Wendy Briggs

From: Wasson, Bill <Bill.Wasson@mcleancountyil.gov>
Sent: Thursday, October 11, 2012 9:03 AM
To: David Hales; Mark Peterson
Subject: RE: Monthly Meeting

I have it on my calendar. We have not heard from them for about a year. I'd be interested in an update.

William R. (Bill) Wasson
County Administrator
McLean County Administrator's Office
Room 401
115 E. Washington St.
Bloomington, IL 61702-2400

From: David Hales [mailto:dhales@cityblm.org]
Sent: Thursday, October 11, 2012 9:00 AM
To: Mark Peterson; Wasson, Bill
Subject: Monthly Meeting

Mark and Bill,

Are the two of you available to meet on Monday morning at 7:00am at IHOP?

One topic I would like to discuss is the Paradigm Waste to Jet Fuel project and its impact on future landfill contracts. I met with Alan and Lester yesterday and can provide you with an update assuming you did not have your own meetings with these two gentlemen.

David

David A. Hales
City Manager
City of Bloomington
109 E. Olive Street
PO Box 3157
Bloomington, IL 61702-3157
P 309-434-2210 F 309-434-2802
dhales@cityblm.org

Wendy Briggs

From: David Hales <dhales@cityblm.org>
Sent: Thursday, October 11, 2012 9:30 AM
To: William R Wasson
Cc: Mark Peterson
Subject: RE: Monthly Meeting

Thanks, see you Monday morning.

David
David A. Hales
City Manager
City of Bloomington
109 E. Olive Street
PO Box 3157
Bloomington, Il 61702-3157
P 309-434-2210 F 309-434-2802
dhales@cityblm.org

-----"Wasson, Bill" <Bill.Wasson@mcleancountyil.gov> wrote: -----
To: "David Hales" <dhales@cityblm.org>, "Mark Peterson" <mpeterson@normal.org>
From: "Wasson, Bill" <Bill.Wasson@mcleancountyil.gov>
Date: 10/11/2012 09:01AM
Subject: RE: Monthly Meeting

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William R. (Bill) Wasson

County Administrator

McLean County Administrator's Office

Room 401

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Bloomington, IL 61702-2400

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P 309-434-2210 F 309-434-2802
dhales@cityblm.org

Wendy Briggs

From: Mark Peterson
Sent: Thursday, December 13, 2012 3:54 PM
To: Lester Vicary
Subject: RE: Other two
Attachments: Normal City Council - Paradigm plan.doc

OK Les. At this point, the presentation that I have included in the Council Packet is the one that is attached to this message. We can always send out other presentations tomorrow. mp

Mark R. Peterson
City Manager
Town of Normal
Normal, IL 61761
(309) 454-9777
mpeterson@normal.org

"Committed to Service Excellence"

Please consider the environment before printing this e-mail

From: Lester Vicary [mailto:lesterv@paradigmbioaviation.com]
Sent: Thursday, December 13, 2012 3:17 PM
To: Mark Peterson
Cc: Alan Robinson; Orval J Yarger
Subject: RE: Other two

Mark:

There should be four separate presentations and not three -- Paradigm, Hensel Phelps, ISU and Southern Research Institute. To avoid any confusion, Alan is making another thumb drive and either he or Orval will get it to you before noon tomorrow.

My apologies for the delay.

Sincerely,

Lester Wm. Vicary, Jr.

Lester Wm. Vicary, Jr.
Director of Business Services
Paradigm BioAviation, LLC
LesterV@paradigmbioaviation.com
http://www.paradigmbioaviation.com/

From: Mark Peterson [mpeterson@normal.org]
Sent: Thursday, December 13, 2012 2:10 PM

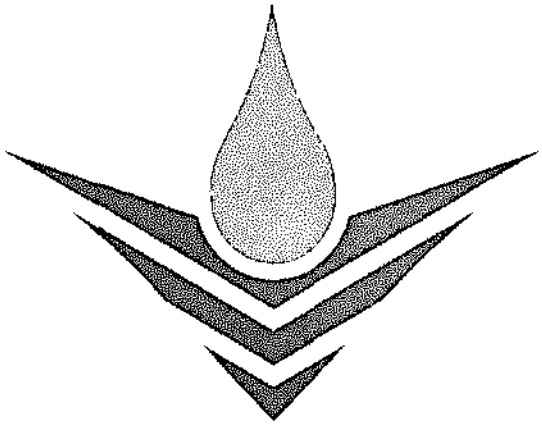
To: Lester Vicary
Subject: Other two

Les, Here are the other two presentation that were on the thumb drive. Do you want us to use any or all of these, or one of the presentations that you e-mailed to me yesterday? mp

