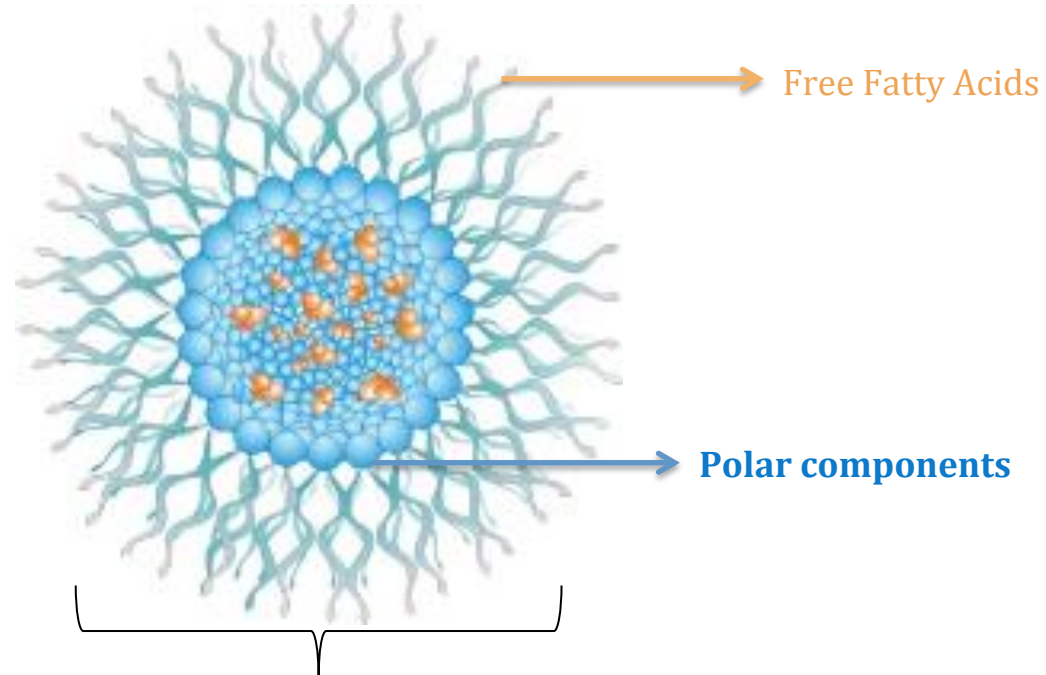


Novel Technology

1. **Green Technology:** inputs are renewable AND non toxic

2. **Core Properties = Stable, Scalable Solution**

- Nano-scale
- Uniform
- Stable
- Reproducible
- Measurable for quality control
- Discrete Shape & Size
- Tunable Properties
- Splash Blending Productions

