

SOLAZYME INTEGRATED BIOREFINERY PROJECT

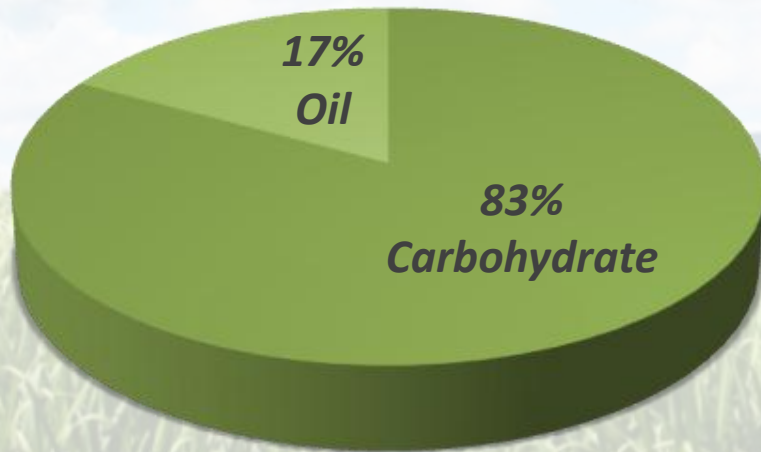
PRESENTATION TO BIOMASS TECHNICAL ADVISORY COMMITTEE

NOVEMBER 15, 2012

- Solazyme Technology Overview
- Solazyme IBR Project Overview
- Project Funding
- Project Scope and Schedule
- Project Performance and Status

WE MAKE OIL

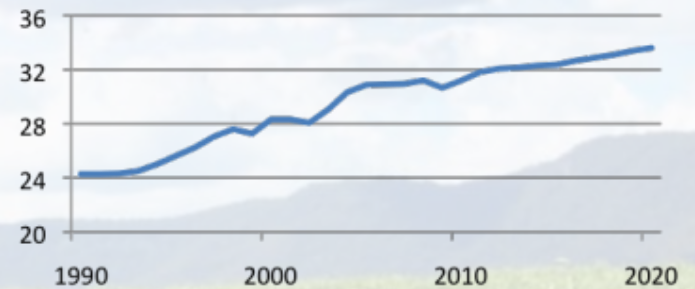
Limited Suitable Land for Oil Crops



Source: FAO

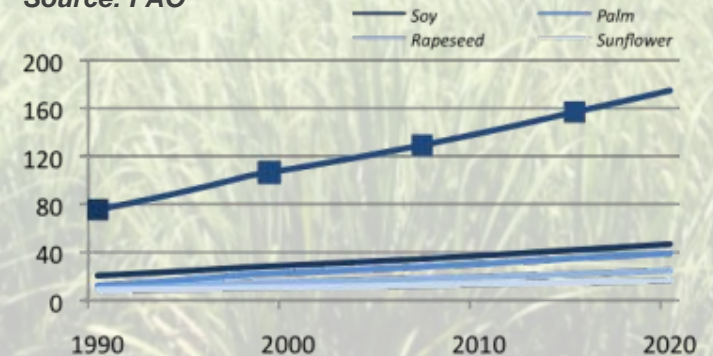
Global Petroleum Demand (B barrels / year)

Source: EIA



Natural Oils Market Growing (M MT / year)

