

Accepted Manuscript

Title: Developing database criteria for the assessment of biomass supply chains for biorefinery development.

Author: M.J. Black J. Sadhukhan Kenneth Day Geoffrey Drage R.J. Murphy



PII: S0263-8762(15)00420-7
DOI: <http://dx.doi.org/doi:10.1016/j.cherd.2015.10.046>
Reference: CHERD 2079

To appear in:

Received date: 29-7-2015
Revised date: 25-10-2015
Accepted date: 28-10-2015

Please cite this article as: Black, M.J., Sadhukhan, J., Day, K., Drage, G., Murphy, R.J., Developing database criteria for the assessment of biomass supply chains for biorefinery development., *Chemical Engineering Research and Design* (2015), <http://dx.doi.org/10.1016/j.cherd.2015.10.046>

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.

Developing database criteria for the assessment of biomass supply chains for biorefinery development.

M. J. Black¹, J. Sadhukhan^{1*}, Kenneth Day², Geoffrey Drage² and R. J. Murphy¹.

¹Centre for Environmental Strategy, University of Surrey, Guildford, GU2 7XH, UK.

²Bio-Sep Ltd. Clapton Revel, Wooburn Moor, Buckinghamshire, HP10 0NP, UK.

Abstract

The sustainable biorefinery will only be realised with a focus on optimal combinations of feedstock-process technologies-products. For many years, industry has been looking to add value to the by-products of commercial agriculture, forestry and processing. More recently, as concerns about climate change have increased around the globe, the use of biomass as a carbon saving feedstock (compared to fossil feedstock) has led to the implementation of policies to encourage its use for bioenergy, biofuels and bio-based products. As biomass conversion technologies become reality at the commercial scale for a range of diverse end products, the need to establish bespoke biomass supply chains also becomes a reality and industrial developers will face many business-critical decisions on the sourcing of biomass and location of conversion plants (biorefineries). The research presented here, aims to address these issues through the development of a comprehensive database to aid biomass sourcing and conversion decision-making. The database covers origin, logistics, technical suitability (in this case for a proprietary organosolv pre-treatment process) and policy and other risk attributes of the system. The development of key criteria required by the business community to develop biomass supply chains for specific requirements is discussed.

Keywords: biorefinery, biomass characterisation, biomass supply chain, bioenergy, biomass database

*Corresponding author: Email: j.sadhukhan@surrey.ac.uk; phone: +44 1483 686642

Download English Version:

<https://daneshyari.com/en/article/7007014>

Download Persian Version:

<https://daneshyari.com/article/7007014>

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