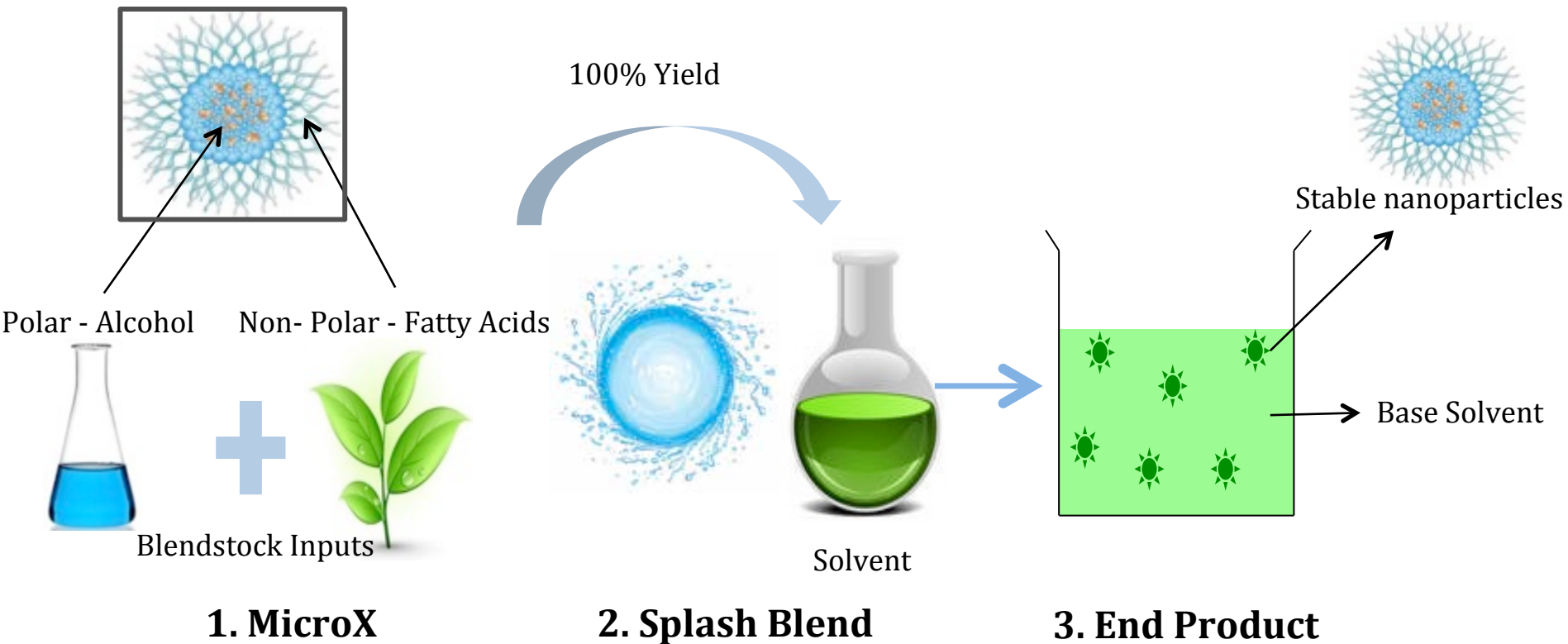


Structure: Reverse Micelle
Particle Size: ~ 10 nm

Physically changing the way Oil & Water Interface



Nimble Production Process



Simple Low Cost & Greener Process = Low Risk

Sylvatex Investment Comparison vs. Alternatives

- **Less capital investment than a biodiesel or renewable diesel refinery**

- Industry Rule of Thumb⁶:

- Large scale refinery (50-100M gals): Ethanol plant ~\$1.5-2/gal, Biodiesel \$1-2/gal, Renewable Diesel \$3/gal
 - Small scale refinery: Biodiesel \$4-\$5/gal, Cellulosic \$5-10/gals

