



Energy Cluster Co-chairs:

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Energy – Dairy Cluster Meeting Notes

January 14, 2014- 10:30 AM – Conference Call

Present on Call: Merlin Raab, Doug Lindsey, Connie Loden, Amanda Kleiber, Amber Hewitt, Nick Lumpkin, Brian Dolski, Neil Gammroth, Matthew Christman, Lorrie Lisek, Carol Karls

Meeting Agenda:

January 23 Workshop Event Planning

- a. Run through of Agenda and who is doing what
- b. Outcomes
- c. Logistics
- d. Lunch
- e. Registration/Follow ups
- f. Any other business

Schedule for January 23rd Workshop:

10:00 to 10:15 Registration

10:15 to 10:30 Introduction to the Lakeshore Industry Cluster Initiative – Connie Loden

10:30 to 10:45 LICI Discussion of CNG Related actions to date by the Energy Cluster – Merlin Raab / Steve Dvorak

10:45 to 11:15 Clean Energy Fuels Presentation – Nick Lumpkin (via teleconference)

11:15 to 11:30 Trillium CNG Presentation – Brian Dolski

11:30 to 11:45 Discussion of Concept, determination of activities moving forward – Merlin Raab /
Steve Dvorak

11:45 to 1:00 Lunch

Registrations & Required Follow up

Amber Indicated the following farmers had registered verbally in addition to those listed electronically:

- Don Neils
- John Pagel

Steve sent out letters and will be performing follow up as of Thursday

Equipment and Meal Logistics

Amber will be checking with Pagel's regarding:

- Availability of Telephone connection for Nick Lumpkin presentation
- Once available will send presentations to Ken to be loaded on a single computer
- Will order lunch at approximately 11:30

Connie:

- Printed copies of presentation
- Pencils & Paper
- Flip board
- Name tags

Will need to bring a power point projector

Other Items of Note:

May need to include detail during LICI presentation segments regarding tube trailers

Discussion of a dairy digester operators group

Meeting Minutes:

- Registration – still do not have a high number of farms registered
- Amber – notes that she has received verbal confirmation from several farmers at this point – not registered through online site

- Merlin
 - Steve sent out invitations and will be reaching out on Thursday as followup
 - Meet with Nick Lumpkin who has agreed to join via telephone for the conference
 - Will need a speaker phone
 - Amber noted that they likely have that equipment available
 - Connie will set up dial in number – will use same code as today
- Nick will have presentation from the developers stand point
 - Asked for 15 minutes for presentation followed by time for questions
- Merlin
 - Would take 5-10 minutes at start to provide background on the Lakeshore Industry Cluster Initiative
 - Connie has agreed to present this portion of the program
- Event is scheduled to last from 10:00 to 1:00
 - Not likely to start presentations until 10:15
 - 10:15 to 10:30 Connie LICI Introduction
 - 10:30 to 10:45 discussion of concepts/goals
 - RINS, uncertainty in market, etc.
- Nick – can demonstrate volatility of RINS, compare prices with electrical rates
- Merlin – market is for electricity is currently about 30% of price when established
 - Notes minor efforts to date by LICI regarding fleet development
 - Workshops, etc.
- Segment from 10:30 to 10:45 would be presented by Merlin or Steve
- 10:45 to 11:15 Nick's presentation
- Brian – question:
 - Has limited experience in this space
 - Would not have background knowledge
- Merlin – would you be willing to share your experience regarding regional fuel demands
 - Brian could discuss Trillium's activities, past and long term goals – market truck fleets in area
- Nick – approach as economics 101
 - May have questions related to transportation fuel economics
 - Unsure of what farmers conception of CNG use is
- 11:15 to 11:30 Brian Dolski – Trillium presentation
 - Market development for fuels – generic level
 - Station spread, fleets interested
- 11:30 to 11:45 Discussion & Next Steps
- Other items – interest in a digester managers group
 - Proposed at previous meeting by Gail
- Potential End time – 11:45 to 12:00
 - General discussion followed by lunch
- Connie – any value related to Jim & Neil's presentation for this group?

- Merlin
 - all attendees will have operating digester experience, and should understand economics of operation, electrical power market
 - Missing detail in regards to market value of biogas
 - Nicks presentation – should give general value for biogas
- Nick
 - Would provide general sense, no fixed take pricing
- Merlin
 - Presentation from Jim / Neil may be more geared for those who do not have digesters operating at this point
- From Merlin/Nick discussion
 - 8,000 cow operations may be needed in order to be economically feasible based on a raw biogas perspective
 - Need for critical mass or variable
 - Captive fleet changes all variables
 - If pipeline injection needed the size would have to be much larger
- Neil – On farm & related fleet use – does a scenario exist for this currently?
- Nick
 - Best to ID a local use for fuel
 - More sizeable operations would have difficulty using all of production
 - Projects of that size have economic challenges
 - Need for case by case analysis
 - Pipeline considerations
 - Can talk through feasible operations
- Neil – cost of conversion on biogas has decreased significantly
- Large issue if distribution not available
- Neil – complex issue – need to lay out all options
- Nick – no one doing small scale liquefaction on site
 - CNG product only, LNG would require transport to a regional liquefaction plant
- Connie – question regarding logistics
 - Lunch prior to or following discussion
- Amber – need to avoid loss of audience
 - Based on audience present, if interested they will stay for the discussion
 - Not familiar with dairies further south
- What would be lunch
 - Amber suggests delivered pizzas
- Logistics Summary
 - Merlin will get presentation from Nick in advance
 - Amber – equipment available: projector, screen, controllers, speaker phone, internet access

- Amber will send presentations to location in advance to have them loaded on computer
- In regards to name tags – will use blank – farmers are likely to just show up for event without registration
- Amber has some promotional items for distribution
- Connie – will bring charts and markers
- Connie – regarding concluding discussion
 - Lead by Merlin & Steve?
 - Merlin - Will likely also get questions about pipeline interconnection
 - Requires site specific analysis
- Matthew – asked about information from past presentation – MI farm pipeline interconnection
- Merlin – that site was in an ideal location is no longer injecting gas into the pipeline
- Connie – will need to cover tube trailers, pipeline interconnection if not included in guest speaker presentations
- Merlin – can fill gaps once he has Nicks presentation