Source: FAO

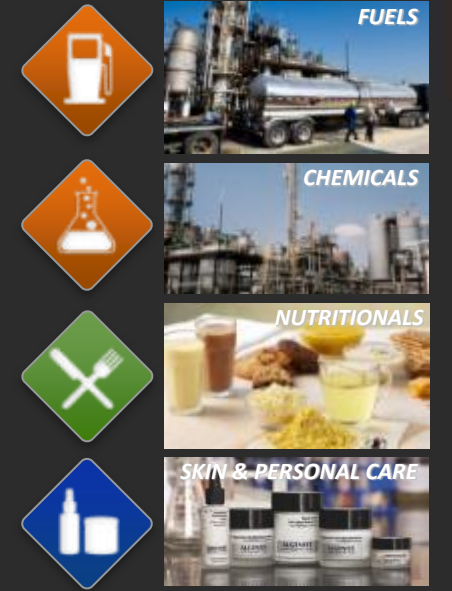


SOLAZYME BACKGROUND

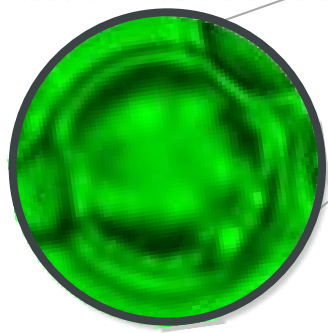
FLEXIBLE INPUT



MULTIPLE MARKETS

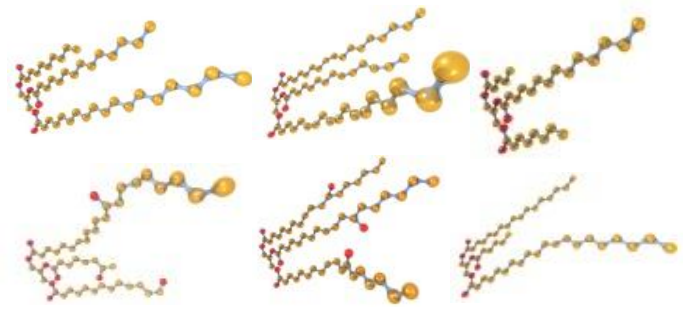


HIGHLY PRODUCTIVE MICROALGAE



> 80% oil*
**The average wild algae only has a 5-10% oil content*

OIL DESIGNED TO SPECIFICATION



OIL TAILORING PLATFORM

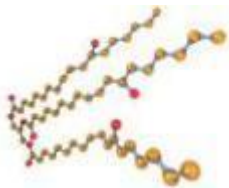
CHAIN LENGTH CONTROL



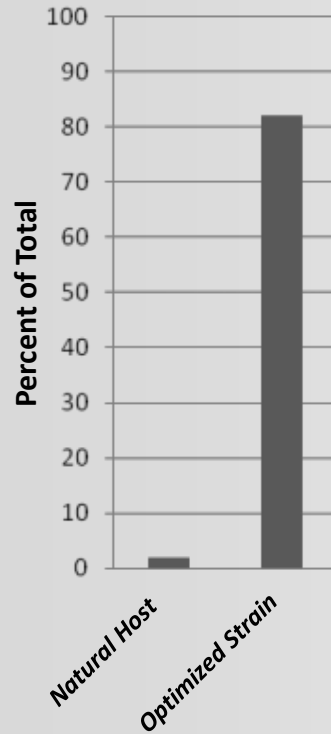
SATURATION LEVEL



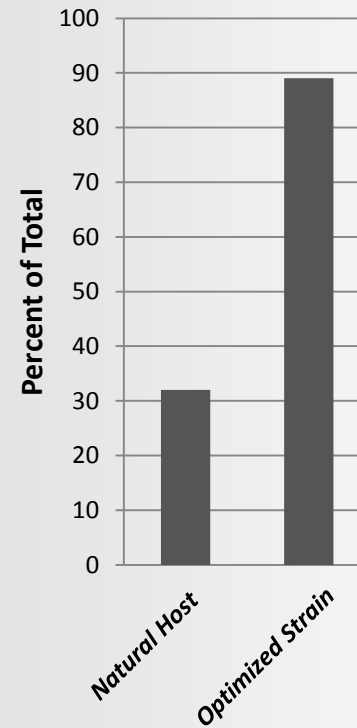
FUNCTIONAL GROUPS



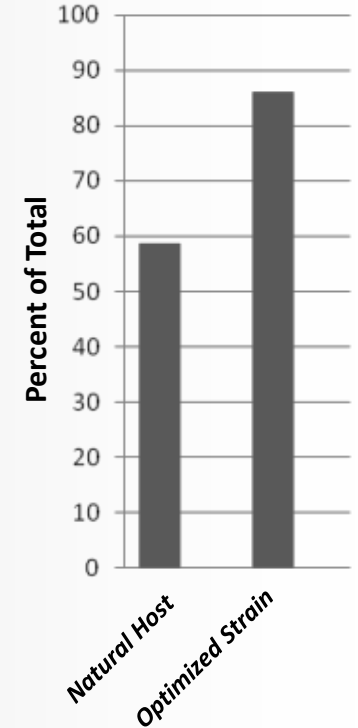
Chain Length Engineering (C10 – C14)



Saturation Engineering



High Oleic Engineering (C18:1)



COMPREHENSIVE FUELS STRATEGY

LAND



Genentech
IN BUSINESS FOR LIFE



SEA



AIR



UNITED 



Solazyme & Propel bring Soladiesel[®]_{BD} to consumers in pilot program

AVAILABLE FOR A LIMITED TIME

BiodieselB20

COMPATIBLE WITH ALL DIESEL VEHICLES

FEATURING 100% ALGAE-DERIVED

soladiesel[®]_{BD}

Propel[®]

The advertisement features a white background with a green wavy banner at the bottom. The text is arranged in a clean, modern font. A dark blue badge on the right side contains the text 'COMPATIBLE WITH ALL DIESEL VEHICLES'. The Propel logo is located at the bottom left of the banner.