- **Able to use a variety of low-cost feedstocks**

- Use of biorefinery waste or co-products
 - Use of other waste products



- **Utilized Existing Infrastructure & expand Markets**

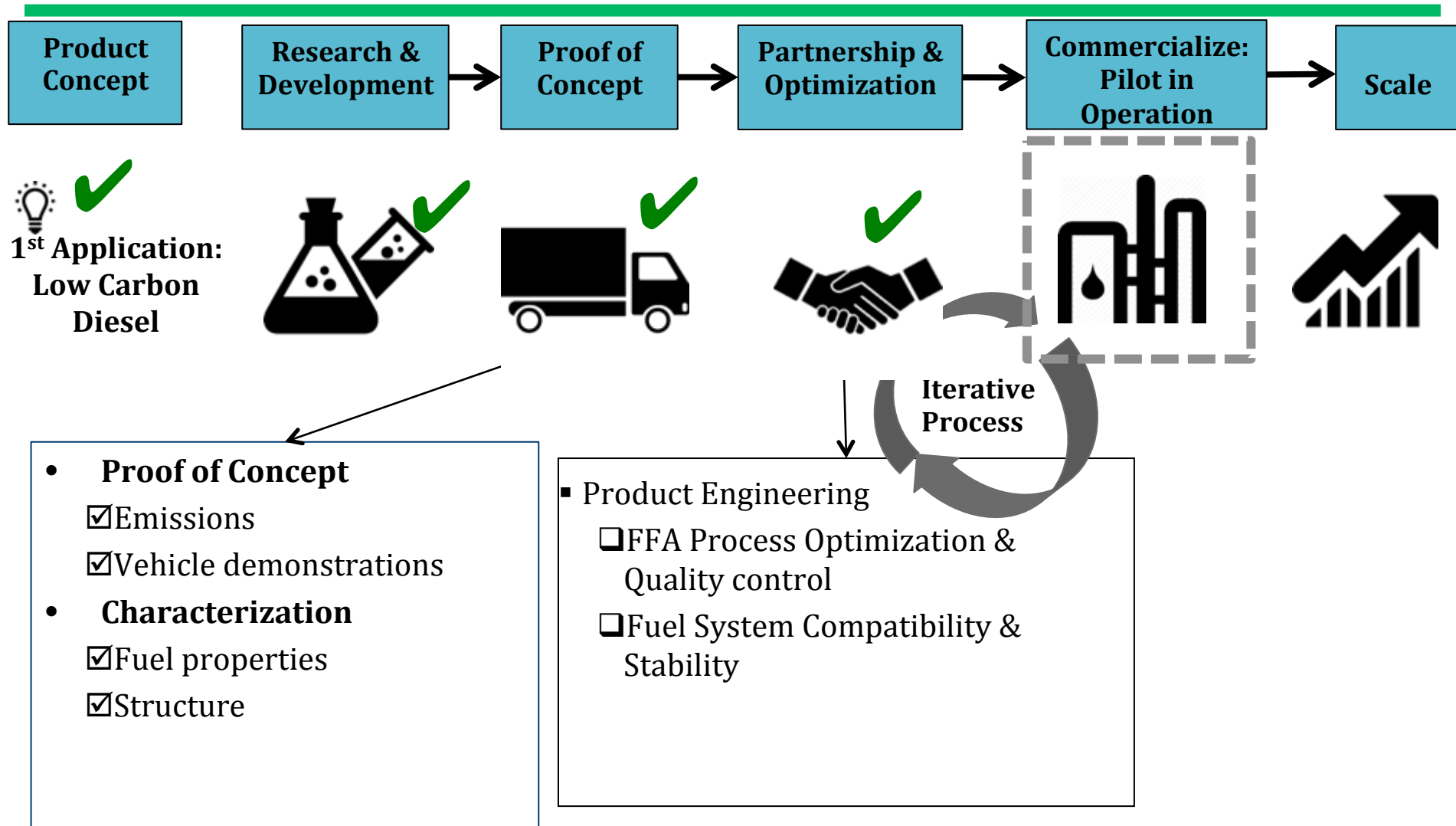
- Expanded ethanol sales – access to diesel market
 - Single off take for 100% of non- edible corn oil by-product
 - Leverage regulatory & distribution knowledge



References: 6) <http://www.bioenergyconnection.org/article/biomass-diesel-rising-star-renewable-fuel-standar>

Local Production - Low CapEx, Nimble & Scalable

Milestones to Fuel Commercialization



Transition from R&D to Commercializable Product Development



Signed Commercial Strategic Partnerships

FFA – Corn Oil

Ethanol



Why:

- Expand Ethanol Market into new premium market - Diesel
- Upgrade carbon credit opportunity
- Use of co-product (non-edible corn oil) to advance biofuel vs. feeds market
- Co-location model = Low Capex/Opex for High IRR
- Access to new revenue stream

