



Algal Biomass Organization

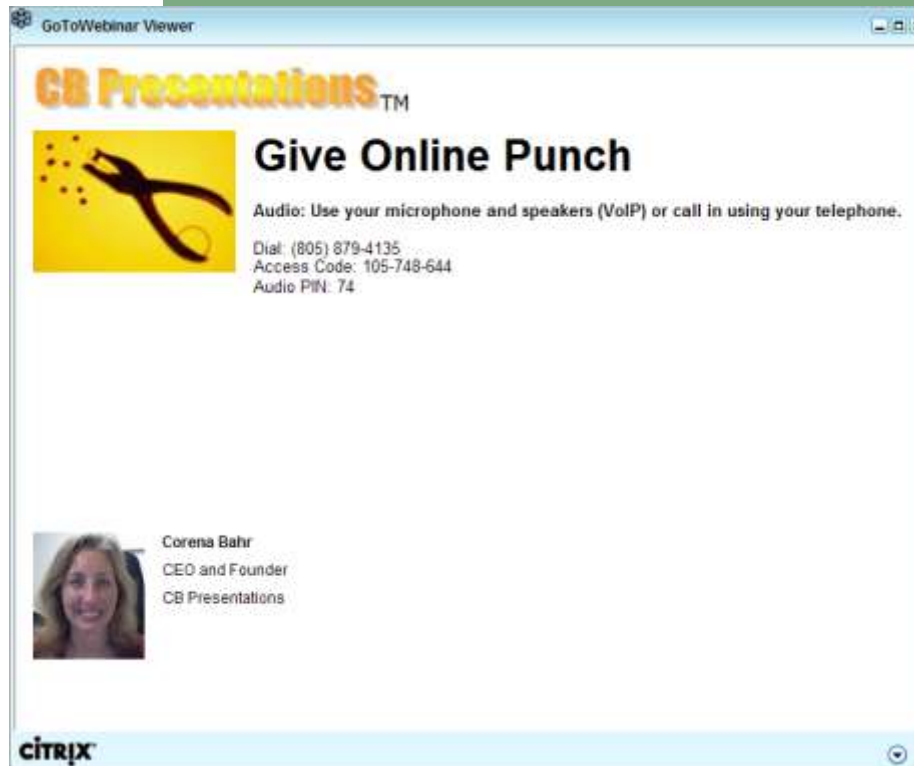
2009 Industry Survey

Oct – Dec 2009

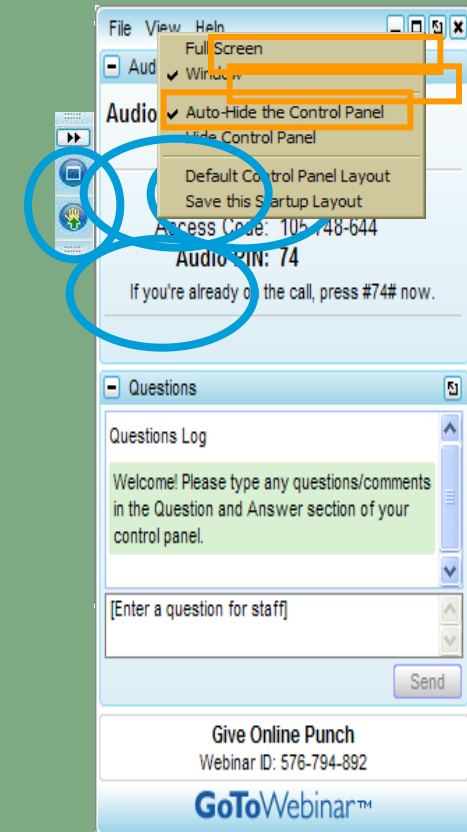
222 respondents

GoToWebinar Attendee Interface

1. Viewer Window



2. Control Panel





Today's Program

- Host: **Mary Rosenthal**
Executive Director
Algal Biomass Organization
- Presenter: **Elizabeth Willett**
Business Development Manager
Mars Symbioscience
- Presenter: **Mark Edwards, PhD.**, Professor,
W.P. Carey School of Business,
Arizona State University

This webinar will feature insights on:

- Baseline information about the emerging algal industry
- Algal biofuel production focus
- Algal strain preferences
- Emerging production models
- Industry issues
- Technical challenges
- Co-products



About the ABO

- The Algal Biomass Organization (ABO) is a non-profit organization.
- Its mission is to promote and advocate for the development of viable commercial markets for renewable and sustainable commodities derived from algae.
- Its membership is comprised of companies, individuals and research organizations across the value chain.



How We Do It

- ABO board has a number of subcommittees chaired by members tackling topics ranging from Technical Standards to Government Affairs and more
- We host the annual Algae Biomass Summit, the premiere, dedicated algae event
- 2009's Algae Biomass Summit was held in San Diego in early October – next September in Phoenix
- We help facilitate meetings for our members with policy makers
- We engage with media to help educate on industry issues



Why Algae? Why Now?

Carbon capture and reduction: The ABO and its members believe that the most compelling attributes of algae are their ability to both capture and beneficially re-use carbon, helping to reduce the country's overall CO₂ emissions

Energy security and independence: Algae can also help to serve as a replacement for imported fossil-based fuels. At commercial scale, algae-based fuels can provide a significant source of clean, renewable, domestically-produced fuel for the transport and aerospace industries, reducing our reliance on imported oil.

Job creation: A vibrant algae industry would create thousands of jobs across the value chain – from the laboratory to the production facility, contributing to the economy, and growing the tax base.



BOD & Membership

The role of the Board of Directors

guide the organization toward reaching success of its mission &
drive membership of the organization

Membership numbers are not representative of interests

Thus understanding the needs of the membership and the industry are vital to shaping a successful organization & recruiting talent to be elected to the BOD each year.

Case for Survey

- **150** memberships (all-inclusive)
- More than **700** registrants annually
- Memberships are not increasing at the rate of the industry interest



Goals of the Survey

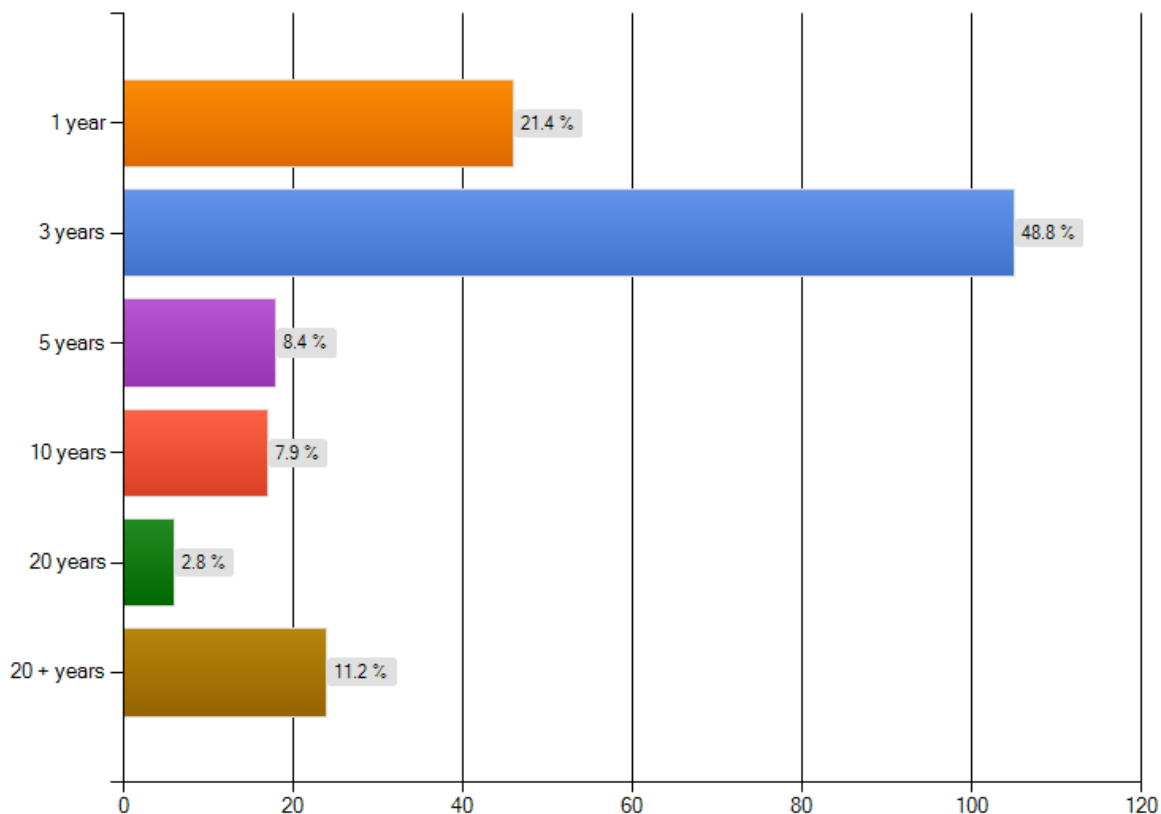
- Understand both members and non-members
 - Satisfaction with the ABO
 - Value ascertained from membership
 - Interest in Algae organizations as whole
 - Topics & sub-industries of interest for conferences and events
 - How we can increase & maintain membership