- Soladiesel_{BD} meets or exceeds ASTM quality specifications
- Soladiesel_{BD} significantly outperforms ultra-low sulfur diesel in total hydrocarbons (THC), carbon monoxide (CO) and particulate matter tailpipe emissions

In four markets across the Bay Area, drivers can now choose Propel B20 biodiesel made from Solazyme's 100% algae-derived Soladiesel[®]_{BD}

AGENDA

- Solazyme Technology Overview
- Solazyme IBR Project Overview
- Project Funding
- Project Scope and Schedule
- Project Performance and Status

SOLAZYME IBR PROJECT BASICS

<i>PROJECT TITLE</i>	Solazyme Integrated Biorefinery (SzIBR); Diesel Fuels from Heterotrophic Algae
<i>PROJECT DESCRIPTION</i>	Solazyme will build, operate and optimize a pilot-scale “Solazyme Integrated Biorefinery.” SzIBR will demonstrate integrated scale-up of Solazyme’s novel heterotrophic algal oil biomanufacturing process, validate the projected commercial-scale economics of producing multiple advanced biofuels, and enable Solazyme to collect the data necessary to complete design of the first commercial-scale facility.
<i>PROJECT AWARD DATE</i>	January 28, 2010
<i>PROJECT TYPE</i>	Cooperative Agreement
<i>TOTAL GOV’T SHARE</i>	\$21,765,738

This project is housed at a Solazyme-owned facility which supports multiple Solazyme activities. The facility was not purchased with DOE funds.

SOLAZYME IBR PROJECT OBJECTIVES



Expediently commence construction and operations



Integrate all process unit operations into a pilot-scale biorefinery



Validate feasibility of low cost production at commercial scale



Demonstrate refining of algal oil into fully-compliant liquid transportation fuels



Accelerate development of high-impact lignocellulosic feedstocks



Successfully complete the project on schedule

*First of its kind algae biorefinery
producing tailored oils that can be refined into drop-in fuels*

- Fully integrated unit operations- an indispensable step in reaching commercial scale
- Scaled feasibility of producing renewable drop-in replacements for petroleum
- National security benefits- SzIBR is capable of making hundreds of thousands of gallons for use in military platforms
- Critical link to convert cellulosic feedstocks to oil
 - Creating path to cellulose-derived oils and fuels from wood pulp waste & other feedstocks



AGENDA

- Solazyme Technology Overview
- Solazyme IBR Project Overview
- Project Funding
- Project Scope and Schedule
- Project Performance and Status

PROJECT FUNDING

*DOE cost capped at \$21,765,738.
Remaining project execution costs are paid by Solazyme.*

DOE Cost Share		\$21,765,738	(71.5%)
Solazyme Cost Share	+	\$ 8,688,313	(28.5%)
Total Project Forecast	=	\$30,434,051	

Project expenses include:

- IBR equipment
- IBR construction
- Staff labor and travel
- Fermentation feedstock
 - Sucrose and cellulosic sugar
- Algal oil manufacturing
- Algal oil refining to fuel

AGENDA

- Solazyme Technology Overview
- Solazyme IBR Project Overview
- Project Funding
- Project Scope and Schedule
- Project Performance and Status

PROJECT SCOPE AND SCHEDULE



IBR Construction & Commissioning
4Q2011 – 3Q2012

- All equipment installed and operated in integrated process
- 58 jobs created (2Q2012)
- First crude algal oil production June 2012



Algal Oil Manufacturing
4Q2012 – 3Q2013

- Domestically sourced sugar cane and cellulosic feedstocks
- Algal oil production underway



Fuel Production
4Q2013 – 1Q2014

- Refining partner to convert oils to drop-in transportation fuel

AGENDA

- Solazyme Technology Overview
- Solazyme IBR Project Overview
- Project Funding
- Project Scope and Schedule
- Project Performance and Status

PROJECT PERFORMANCE

*Solazyme has met all project objectives to date,
and is on track for on time project completion 1Q2014.*

Project Objective	Status	Scheduled Completion Date
Expediently commence construction and operations	✓	
Integrate all process unit operations into a pilot-scale unified biorefinery	✓	
Validate feasibility of low cost production at commercial scale	Ongoing	
Demonstrate refining of algal oil into fully-compliant liquid transportation fuels		3Q2013
Accelerate development of high-impact lignocellulosic feedstocks	Ongoing	
Successfully complete the project on schedule		1Q2014

IBR PROJECT STATUS (NOVEMBER 15, 2012)



- IBR has been built and is fully operational
- DOE manufacturing runs in progress