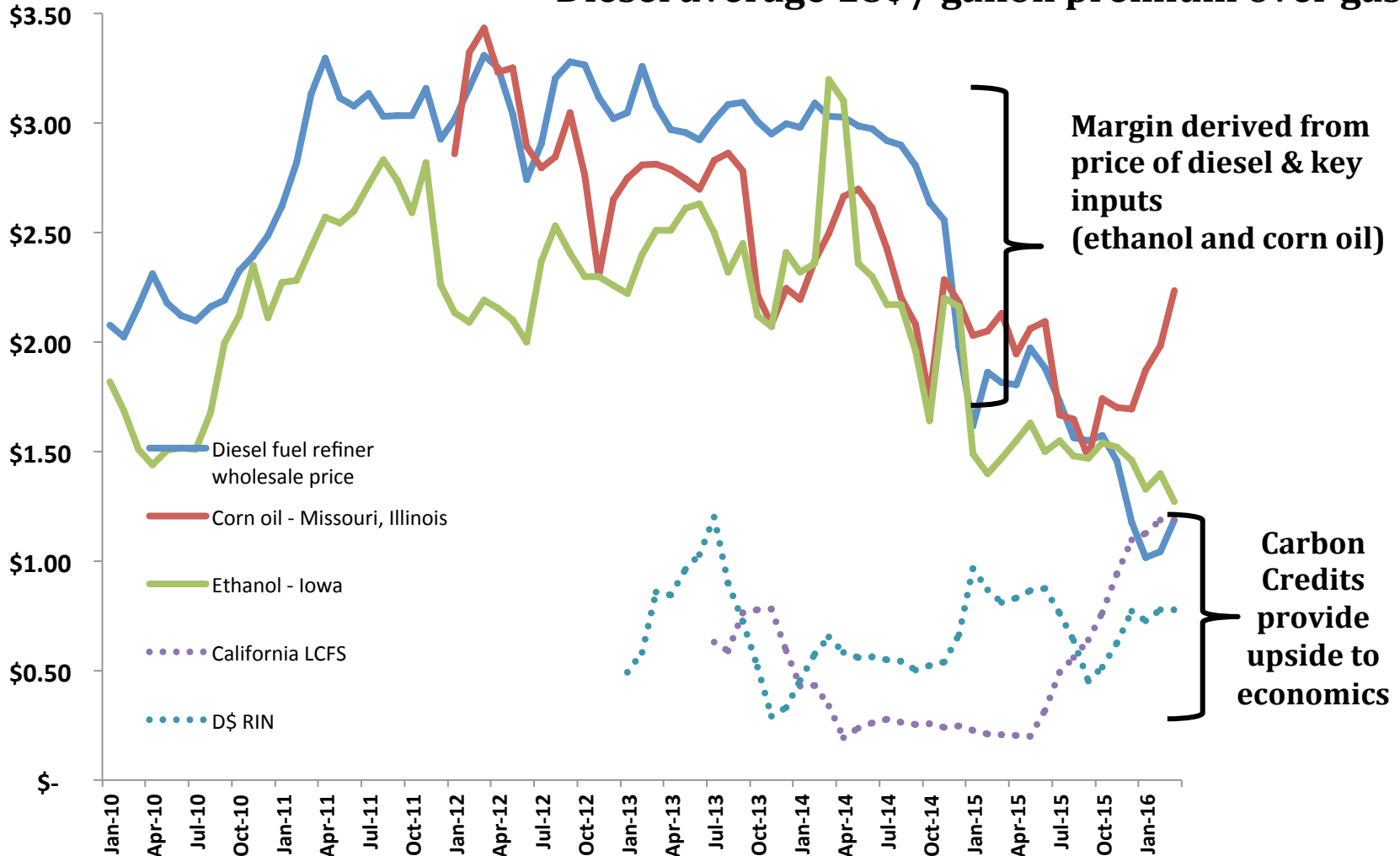
Partnership:

- Large ethanol partner
 - Co-location model - Revenue generating Q2 2017
 - Profit margin in lowest fuels market
- Engineering Partners secured
- End Users & Support – LOIs signed