Discovered

- Overall members are happy with their membership
- Non-members don't perceive a strong enough value
- There is strong interest in the industry for an organization like the ABO, and very high satisfaction with our Algae Biomass Summit
- Members needs and the industry both evolving
- More communication and information sharing platforms are necessary to support our membership

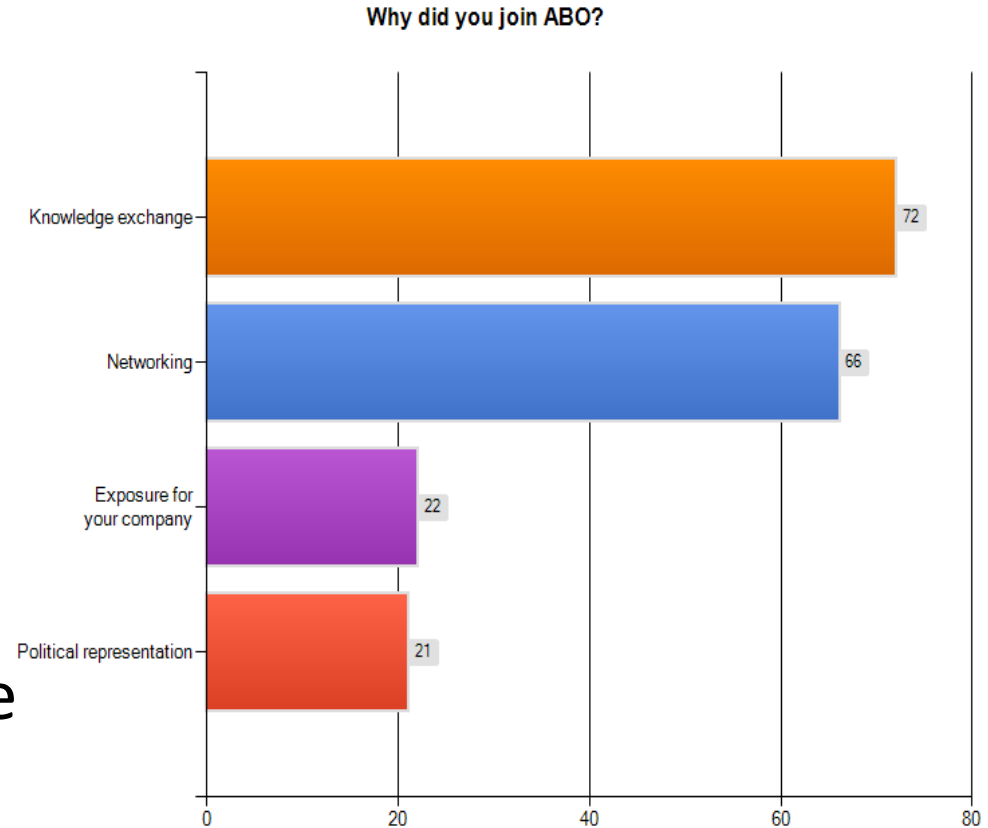
New Industry & Members

How long have you been active in algal industry?



ACTION ITEM: Continue to recruit & facilitate opportunities for new members, organizations and corporations as they represent the major demographic of our organization & industry

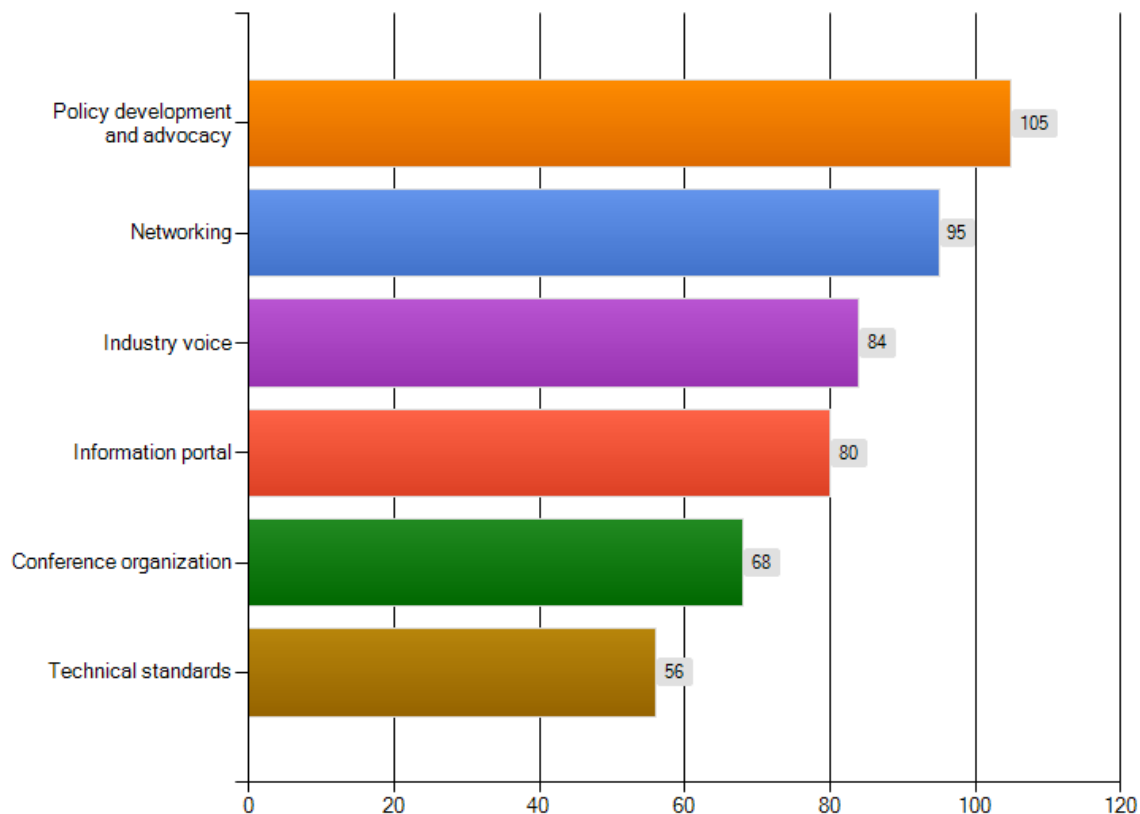
- Most members joined the ABO for its knowledge exchange and networking opportunities
- ABO needs to improve on its ability to facilitate knowledge exchange



ACTION ITEM: Update website, provide members only portals for knowledge sharing and latest industry information

Advocate & Develop Policies

What is the most important role for ABO?



ACTION ITEM: Strong focus on gov't & public relations
Committee and sub-committee development and information sharing



Action Items Summary

Policy Support

- Continue to maintain a STRONG focus on Gov't & Public Relations

Knowledge Share & Networking

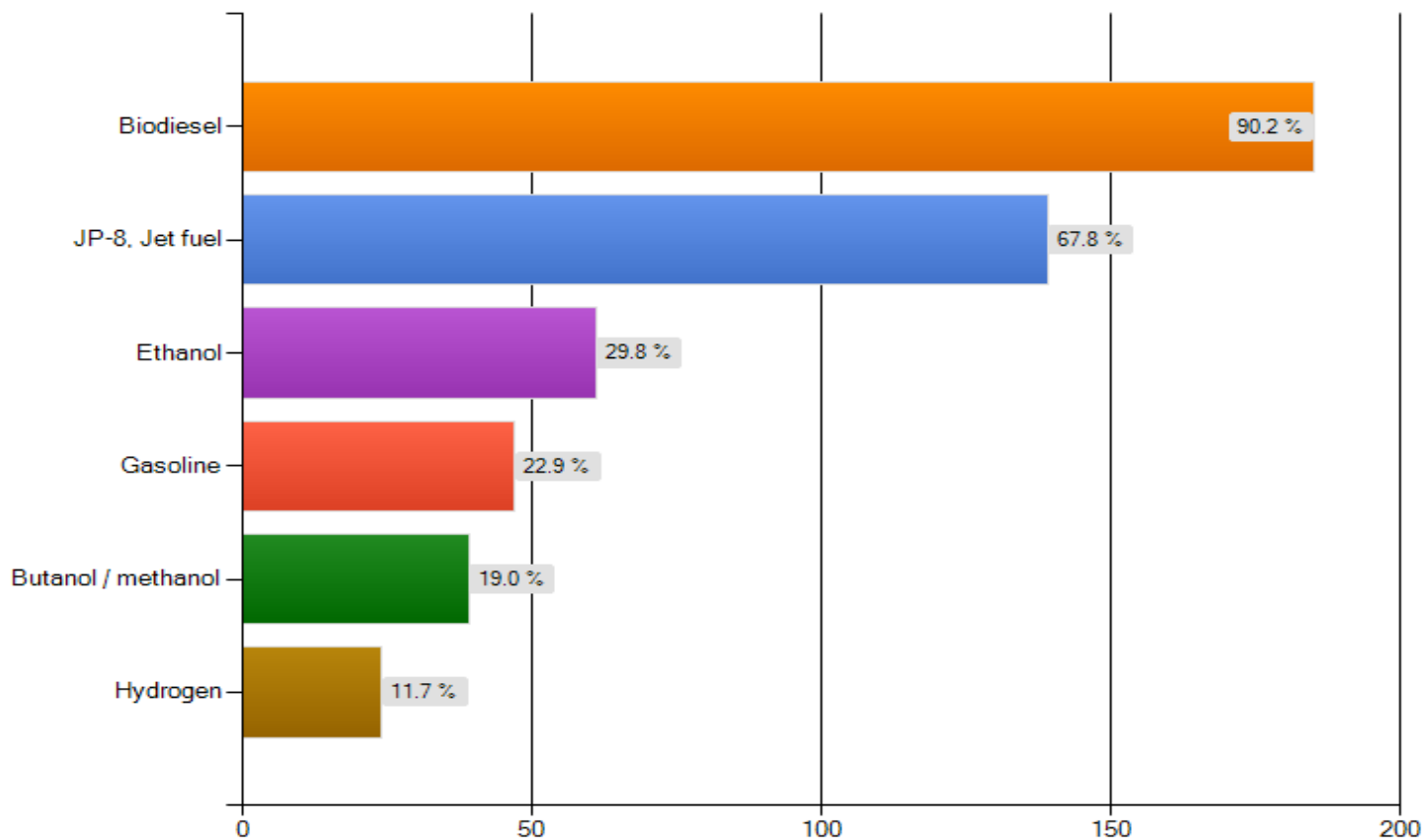
- Monthly Newsletters from the Executive Director (Mary Rosenthal)
- Website Transformation Underway and stronger “Members Only” section to come
- Quarterly Committee Reports
- Bi-annual conferences will continue

