

Minutes of the
RENEWABLE ENERGY COUNCIL

Thursday, July 10, 2014 – 11:00 a.m. (CDT)
Eide Bailly Board Room, Barry Hall
North Dakota State University, Fargo, ND

CALL TO ORDER

Members Present: Al Anderson, Terry Goerger, Al Christianson, Randy Schneider

Members Absent: Rod Holth, Mark Nisbet, Kyle Bahls

Others Present:

Andrea Pfennig, Department of Commerce
Karlene Fine, Industrial Commission
Denise Faber, Department of Commerce
Frayne Olson, NDSU
David Ripplinger, NDSU
Dr. Chad Ulven, NDSU
Dr. Mike Mann, UND
Dr. Will Gosnold, UND
Dr. Nancy M. Hodur, NDSU
Bernie Steele, MBI
Dr. Larry F. Leistritz, Retired-NDSU
Dean A. Bangsund, NDSU
Dan Olson, PNS
Bruce Dahl
Norifumi Kimura
Iddrisu Awudu

Al Anderson, Chairman, called the Renewable Energy Council meeting to order.

WELCOME AND OPENING COMMENTS

Anderson welcomed everyone. Goerger thanked everyone for coming to Fargo for the meeting.

APPROVAL OF MINUTES

October 15, 2013, meeting minutes were reviewed.

Schneider moved to approve the minutes as presented. Christianson seconded the motion. All in favor. Motion passed.

First order of business is the tour of the NDSU Trading Center and report by Dave Ripplinger.

FINAL REPORT AND DISCUSSION

Biobased Non-Isocyanate Urethane Hybrid Resins for Pultrusion Composites presented by Chad Ulven (A copy of the presentation is available in the files.)

Anderson stated that with agreements reached with private companies, IP can become a challenge. Anderson asked if there were any issues with the collective property and licensing. Ulven replied not at all. There is a NDSU policy that addresses this.

Schneider asked why Tecton is interested in this project. Ulven replied that they came to Tecton with the idea. They wanted to prove that this resin would work in Tecton's production. They were more of a commercial outlet to test the feasibility of the project.

Schneider asked if Tecton would be interested in owning it if it works. Ulven replied yes.

Schneider asked if they did any burn/off-gasing studies. Ulven replied that they did a lot of DSC on the resin.

Schneider asked what the cost of the soy was. Ulven replied they did not see the cost of the soy oil. The sucrose soy was produced by Proctor and Gamble for them, and they did the conversion for them.

Schneider asked what they are doing with the product that they are producing. Ulven replied that other uses include plasticers and PVC, and they are also looking to renewables.

Schneider asked if Tecton is licensing the product from NDSU. Ulven replied yes.

Schneider asked what does this project mean to North Dakota? Ulven replied the idea is to develop a facility here in North Dakota, either through the conversion of ethanol plant, or add-on to an ethanol plant or a new facility.

Schneider asked what he thought the next step to move this forward would be. Ulven replied obtaining the investment of this project in North Dakota. They would like North Dakota to be the leader in fuel and bio-products in the country.

PRESENTATION OF FINANCIAL SUMMARY

Fine presented the financial summary, which was also posted on the website.

We have \$3,000,000 coming in from the Resources Trust Fund, which is now permanent and came in ahead of schedule. With expenditures and outstanding commitments, we have \$3,519,666.38 of uncommitted dollars as of May 31, 2014. We are in good shape to fund the projects we have today.

Schneider asked if we do follow up to see if projects commercialize down the road that we fund. Fine replied that we always have the projects that have been completed come before the committee.

Anderson replied that there will be requests on how we are doing, so we will be providing information and examples on projects that have gone forward. Schneider would like to make sure that we keep track of the lifecycle of the projects, so we can help move them forward.

CONSIDERATION OF ROUND 21 GRANT APPLICATION

Pfennig stated that we did receive two applications. Both were sent out for peer review, however, one came back as do not fund. That applicant chose to withdraw their application and revise due to comments and resubmit in the next round.

R021-A: “Distributed Geothermal Power”;
Submitted by UND; Principal Investigator:
Michael Mann; Project Duration: 2 Years;
Total Project Costs: \$200,835; Request for:
\$100,230.

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund (185 and 239) and Funding May Be Considered (156). Average Weighted Score was 193 out of 250. Commerce’s recommendation is to fund the project. This is the first geothermal project that we have received. There were no suggested contingencies.

Mike Mann and Will Gosnold presented for UND. (A copy of their presentation is available in the files.)

Schneider asked if the interactions are with government and public utilities in North Dakota. Mann replied yes, and with local co-ops also.

Anderson asked when it gets installed will they be able to monitor it from UND? Mann replied yes.

Schneider asked if they are going to access or circulate existing water or drill a well. Mann replied that they will be using an existing well. They will recycle the water.

Schneider asked how the relationship with Continental came about. Gosnold answered that he made the contact with the State

Geological Survey and found out who is producing the most water, and then made contact with Continental. Continental was very interested in this project, and is very supportive of the project.

Anderson asked what the typical range of the hot brine is. Mann replied 190-210. Gosnold added that the well that they are tapping into now is 220, but by the time it gets a mile to the site it will be about 210. They are using a cooling tower at the site, and they will be tying into the site before it gets to the cooling tower.

Schneider asked if the cost of electricity is 5 cents/kwh. Mann said yes, it assumes that the well is built. Schneider asked if this factors in any cost of electricity to the well site, or if this is pure cost. Mann stated that it doesn't include any voided costs, and this is just the cost of the electricity and not the distribution.

Schneider asked why Slope Electric wanted to be part of this project. Mann responded that according to the business models, they would benefit from the project.

Schneider asked if they are monitoring the polluting of the aquifer. Mann replied that they will be drilling below the aquifer.

Schneider asked if two years is the demonstration cycle? Mann replied yes. Anderson asked how quickly this will be installed. Mann stated Access Energy indicated late this fall.

Schneider asked what the benefit would be to North Dakota. Gosnold responded it is a long-term clean power resource, and would provide the power that the oil wells would need. They would like to get all the power industries interested in this.

Schneider asked if this would be a benefit beyond the oil and gas industry. Gosnold

stated absolutely, it is a long term power resource.

Schneider asked about the capital cost of the unit being a factor. Gosnold replied it is a big factor. They are working on solutions.

Goerger asked about scale and how small or large can you go. Gosnold replied 150 kw.

FINAL REPORT AND DISCUSSION

Developing a Biomaterials Industry in ND – Nancy Hodur and Bernie Steel

Nancy Hodur introduced Dr. Larry Leistriz and Dean Bangsund, who were present. Nancy Hodur and Bernie Steele presented the report. (A copy of their presentation is available in the files.)

Schneider asked if there was any issue with EPA and what you can't recycle. Steele responded there were no issues.

Schneider asked if this is a protein replacement. Steele replied that it is both an energy and protein replacement.

Schneider asked if they have experimented with adding other byproducts to enhance the feed. Steele replied no.

Goerger asked about their purpose for wanting to build. Steele believes it is for the animal feed.

Schneider asked what does this mean for North Dakota. Hodur presented the last slide, which showed their next steps to get this started in North Dakota. The steps include talking to investors and producers for opportunities to see where the technology fits, and where it can add value to North Dakota.

Anderson asked about the owner/operator of this project. Hodur responded there are

