

Partner search form

Date:	18 July 2007
Valid until:	December 2008

Full name of organisation:	University of KwaZulu Natal
Organisation acronym (abbreviation):	UKZN
Department / sector / faculty:	Chemical Engineering
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Postal code:	4041
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Country:	South Africa
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Full name of contact person:	Herbert Wolfgang Bernhardt
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Former participation in EU research projects as Co-ordinator: If yes, please specify:	No previous participation
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Project idea

Project title:	Development of a cane trash burner
Acronym:	Cane trash burner
Project type:	Research into feasibility of burning leaves from cane stalks in a closed environment prior to shredding the cane
Short description of project idea:	<p>In order to improve the extraction of sugar from sugarcane, more than 70% of sugarcane is burnt in the field prior to harvesting. The environmental impact of this is atmospheric pollution.</p> <p>Cane leaves are a valuable source of renewable energy. Most current research to utilize this energy focuses on ways to mechanically remove the trash prior to shredding the cane for sugar extraction. The practice of in-field burning represents a waste of this potential renewable energy source.</p> <p>The idea involves harvesting the cane with its adhering leaves and transporting the whole sticks to the factory.</p> <p>The proposed cane trash burner aims to burn the leaves off the</p>

stalks in a controlled manner without damaging the stalks to prevent degradation of sucrose. Use of normal scrubbers will prevent atmospheric pollution, while the energy released during the burning process can be used to generate steam for the production of electricity.

The project involves testing the idea that cane leaves can be burnt off the cane stalks in a burner without causing degradation of the sucrose in the cane, and to establish design parameters for a full-scale trash burner. Measurements will be undertaken of the amount of energy released during the controlled burning process. Furthermore the project also involves a full economic benefit analysis.

Expertise:

Dr Bernhardt worked at the Sugar Milling Research Institute for 13 years, doing research, inter alia, on cane handling techniques. He has published numerous papers on a variety of topics at the annual SA Sugar Technologists' Association Congresses, as well as papers in international journals and at the International Society of Sugarcane Technologists (ISSCT).

Profile of partner sought

Type of partner:

Funding organization to fund research, attend international conferences. Industrial partner to build pilot plant unit and full-scale unit when fundamental concept has been proved in a laboratory scale research unit. Proposer is willing to share intellectual property if project results in licensable hardware.

Role to cover in the project:

To provide necessary funds to do the basic research, and industrial partner to share in the development of a full-scale trash burner.

Country / Region:

South Africa – KwaZulu Natal where currently more than 20 million tons of sugarcane are produced which can supply more than 7 million tons of renewable energy material per annum.

Start of collaboration:

August 2007

Expertise required:

Intellectual property registration

I agree with the publication of my data!

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