Membership Benefits & Recruiting

- Continue to focus on Corporate Members who provide strategic vision, monetary and personnel support to the organization
- Sustain academic talent in the organization
- Communicate Member Benefits more clearly
- Try to recruit a BOD talent pool for elections that is representative of the organization overall needs and its member demographics

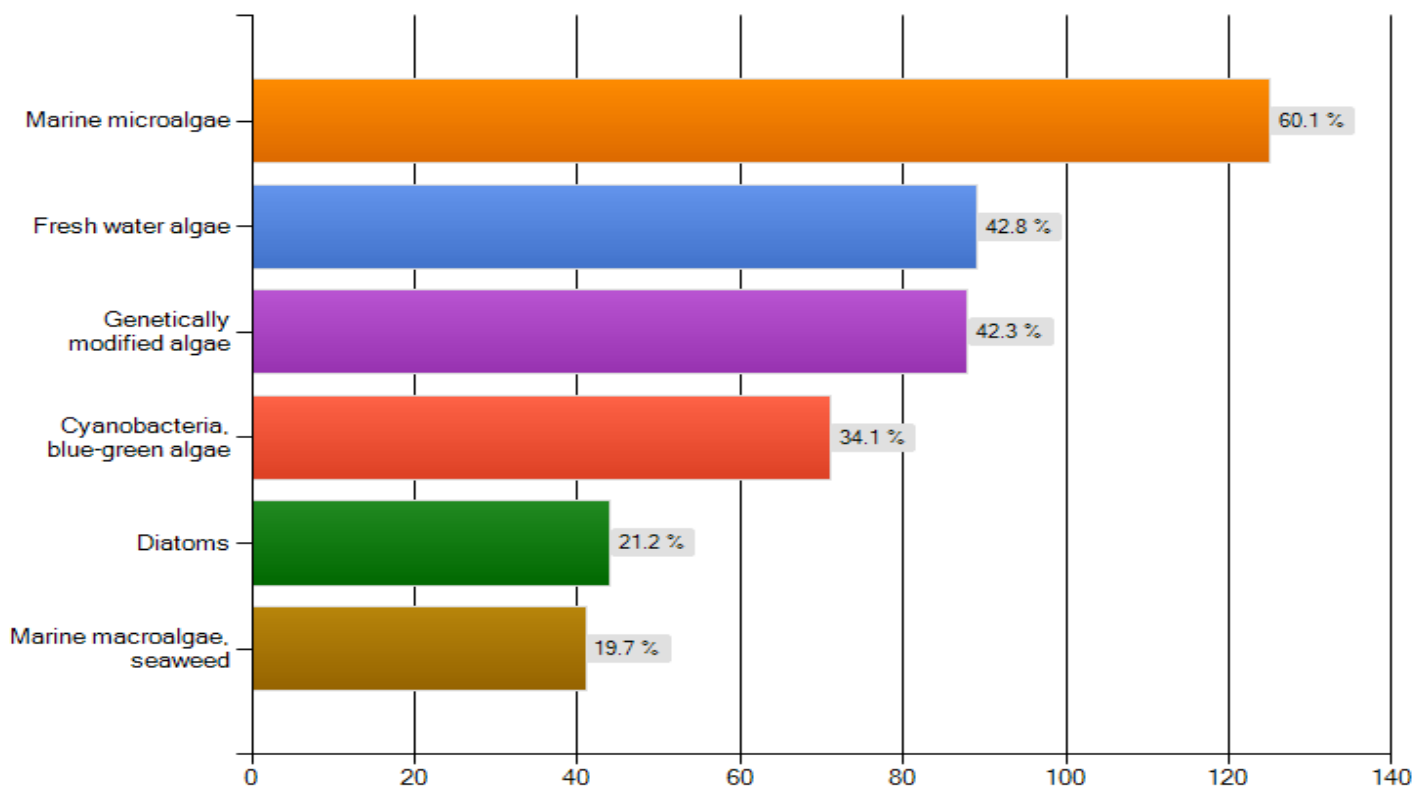
Most likely algal biofuels

What biofuels are most likely to be made from algae? Check all that apply.



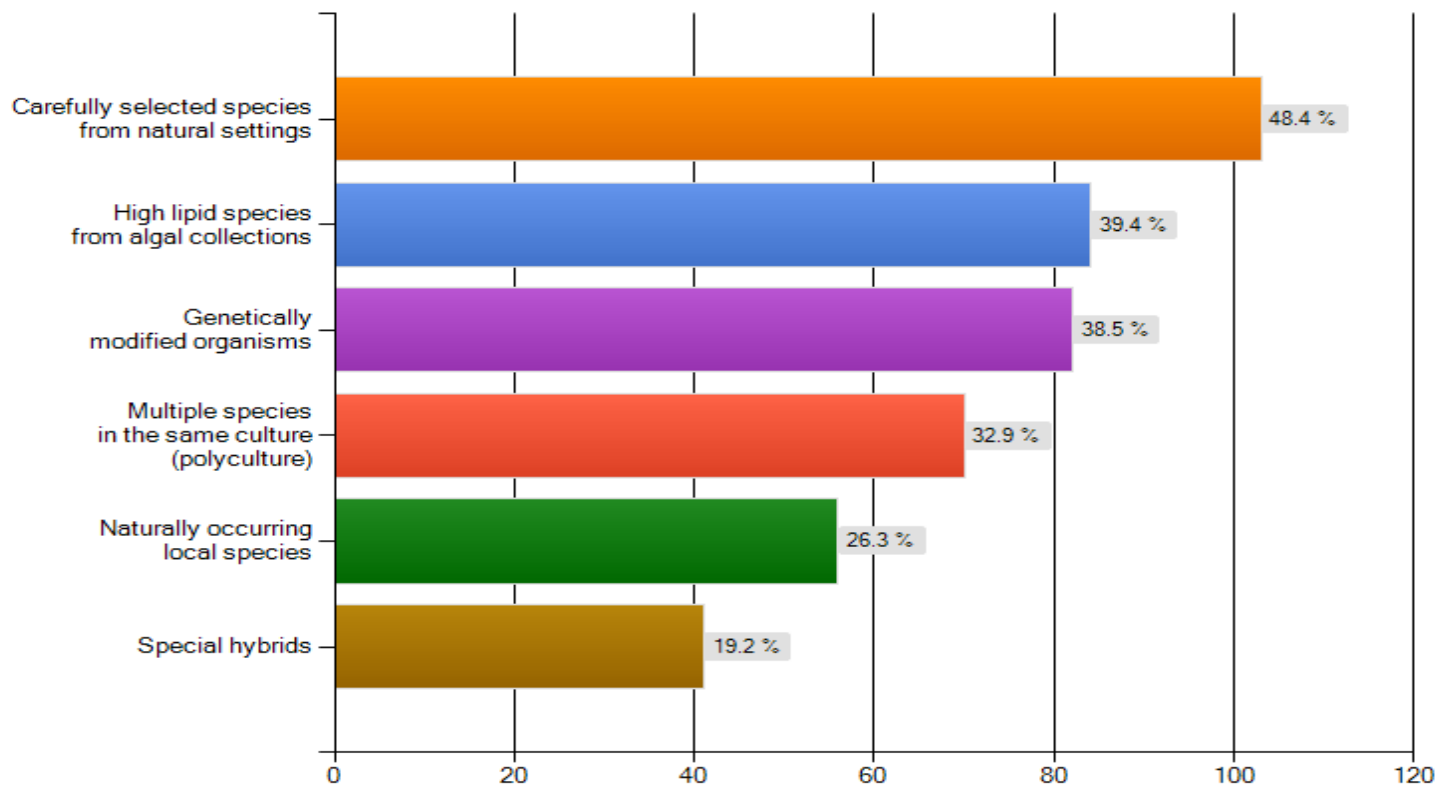
Most promising feedstock

What feedstock appears to have the most promise in commercializing algae? Select all that apply.



