333

U.S. Corn Bioethanol: Renewable Solution Or Costly Pretense? An Empirical Accounting Analysis Of Production Cost

Selina Louise von Jackowski
University of Basel, Basel, Switzerland

Extended Abstract

Download file

Abstract Summary

Since the 1970s oil crisis, global energy demand is shifting toward less dependence on oil and more sustainability. Many governments, including the U.S., are promoting renewable fuel (RF) additives and alternatives for fossil fuels. Evidently, the percentage of RF content in gasoline has been steadily rising over time. Bioethanol is a promising RF additive and potential full alternative for gasoline in the future. It is therefore essential to evaluate the production cost of bioethanol, to determine whether it truly is a renewable solution to fossil fuels or rather a costly pretense, on purely economic terms. While existing studies have estimated the economic unit cost of bioethanol, they predominantly rely on simulated models or examine periods pre-2010. This paper extends the literature by estimating the de-facto levelized cost (LC) of U.S. corn bioethanol using real-life accounting data during a critical production maximization period of the industry. The paper's contribution lies in combining a previously unexamined period, unique dataset, and the application of a LC model to a new renewable energy industry. The paper applies the Reichelstein and Rohlfing-Bastian (2015) LC model and uses accounting procedures on a sample of 60 U.S. bioethanol producers' annual financial reports between 2010 to 2019. Findings show both bioethanol cost and selling prices to gradually fall between 2011 and 2015, then cost remains constant and price falls below cost beginning 2018. The findings suggests bioethanol may in fact be a costly distraction rather a solution, at least for 2018 and 2019. Our results provide evidence that conclusions of earlier literature continue to hold. This paper's approach offers a new perspective to existing research, especially in terms of management accounting and environmental cost accounting, thereby enhancing the reliability of bioethanol cost estimations and giving insight into real industry dynamics.

Presenting Author Biography

PhD Student at the Financial Accounting Chair, Graduate School of Business and Economics, University of Basel