

Energy Products from Algae

Preview eBook for this module from Oilgae Report

This eBook provides a preview of contents in the Energy Products from Algae module of the Oilgae Report. This eBook can be freely distributed as long as its contents are not modified.

Oilgae is the definitive resource for algae energy. In addition to being an online hub for all aspects of algae energy, the Oilgae team is also a regular contributor to various online and offline forums. The Oilgae team members have also been invited to speak and present at prestigious international conferences and seminars.

Contact

C3B, Anugraha,
41 Nungambakkam High Road
Chennai – 600034, Tamilnadu, India
Phone: +91-44-32561191
Mobile: +91-98413-48117
Email: narsi@oilgae.com

For energy from algae, imagine if you:

- Are able to research thousands of high-quality articles
- Can attend important seminars and presentations worldwide, and interact with experts
- Have a top research team that has understood the important concepts behind producing energy from algae
- Have business strategists who are able to articulate the way forward for your energy from algae efforts

The Oilgae Report provides you the benefit of having all of the above.

The Oilgae Report is the most comprehensive report for those exploring opportunities in the energy from algae domain. It is a must-read for decision-makers, investors and entrepreneurs to have the complete perspective of the opportunities existing in this exciting area.

Who will benefit from this report?

- ❖ Entrepreneurs wishing to understand the algal industry and the current and future business opportunities in this market.
- ❖ Companies in the energy and alternative industries exploring the algae energy domain
- ❖ Companies in algae-related industries - or in industries that could use algae for bioremediation & CO₂ sequestration- exploring the algae fuels industry to derive synergistic benefits.
- ❖ Companies and entrepreneurs wishing to understand the current status and future potential for algae in bio-plastics and other bio-chemicals.
- ❖ Investment banks and financial investment companies keen on funding ventures in the algae fuels industry.
- ❖ Researchers wishing to know about properties and processes of the various energy products that can be derived from algae.

Highlights of the Report

- ❖ Authoritative: Prepared by Oilgae, the leading global resource and the most referenced database worldwide for algae energy.
- ❖ Facilitating Decisions: Special emphasis on inputs that facilitate business and research decisions for the algae energy industry
- ❖ Focus on the complete energy basket: Inputs & insights provided for all energy products that can be derived from algae, and the corresponding processes and technologies for those products.
- ❖ Well-researched: Highly researched data and information, with an emphasis on data that facilitate decision-making
- ❖ Regularly Updated: Latest updated version prepared 1st week of Dec 2008.