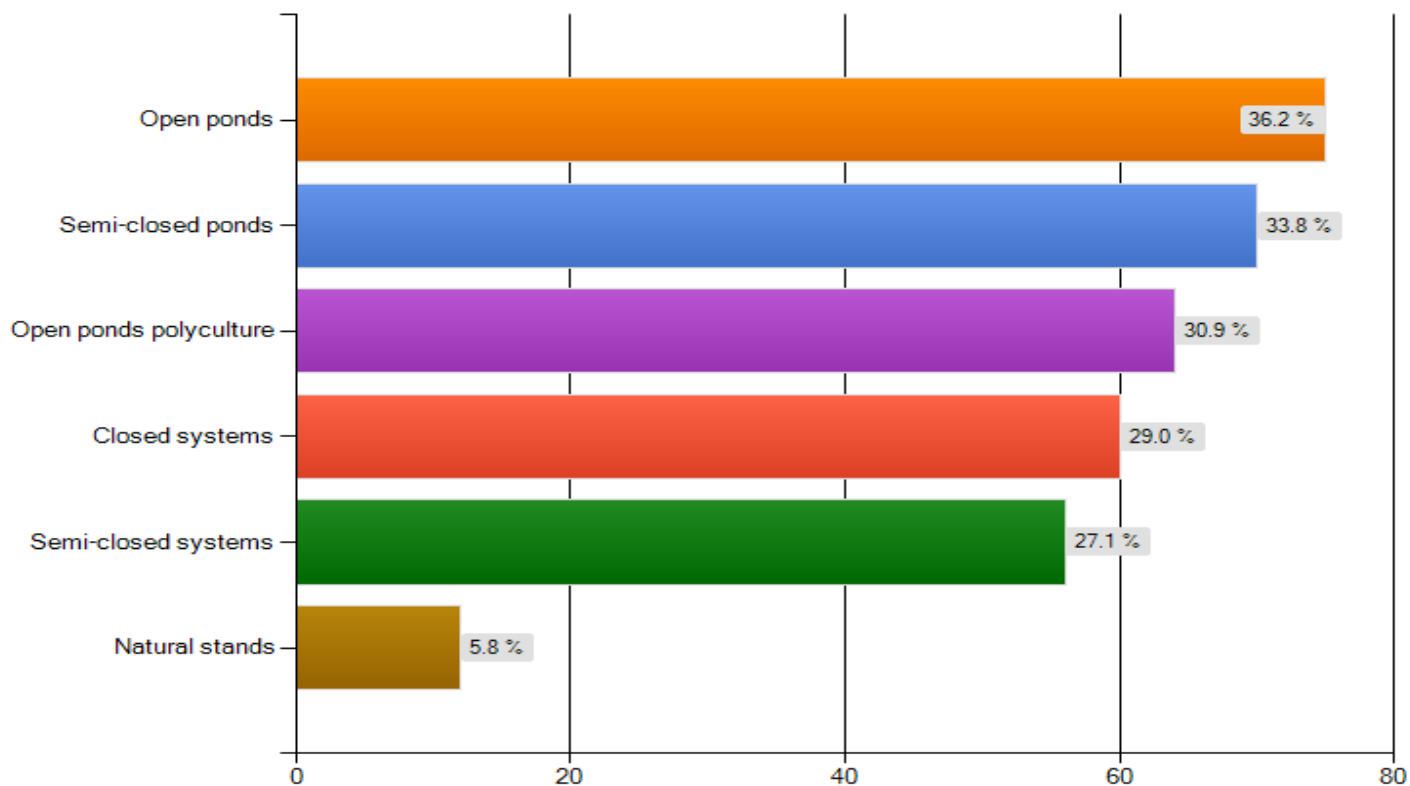
Algal species source

What will be the most likely source of algal species for oil production? Check all that apply.



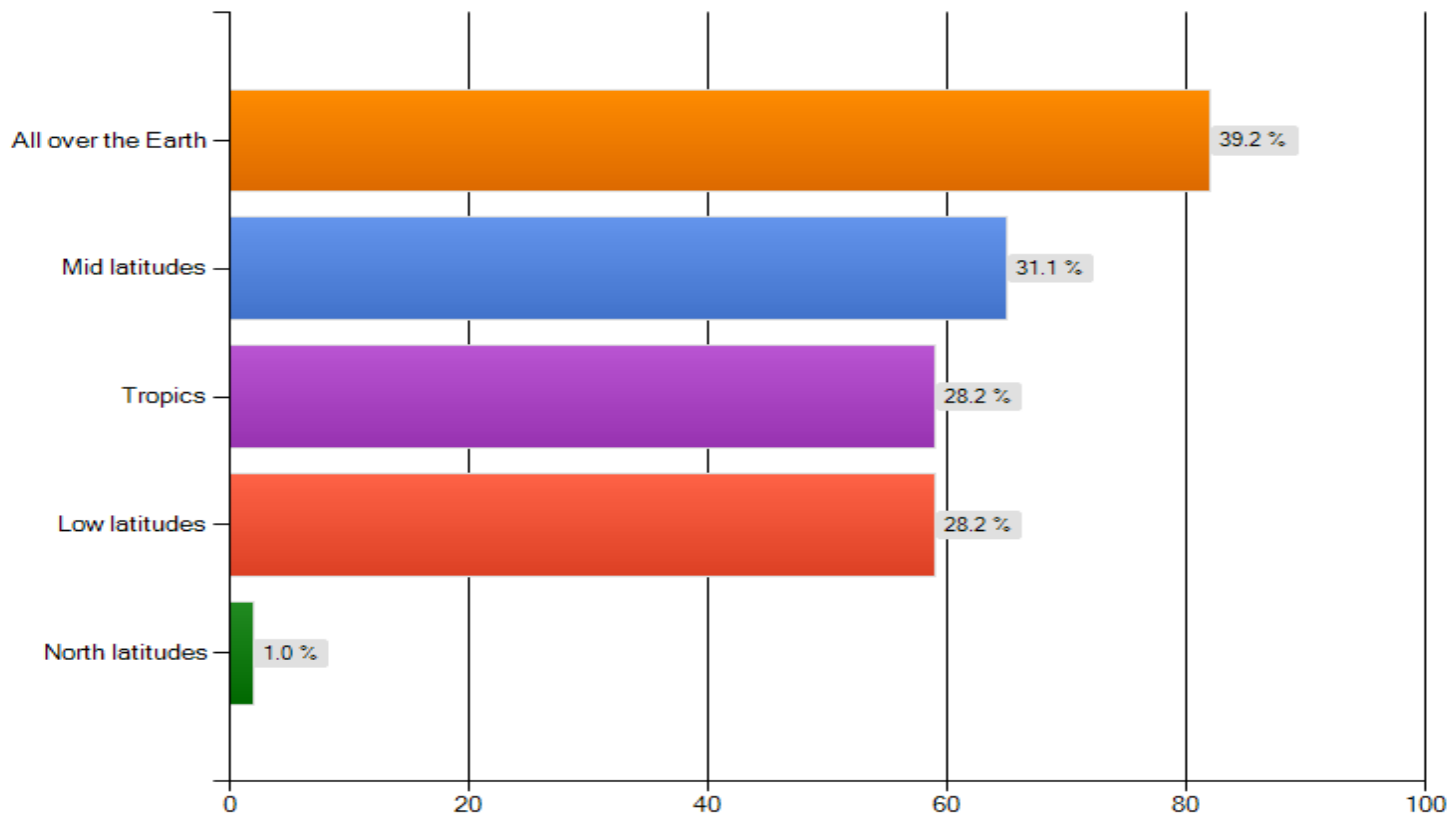
Growing system

What type of growing system do you believe will become most prevalent for producing algal oil?



