



# **Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels**

*Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard*

[Download now](#)

[Click here](#) if your download doesn't start automatically

# Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels

*Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard*

**Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels** Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard

Fossil-fuel depletion and attempts at global-warming mitigation have motivated the development of biofuels. Several feedstock and transformation pathways into biofuel have been proposed as an alternative to the usual fuels. Recently, microalgae have attracted a good deal of attention because of the promise of reduced competition with food crops and lowered environmental impacts. Over the last years, several life-cycle assessments (LCAs) have been realized to evaluate the energy benefit and potential global-warming reduction of biofuel and bioenergy produced from microalgae. This chapter presents a bibliographic review of 15 LCAs of microalgae production and/or transformation into biofuel. These studies often differ by the perimeter of the study, the functional unit, and the production technologies or characteristics. Methods for environmental impact assessment and the energy balance computation also diverge. This review aims to identify the main options and variations among LCAs and concludes with some recommendations and guidelines to improve the contribution of an LCA and to facilitate comparisons among studies.

 [Download Biofuels from Algae: Chapter 13. Life-Cycle Assess ...pdf](#)

 [Read Online Biofuels from Algae: Chapter 13. Life-Cycle Asse ...pdf](#)

**Download and Read Free Online Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard**

---

**From reader reviews:**

**Susan Ross:**

Have you spare time for any day? What do you do when you have more or little spare time? Sure, you can choose the suitable activity for spend your time. Any person spent their very own spare time to take a go walking, shopping, or went to the Mall. How about open or maybe read a book titled Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels? Maybe it is to be best activity for you. You already know beside you can spend your time using your favorite's book, you can better than before. Do you agree with it has the opinion or you have different opinion?

**Nancy Leto:**

Do you like reading a reserve? Confuse to looking for your selected book? Or your book seemed to be rare? Why so many query for the book? But any people feel that they enjoy for reading. Some people likes reading, not only science book and also novel and Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels or others sources were given know-how for you. After you know how the truly great a book, you feel wish to read more and more. Science e-book was created for teacher or perhaps students especially. Those ebooks are helping them to put their knowledge. In different case, beside science publication, any other book likes Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels to make your spare time much more colorful. Many types of book like this.

**Holly Sheehan:**

What is your hobby? Have you heard which question when you got learners? We believe that that question was given by teacher to the students. Many kinds of hobby, Everybody has different hobby. And you also know that little person such as reading or as reading become their hobby. You must know that reading is very important along with book as to be the factor. Book is important thing to include you knowledge, except your personal teacher or lecturer. You discover good news or update in relation to something by book. Many kinds of books that can you choose to adopt be your object. One of them is niagra Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels.

**Katie Broadnax:**

Reading a publication make you to get more knowledge from this. You can take knowledge and information coming from a book. Book is written or printed or illustrated from each source which filled update of news. In this modern era like at this point, many ways to get information are available for an individual. From media social like newspaper, magazines, science guide, encyclopedia, reference book, new and comic. You can add your understanding by that book. Do you want to spend your spare time to spread out your book? Or just seeking the Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels when you desired it?

**Download and Read Online Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard #7M0UBX3FLY1**

## **Read Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard for online ebook**

Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard books to read online.

## **Online Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard ebook PDF download**

**Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard Doc**

**Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard Mobipocket**

**Biofuels from Algae: Chapter 13. Life-Cycle Assessment of Microalgal-Based Biofuels by Pierre Collet, Daniele Spinelli, Laurent Lardon, Arnaud Hélias, Jean-Philippe Steyer, Olivier Bernard EPub**