Excerpts from the Oilgae Report – Energy Products from Algae module

Report Approach

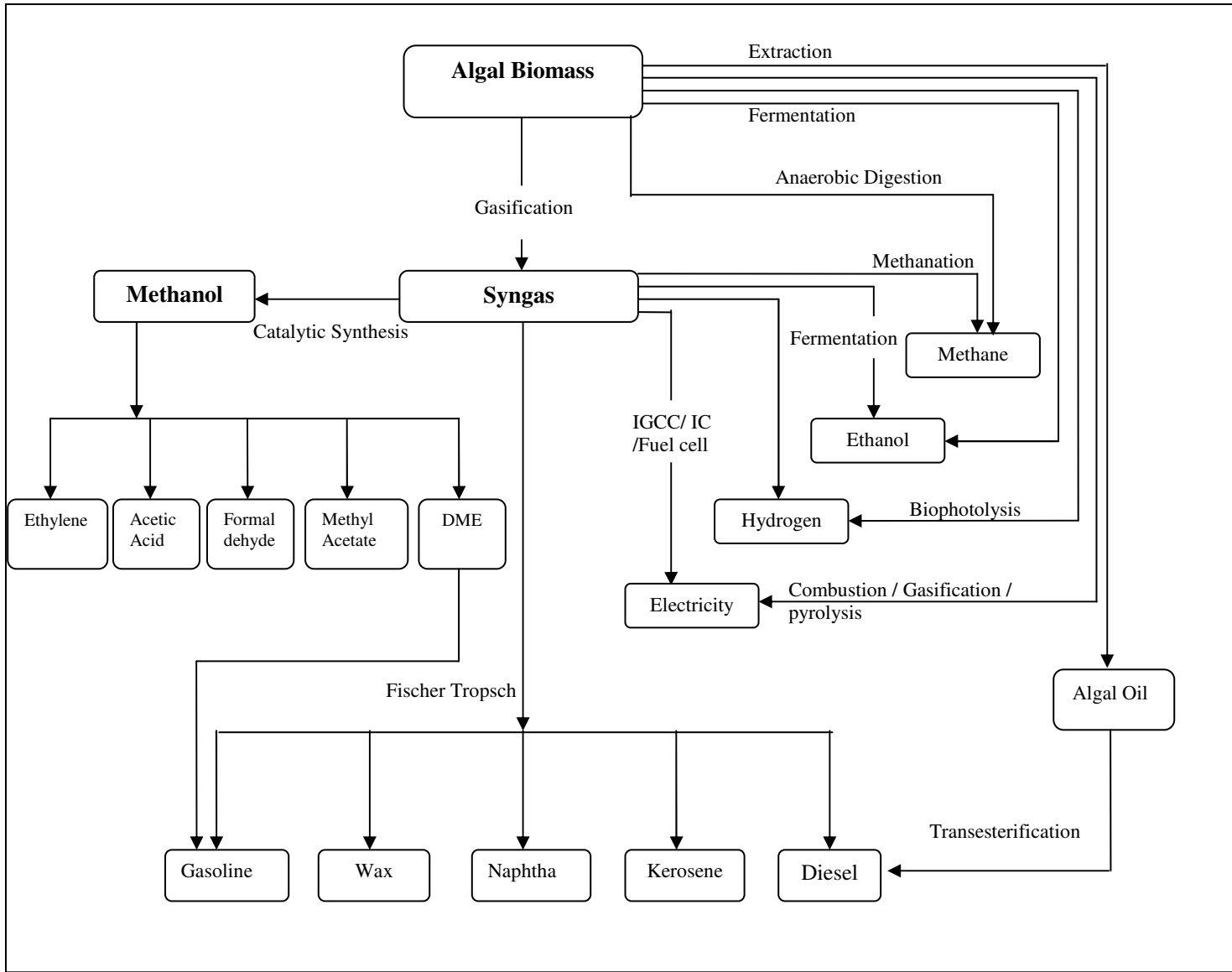
The report is intended for entrepreneurs, investors and decision makers keen on venturing into algae energy domain. It has a focus on identifying key challenges faced and questions asked by the target segment, and providing clear and concise inputs for the same.

The Energy Products from Algae module has a specific focus on the diverse energy products that can be obtained from algae – Biodiesel, Ethanol, Hydrogen, Methane and other Hydrocarbons. It provides useful inputs on the processes, technologies and companies for the various energy products.

Some of the key aspects, challenges & efforts addressed in this module of the report:

- What is the complete list of energy products that can be obtained from algae?
- How are companies attempting to cost effectively extract oil and convert it into biodiesel?
- How are various companies attempting to obtain ethanol from algae?
- What are the latest trends and efforts in the thermochemical (gasification + catalytic chemical synthesis) route for producing fuels from biomass?
- What are the latest research efforts for deriving hydrogen from algae?
- What are the status and trends for methane and biogas production from algae?

Algae Energy Possibilities



The above chart provides the list of energy products that can be derived from algae, through a variety of processes. The Oilgae Report dwells at length on each of these products and processes.

Energy Products from Algae

List of Contents

Energy from Algae - Introduction

- Algae Energy & Alternative Energy
- Big Challenges & Big Payoffs
- Energy Products from Algae
- Determining the Optimal End Product
- Algae to Energy – Summary of Processes
- History & Current Status of Energy from Algae
- Trends & Future of Energy from Algae

To get free sample content for any of the chapters, send a note to narsi@oilgae.com .