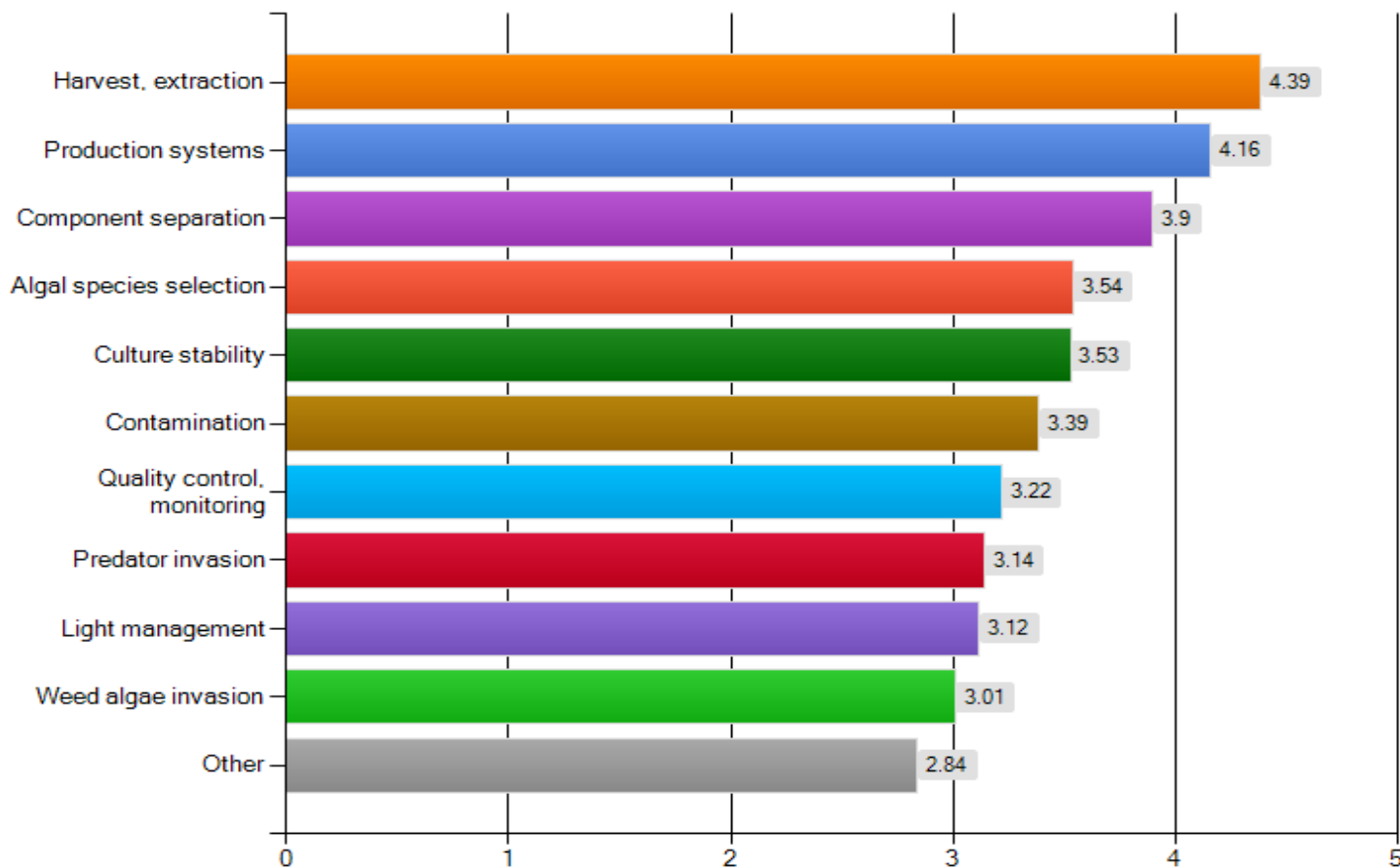
Where?

Where will most algal producers grow algae?



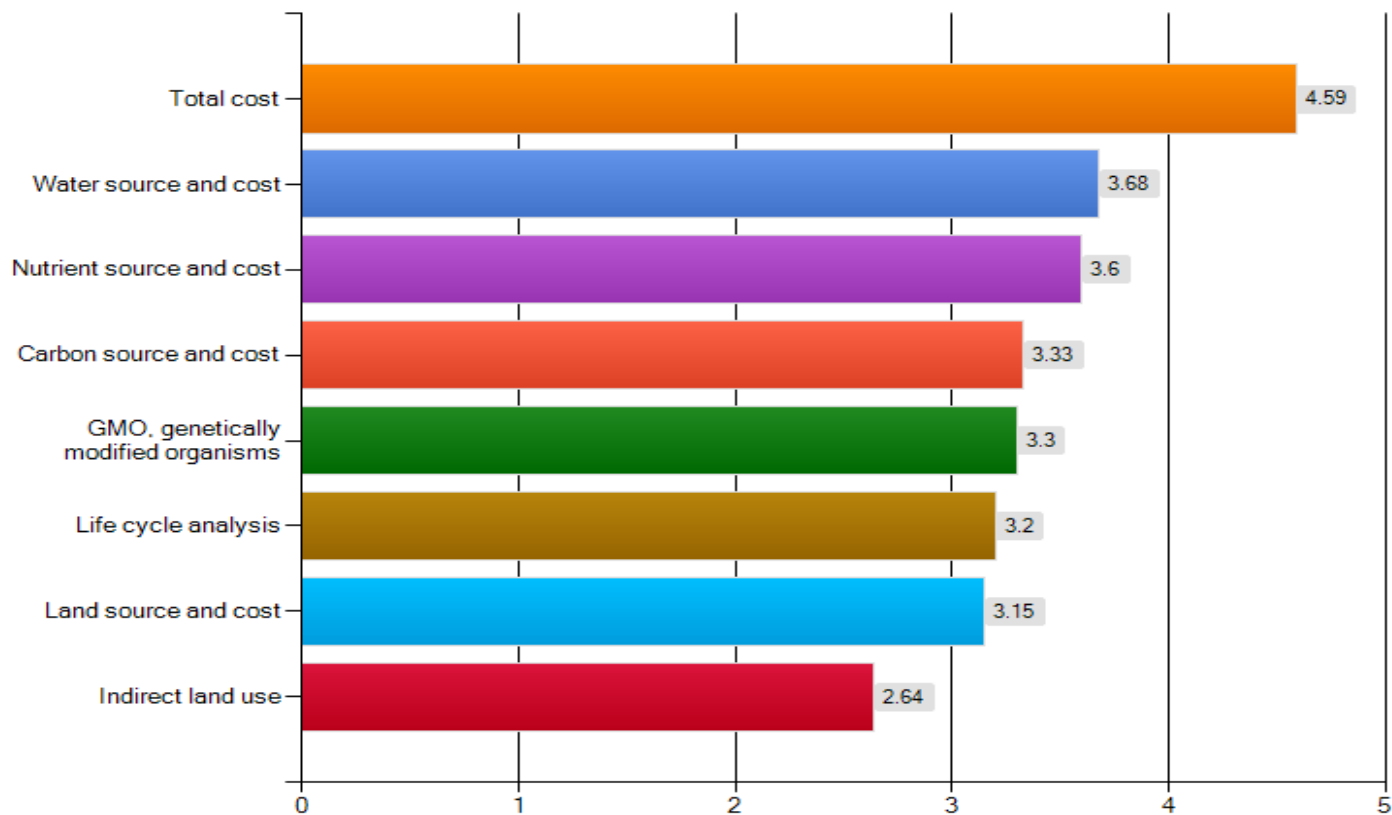
Production challenges

What are the industry's most critical production challenges? (5 is high)



