

Accepted Manuscript

Characterization of hydrothermal carbonization products (hydrochars and spent liquor) and their biomethane production performance

Kun Zhao, Yeqing Li, Ying Zhou, Wenyang Guo, Hao Jiang, Quan Xu

PII: S0960-8524(18)30897-6

DOI: <https://doi.org/10.1016/j.biortech.2018.07.006>

Reference: BITE 20135

To appear in: *Bioresource Technology*

Received Date: 9 May 2018

Revised Date: 1 July 2018

Accepted Date: 2 July 2018

Please cite this article as: Zhao, K., Li, Y., Zhou, Y., Guo, W., Jiang, H., Xu, Q., Characterization of hydrothermal carbonization products (hydrochars and spent liquor) and their biomethane production performance, *Bioresource Technology* (2018), doi: <https://doi.org/10.1016/j.biortech.2018.07.006>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Characterization of hydrothermal carbonization products (hydrochars and spent liquor) and their biomethane production performance

Kun Zhao^{a,1}, Yeqing Li^{a,*1}, Ying Zhou^b, Wenyang Guo^a, Hao Jiang^a, Quan Xu^a

^a State Key Laboratory of Heavy Oil Processing, Beijing Key Laboratory of Biogas Upgrading Utilization, Institute of New Energy, China University of Petroleum Beijing (CUPB), Beijing, P. R. China, 102249.

^b University of Rostock, Faculty of Agricultural and Environmental Sciences, Department Waste Management, Justus-v.-Liebig-Weg 6, 18059 Rostock, Germany

¹ Authors contributed to this work equally.

*** Corresponding author:**

Tel. and Fax: +86-10-89739062

Email: liyeqing@cup.edu.cn; liyeqingcup@126.com (Y.Q. Li)

Address: A403 Zonghe Building, China University of Petroleum Beijing, 18 Fuxue Road, Changping District, Beijing, P. R. China, 102249.

Abstract:

To optimize the energy yield (EY) of food waste (FW) via hydrothermal carbonization (HTC), a response surface method was applied. Hydrochars and spent liquor were further conducted to evaluate their characterization and anaerobic digestion potential. Results found that optimal parameters for HTC of FW were suggested as temperature of 260 °C, reaction time of 4 h and moisture of 80%, with higher EY of 66.1%. Higher heating value, good combustion quality, lower H/C and

Download English Version:

<https://daneshyari.com/en/article/7065781>

Download Persian Version:

<https://daneshyari.com/article/7065781>

[Daneshyari.com](https://daneshyari.com)