Biodiesel from Algae

- Biodiesel from Algae
- Why Isn't Algal Biodiesel Currently Produced on a Large-scale?
- Oil Yields from Algae
 - Comparison of Yields from Algae with Other Oil Crops
 - Reasons behind High Oil Yields from Algae
 - Increasing Oil Yields from Algae
 - Enhancing Lipid Production Rates by Increasing Activity of Enzymes via Genetic Engineering
 - Through Nitrogen & Phosphorus Deprivation
 - Si Depletion - Research into Diatom Lipid Accumulation by Silicon Depletion
 - "Spigot" Analogy for Increasing Oil Yield
 - Increasing Oil Yield by a Shift in pH
- Oil Extraction from Algae
 - Current Methods of Oil Extraction
 - Expeller/Press
 - Using Chemical Solvents
 - Hexane Solvent Oil Extraction
 - Supercritical Fluid Extraction
 - Cost of Oil Extraction
 - Trends & Developments
 - Algae Oil Extraction Using Ultrasonication
 - Advances in Oil Expellers
 - Challenges & Efforts
- Converting Algae Oil into Biodiesel
 - Concepts
 - New Developments in Transesterification

- Challenges & Efforts

Hydrogen from Algae

- Introduction
- Methodologies for Producing Hydrogen from Algae
 - Hydrogenase-dependent Hydrogen Production
 - Hydrogen from Green Algae by Restricting Sulfur from Their Diet
 - Using Copper to Block Oxygen Generation in Cells
 - Hydrogen from Algae by Reducing Chlorophyll Molecule
 - Nitrogenase-dependent Hydrogen Production
 - Hydrogen Production Catalyzed by Nitrogenase in Cyanobacteria
 - Current Methods of Hydrogen Production

Methane from Algae

- Introduction
- Methods to Produce Methane from Algae
- Methane from Algae – Research Updates
- Traditional Methods of Methane Production

Ethanol from Algae

- Ethanol from Algae - Concepts & Methodologies
- Methods to Produce Ethanol from Algae
 - Fermentation of Algal Biomass
 - Fermentation of Left-over Algae Cake
 - Ethanol from Syngas Fermentation
- Examples & Case Studies of Algae to Ethanol
- Algae to Ethanol Companies
 - Algenol
 - XL Biorefinery
 - Greenstar USA
 - GS Agrifuels
 - Algodyne
- What's New in Ethanol

Other Energy Products – Syngas, Hydrocarbon Fuels, Energy from Combustion of Algae Biomass

- Syngas and Its Importance to Hydrocarbon Fuels
- Products from Syngas
- Syngas from Algae
- Producing Other Hydrocarbon Fuels from Algae
 - JP-8 Fuel (Aviation Fuel) / Kerosene
 - Gasoline

- Butanol
 - LPG
- Direct Combustion of Algal Biomass to Produce Heat / Electricity
- Reference
 - Trends in Thermochemical Technologies – Case Studies
 - Babcock & Wilcox Volund
 - UOP LLC
 - Mascoma Corporation
 - Southern Research Institute
 - Coskata
 - Choren
 - Range Fuels
 - Flambeau River Paper Mill
 - Stora Enso/Neste

Algae Meal / Cake

- Algae Meal Extract Properties
- Uses
- Industries that Use Algae Extract

Price Details:

When you buy the Oilgae Report, you are not just buying a report; you are buying a long-term relationship with Oilgae. We will ensure that we assist you in every way possible for your needs related to algal energy today and in future.

- Free Updates** : Customers who buy the report get three updated versions released subsequent to their purchase, at no additional cost
- Expert Assistance** : Customers also get to use the expertise of professionals @ Oilgae for no cost or for highly subsidized rates
- Customisability** : Oilgae can provide minor customizations and enhancements to the report usually at no additional cost

Price: The Energy Products module of Oilgae Report costs US\$ 995.

If you wish to get free sample content for any of the chapters, send a note to narsi@oilgae.com .

The report comes with a number of useful support options. If you are interested in purchasing the report or knowing more about it, please send a note to Narsi Santhanam – email: narsi@oilgae.com , Ph: +91-98413-48117 (India)

To get free sample content for any of the chapters, send a note to narsi@oilgae.com .