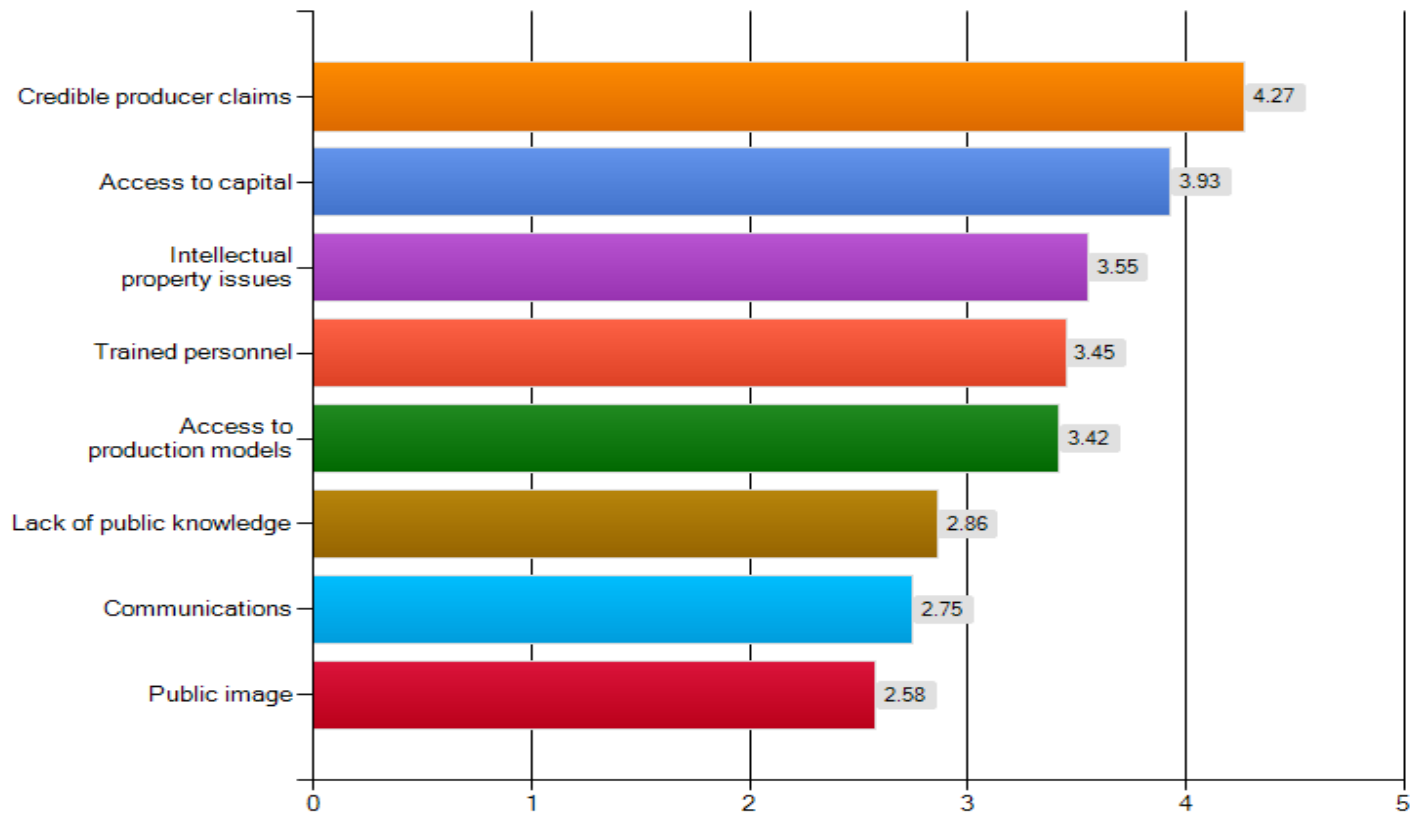
Input challenges

What are the industry's most critical input challenges? (5 is high)



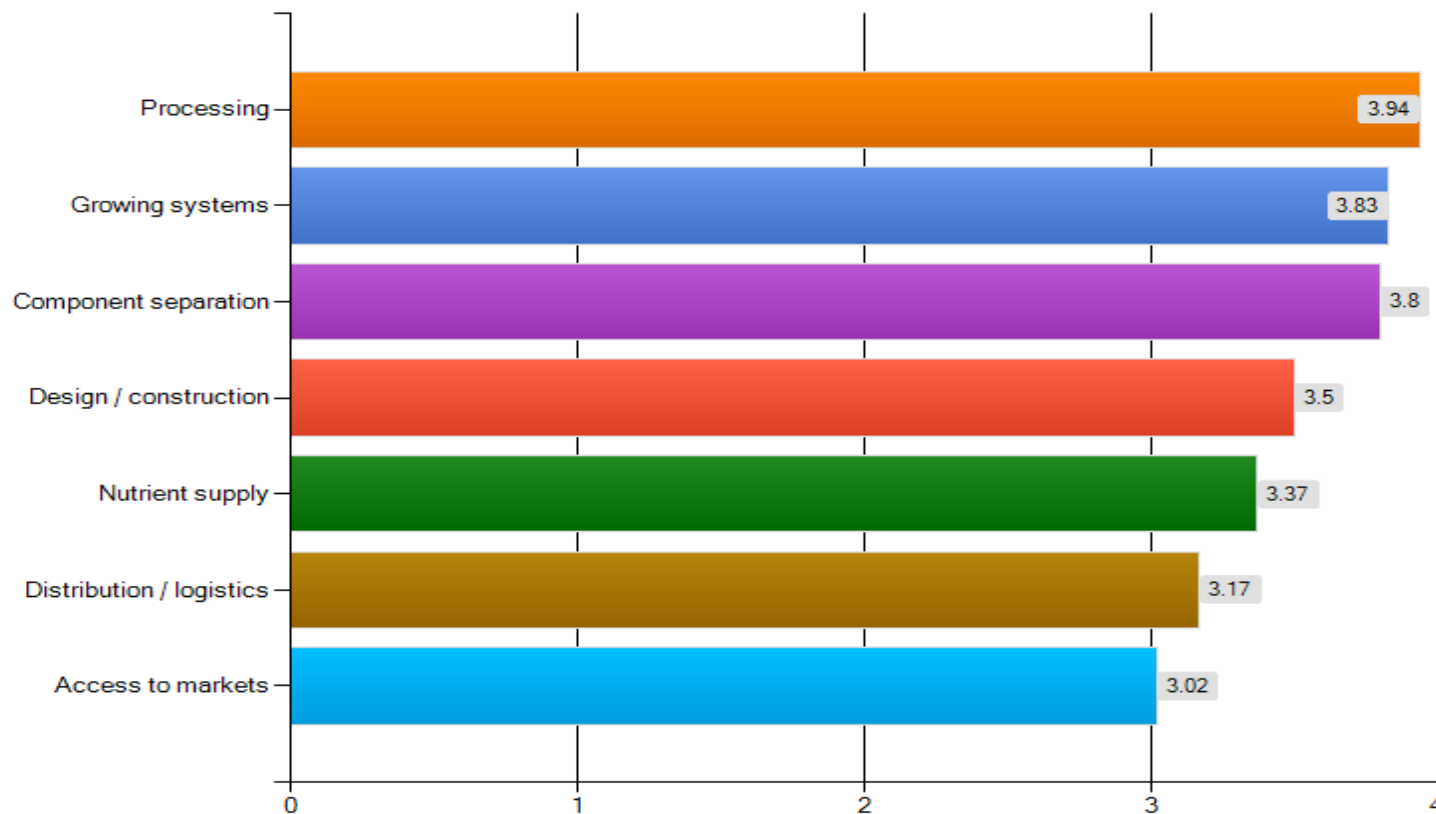
Non-technical challenges

What are the industry's most critical non-technical challenges? (5 is high)



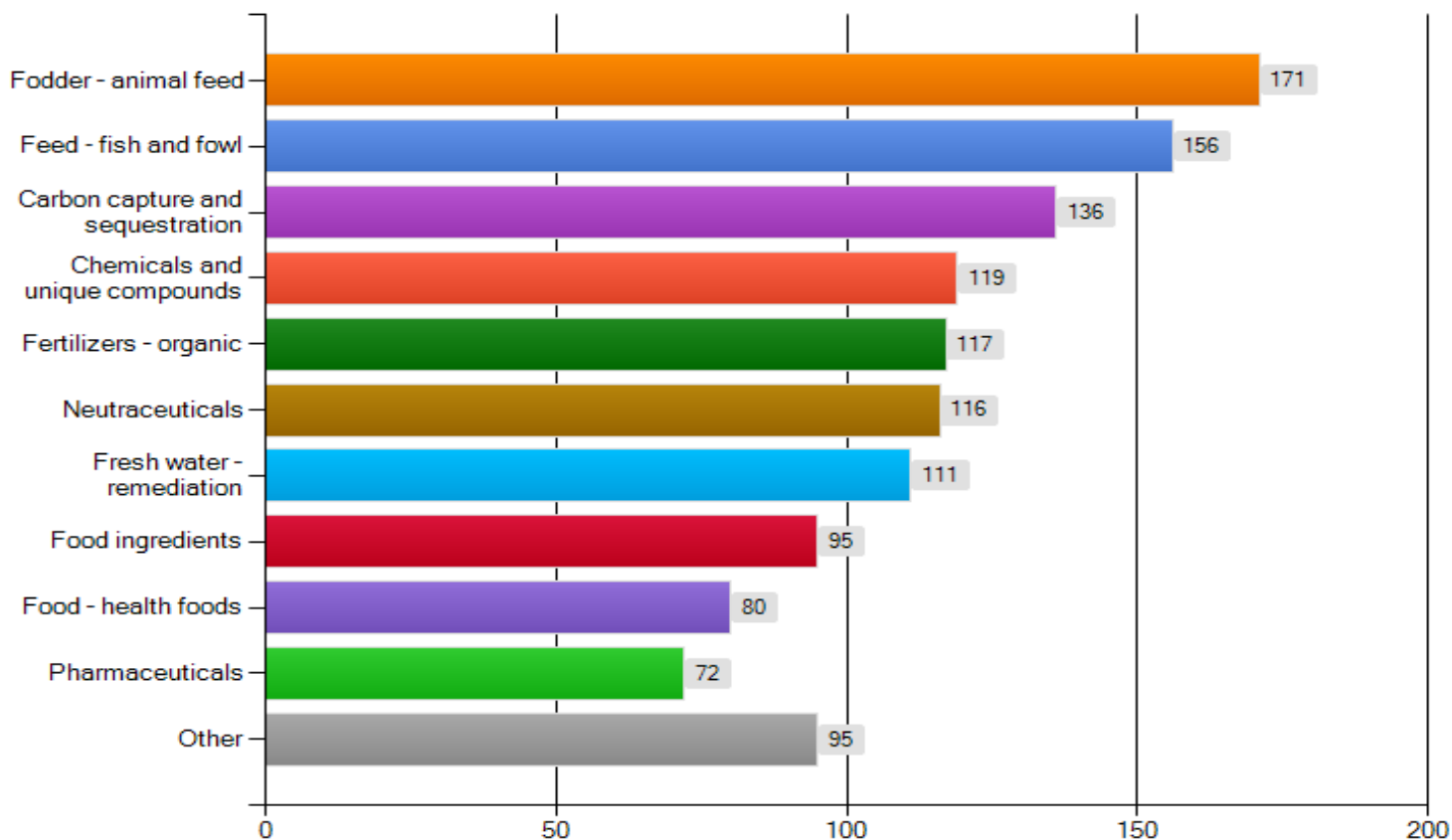
Supply chain challenges

What are the the most critical supply chain challenges? (5 is high)



