



Meeting Minutes

WP 5: Planning Fuel Production

Date: 03-04-2017
Time: 13:30 – 15:00
Location: Skype

Participants

DTI: Xiaoru Hou, Dimitar Borisov Karakashev
ECN: Jaap van Hal
Matis: Bryndís Björnsdóttir, Olafur H. Fridjonsson, Guðmundur Óli Hreggviðsson
WUR-FBR Ana López Contreras, Paulien Harmsen, Jelle van Leeuwen

Agenda

1. What are the Fuel specifications?
2. What do we need to do in each step?
3. Which equipment do we have?
4. What do we need to rent?

Minutes of meeting

The presentation (see appendix) was discussed.

The following was decided.

1. Jaap will ask WP1 to keep as much as this years harvest dried and stored to have a back-up plan for the seaweed supply.
2. Jaap will decide with WP1 for another back-up plan such as obtaining seaweed from other of previous projects.
3. Jaap will ask SAMS which composition they expect from the harvest (as well as Aarhus).
4. Use 0.9 for the density of the “ABE” fuel in the calculations.



The following apparatus data will be sent to Jaap:

- a) Dry mill DTI, Xiaoru
- b) Belt press DTI, Xiaoru
- c) Decanter DTI, Xiaoru
- d) Dry mill ECN, Jaap van Hal
- e) PFD membrane unit WUR, Jelle

ECN will distill the water rich butanol fraction and purify the combined butanol fractions to < 20% water.

JvH will outline a planning for the production with the following assumption (with input from Jelle):

- i. Dry seaweed is suitable
- ii. The seaweed can be enzymatically processed to obtain the raw dilute liquor (@WUR).
- iii. WUR will purify the liquor to specs for both ethanol and butanol
- iv. WUR will perform the fermentations
- v. ECN will purify the butanol
- vi. DTI will outsource (ask for the quotation of) the pilot scale ethanol distillation..
- vii. DTI will transfer the task of pilot ethanol production to WFBR. More details will be discussed in WP3 meeting.

Gas stripping will be evaluated as an alternative to distill the ethanol out of the broth.

JvH will get an estimate from Gent and Delft for high temperature pre-treatment in combination with fermentation.

JvH will check the exact wording of the DOA with respect to the bio-ethanol fuel test.