Journal of Economics and International Trade 경제통상연구
Vol.6, No.2, November 2025

Print ISSN 2733-5852
https://ieit.pusan.ac.kr/ieit/index.do

DEA를 활용한 바이오가스 생산의 효율성 분석

유다경[a] 부산대학교 경제학과 박사과정

김태식[b] 에너지경제연구원 연구위원

원두환[c] 부산대학교 경제학과 교수

Efficiency Analysis of Biogas Production Using DEA

Da-Gyeong Yoo, Tae-Sik Kim, Doo-Hwan Won

Department of Economics, Pusan National University, South Korea
Korea Energy Economics Institute (KEEI), South Korea
Department of Economics, Pusan National University, South Korea

Received 11 October 2025, Revised 27 October 2025, Accepted 30 October 2025

Abstract

Sustainable energy development has become an important task due to environmental pollution and climate change issues. Biogas is gaining attention as a technology that can simultaneously achieve greenhouse gas reduction and waste treatment by utilizing organic waste for energy production. However, the domestic biogas industry remains at an early stage, facing growth limitations due to a lack of institutional foundations and utilization strategies. This study evaluates the efficiency of biogas production facilities in Korea using Data Envelopment Analysis (DEA) and analyzes the causes of inefficiency. Through this analysis, it derives policy implications for efficient production and resource utilization, providing a basis for establishing the biogas industry as a sustainable energy source.

Keywords: Biogas, Organic Waste, Data Envelopment Analysis (DEA)

a First author(주저자), E-mail: ekrud953@pusan.ac.kr
b Co-author(공동저자), E-mail: tskim@keei.re.kr
c Corresponding author(교신저자), E-mail: doohwan@pusan.ac.kr