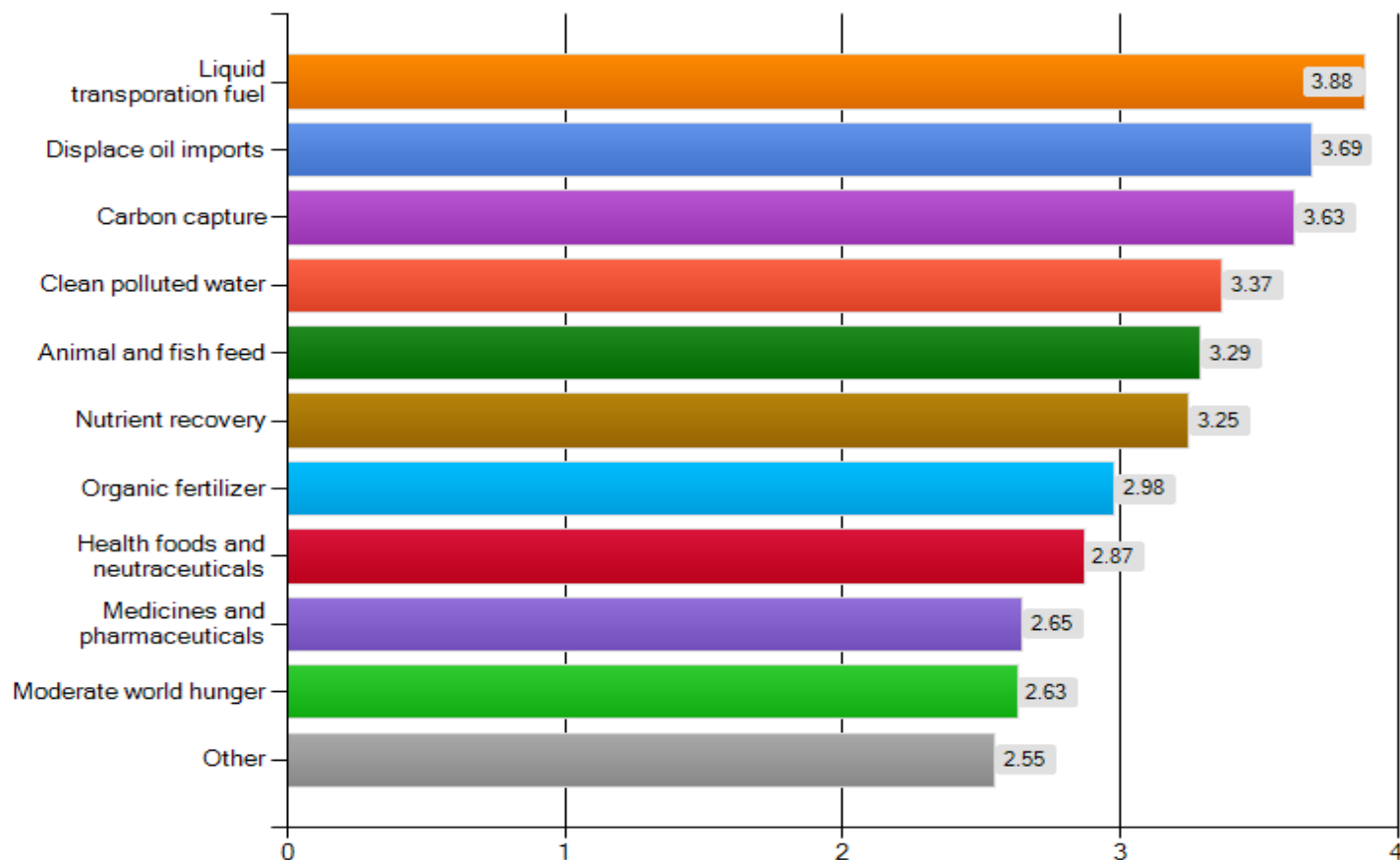
Algal co-products

Besides biofuel, what will be the main co-products from algal biomass? Check all that apply.



Social and economic issues

What are the most likely social and economic issues algae may address? (5 is high)



Most needed

- Success models
- Funding sources
- Government support
- Education – students and leaders
- Credible claims
- Cost reduction
- Communication and cooperation

Best recommendations

- Financial parity with other biofuels
- Regulatory parity with other biofuels
- Carbon dioxide pipeline
- Rational approach to IP
- Patent pooling
- Find the black swan
- Optimize carbon capture

