APPENDIX C

Proof of Concept Scheme

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The information on this form may be made public.

Institution/Company:
JUA group ltd

Project Title:
Optimization of the design and operation of a pilot patented biodigester, including the testing of incoming volatile waste with high solid content

TECHNICAL ABSTRACT (200 words or less)

Include Potential Commercial Applications

JUA group has set up a pilot Anaerobic Digester (AD) associated with a composting plant (CP) installed on the site of a major chicken slaughterhouse in Mauritius. Both the AD and the CP are fundamentally innovative and hold patents delivered by INPI in France.
The pilot station has been operating for more than a year and different mix of highly volatile organic waste have been used to run the biodigester and associated equipments. The results are very encouraging although variations have been observed in the yield of biogas produced, both in terms of quantity and composition.
During these months of operation of the pilot and close monitoring of the biodigestion mechanism, adjustments regarding optimization of the design have been carried out to make the most of the testing period observations through a very effective lessons learned process.

Besides the optimization of the flow network, one of the main technical challenge faced by the pilot was to implement a heating system for pre treatment of the waste infeed and to establish the optimum feed composition, to avoid inhibitions due to the high organic fatty acids and ammonium content of slaughter-house waste .

Purification of biogas to produce high quality biomethane was also a concern and we successfully demonstrated the feasibility of a calcium hydroxide carbonation process by reaching more than 95% CH_4 content.

Key Words to Identify Research (8 maximum)

- Organic Waste Treatment
- Anaerobic Digestion
- Renewable Energy
- Biomethane