Capitalizing Off of Commodity Arbitrage & Carbon Credits

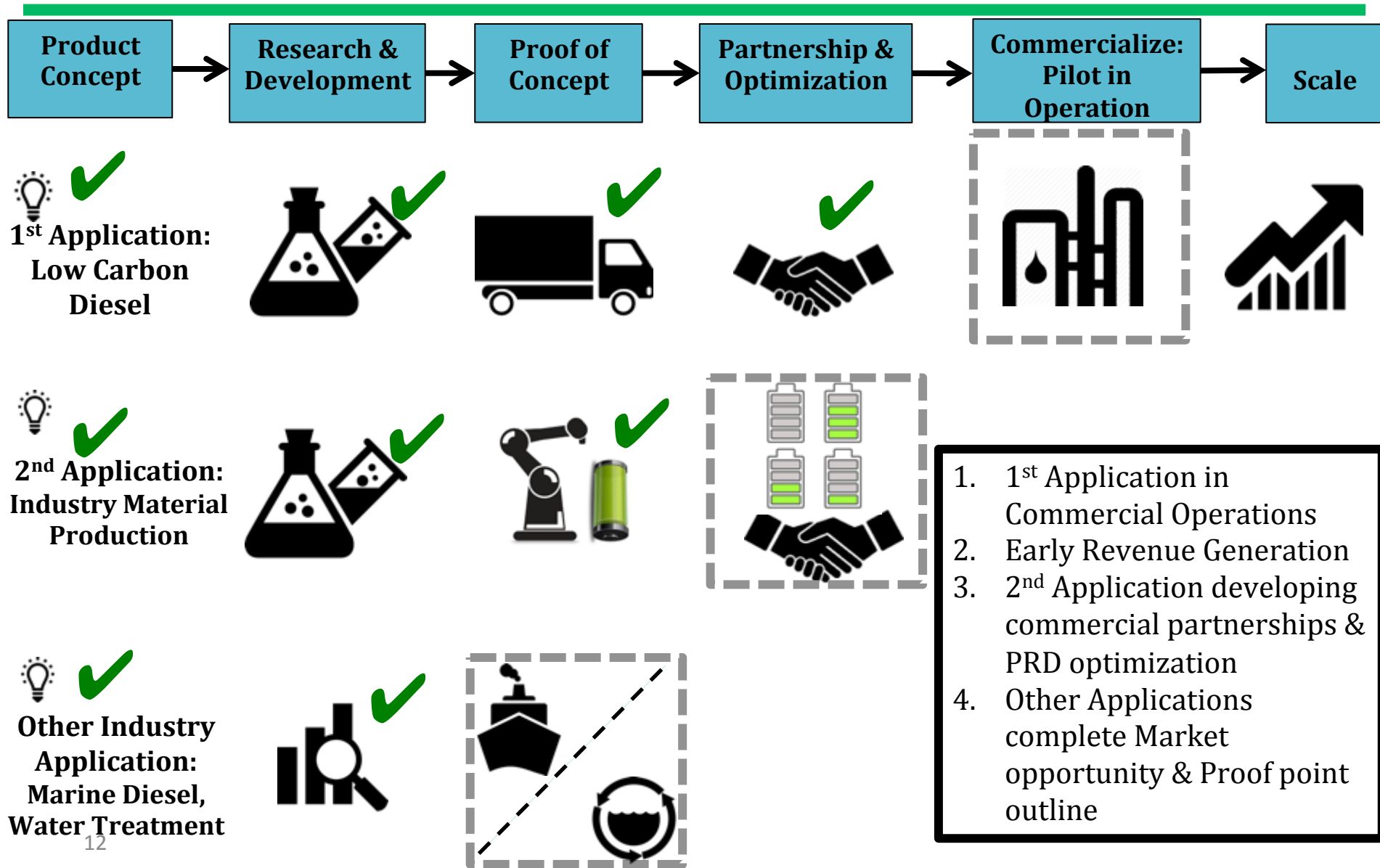
Diesel average 18¢ / gallon premium over gasoline



Margins during historically low markets



Milestones to Next Equity Raise





Path to Commercialization

Summary

- ✓ Product reduces emissions & carbon content of diesel
- ✓ Current Process:
 - ✓ Cost Effective
 - ✓ Low Capital Cost, Co-location model (<1\$/gal)
 - ✓ Economics + under all market conditions
 - ✓ Expand Ethanol Market into premium market (+8%/plant)
 - ✓ Upgrade carbon credit opportunity & co-product
 - ✓ Access to new revenue stream

Upcoming Key Milestones

- Completed Product/manufacturing R&D & Engineering
- CA regulatory pathways (ADF)
- Pilot/Commercial Plant Agreement & Build out – Low carbon alternative diesel fuel
- Small scale production & Revenue Generation
- Submit pathway for for LCFS Credits
- Access Non-dilutive funding



Our Team: Top Notch Industry Talent

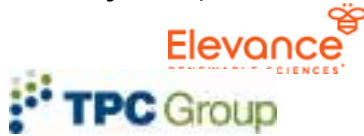
Board of Directors:



Shane Khoh



K'Lynne Johnson



Virginia Klausmeier



Bruce Rubin



Advisors:



Core Management:



Paul Miltenberger,
MBA
CFO/COO



Chuck Vacin,
MBA
Business
Development



Anandi Yadav,
PhD
Corporate
Development

+ Support Staff & Interns



Kristen Aramthanapon,
M.S.
Chief Technology
Officer



Ramez Elgammal,
PhD
Director New
Applications



Mark & Hung
Research
Associates



Technical Partnerships & Grants



Olson-EcoLogic
Engine Testing Laboratories






Excellent Investment Opportunity

Targeting Initial Conversations with Investors & Strategic Partners



- Commercialization-Ready Technology; Proven and Tested
- Immediate Path to Revenue; Multiple Exit Opportunities
- Targeting Large, Growing Markets
 - Diesel Fuel - \$1.8T Market Globally, \$48B in US
 - Industry Processing - \$25B Market Globally ->2x(2020)
- Capital Light Business Model
- Attractive Risk / Reward Profile



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