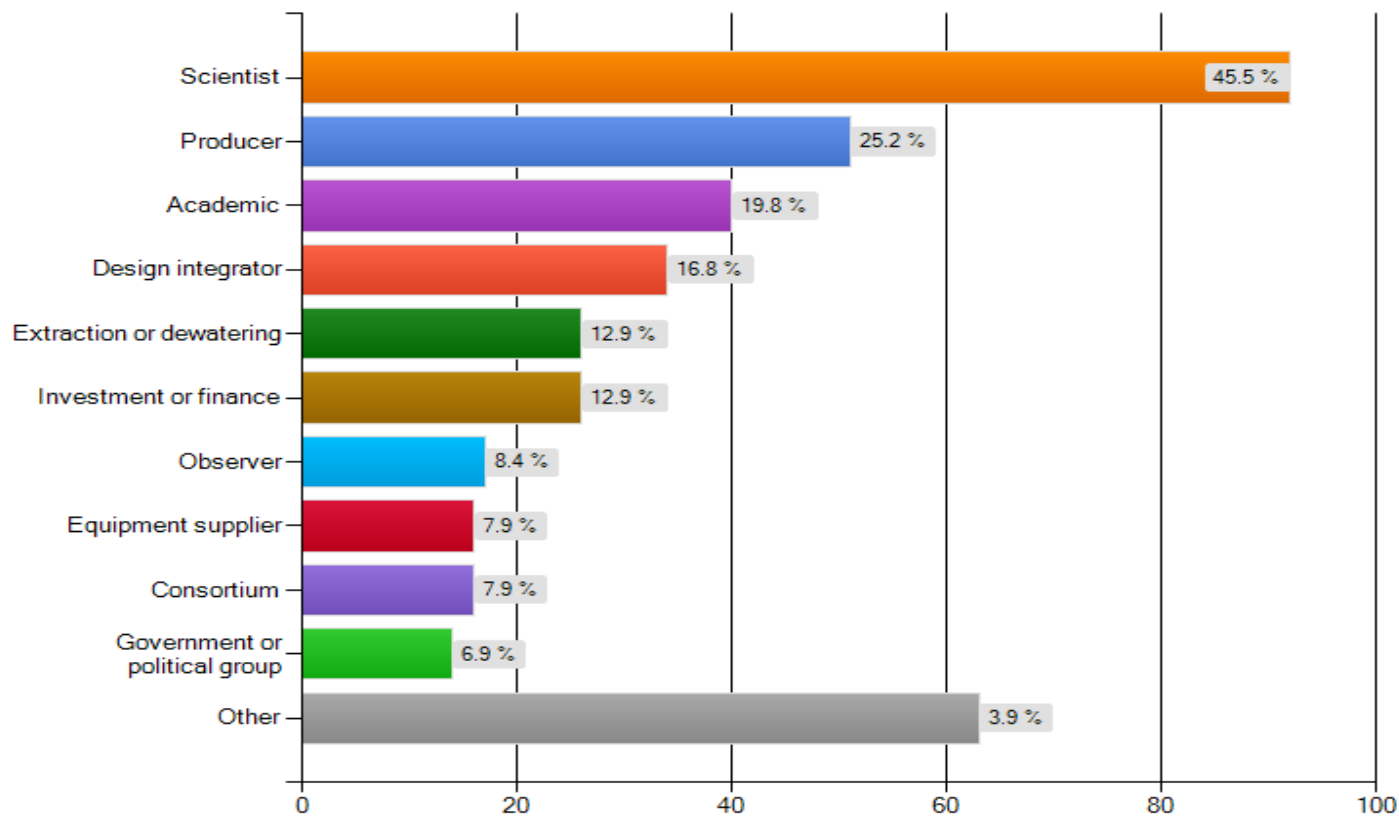


Respondent information

About the respondents

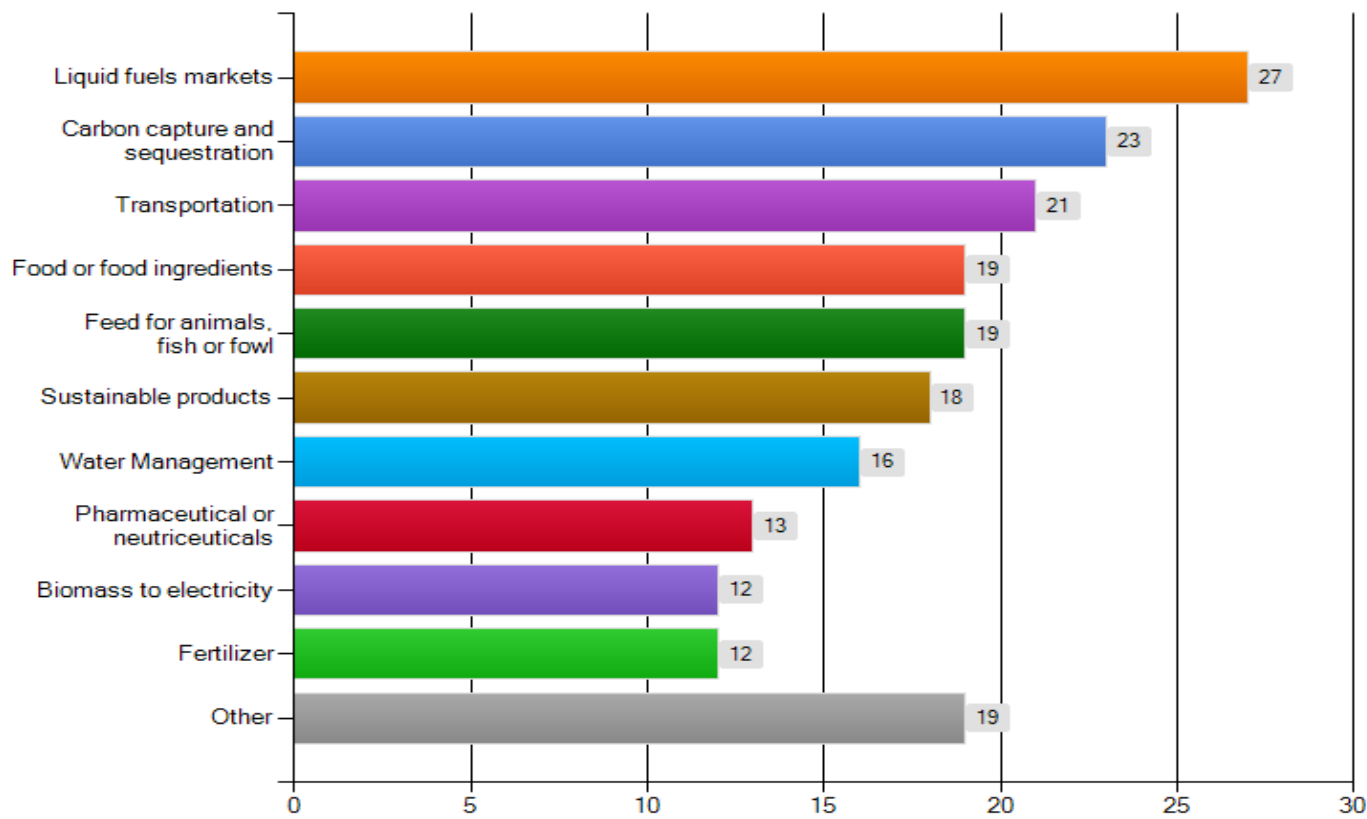
Role in algal industry

What is your role in the algal industry?



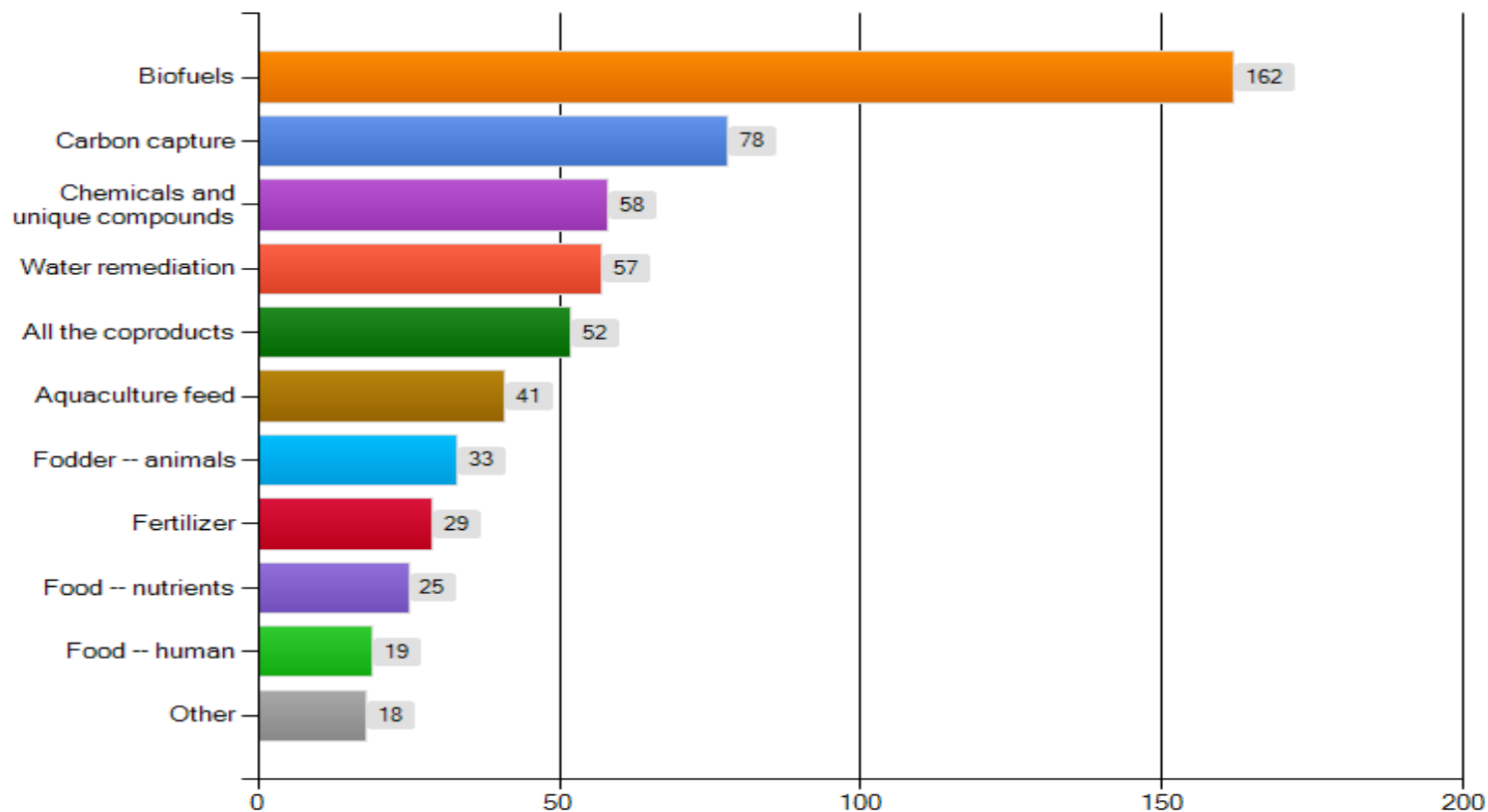
Are you an end user?

Are you an end user of algal products? Select all that apply.



Interest?

What is your primary interest in the algal industry?



The ABO believes that two broad goals are imperative for the commercial development of algal-biomass-based energy solutions:

- 1. Financial parity:** Algae must receive the same tax incentives, subsidies, and other financial benefits currently accorded to other “incumbent” feedstocks such as soy biodiesel and starch or other cellulosic material for ethanol.
- 2. Regulatory parity:** Algae must be recognized as an effective carbon reduction strategy and safe for commercial production under the same regulations that currently govern other traditional renewable fuel feedstocks.



Acknowledgements

- Mark Allen, CEO and President, A2BE
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- Qiang Hu, Assoc. Prof., Arizona State University
- Keith Cooksey, Prof., Montana State University
- Philip Pienkos, National Renewable Energy Labs
- Elizabeth Willett, Mars Symbioscience
- Mark Edwards, Professor, ASU



Questions?

At this time we have a few minutes to take 4 – 5 questions from the attending audience.

To ask a question, type your question in the Question pane of your Control Panel, then click **SEND**

All questions and answers will be published on the ABO website. Please submit additional questions by email to: mrosenthal@algalbiomass.org



Thank You!
Please visit
www.algalbiomass.org
for more information.