Mark R. Peterson
City Manager
Town of Normal
Normal, IL 61761
(309) 454-9777
mpeterson@normal.org

"Committed to Service Excellence"


Please consider the environment before printing this e-mail



ParadigmBioAviation

OPPORTUNITY FOR A GREENER FUTURE

- In 2013 Bloomington has the opportunity to embrace Energy Production & Materials recovery from its MSW and significantly reduce its CO^2 emissions

OR

- Continue to truck its MSW to distant landfills thereby increasing its Carbon Emissions and Carbon Footprint.

Wendy Briggs

From: Marty Vanags <MVanags@bnbiz.org>
Sent: Thursday, January 31, 2013 5:16 PM
To: David Hales; Steve Stockton; Mark Peterson; Mayor Chris Koos; Carl; Wasson, Bill (bill.wasson@mcleancountyil.gov)
Cc: Ken Springer; Mike O'Grady
Subject: Biofuels
Attachments: Midwest Aviation Sustainable Biofuels Initiative.public.pdf

Recently on a trip to Chicago I had an opportunity to visit with United Airlines Environmental and Sustainability Programs Senior Staff. The purpose of meeting with them was to determine the viability of biofuels as a source for jet fuel. I wanted to understand the feasibility of biofuels for the jet aviation market and their commercial application. Understanding this would help us understand the viability of the ideas Alan Robinson has put forward to both elected bodies. Margaret Whitty of United shared with me the activities of the Midwest Aviation Sustainable Biofuels Initiative (MASBI) . This group is involved in exploring the use of Biofuels for aviation. The deck United provided and is attached is short but very informative.

Essentially, here is what I learned about the potential use of Biofuels for aviation:

1. Any Biofuel produced must be a "drop-in" fuel. In other words it must have the same molecular make-up as existing petroleum based jet fuel. This avoids the retrofitting and redevelopment of infrastructure such as piping and jet engines. A different type of molecular footprint may cause failure in seals and other equipment designed for the current infrastructure. United, Boeing and other companies that make equipment and other facilities "cannot afford to redesign the entire infrastructure for a new compound".
2. The producer of biofuel will need to initially "blend" the fuel with existing petro based fuel. The blending of fuel must take place at the refinery or some other production point. It cannot take place at airports as they have neither the facility or want the liability to do this blending. After market acceptance there may less blending involved.
3. The seller of biofuels must have contracts to sell the fuel prior to processing. While feedstock (input) is important, output contracts are also needed to finance a venture.
4. Almost all fuel at O'Hare and other airports throughout the country are provided through pipelines and are not trucked in.

United has had conversations with Paradigm Aviation Biofuels, however they indicated to me that they were not left with the impression that there was actually a project, rather that they were exploring the possibilities. My conversation following both the City of Bloomington and the Town of Normal presentation by Alan Robinson and Paradigm was that the EDC was willing to help the company with their project. In order for the EDC to provide assistance there must be a "project". A project is best defined by the following:

1. A "Start-up" sources and uses of funding; What is going to be required to get the project off the ground, what type of equity funding, debt funding and public funding including any incentives is the project anticipating? In addition, where does this funding go and for hat purposes. This should obviously include total cost of the project.
2. In anticipation of public funding, a three-year proforma operating budget, or additional years indicating the ROI
3. Financial capabilities of venture partners, limited liability partners, etc., again in anticipation of public participation in funding.
4. Any additional information regarding the direct jobs for the project. Not construction jobs or induced or indirect, but actual employment when the operation begins and each year for three years.

These are the essential and basic types of information we need to move forward. My position has always been that we are willing to assist, but we cannot help unless we know what the proposal is. So far we have seen a concept or idea, and

frankly each time I have seen the presentation (four times) the number of jobs, size and scope of project and other factors have changed.

If Paradigm can deliver, then this stands to be a great project, however until we see details it would be difficult to dedicate the limited resources of the EDC to something that has yet be finalized.

Here are some additional websites: www.united.com/ecoskies
British Airways Project: http://www.triplepundit.com/2012/12/british-airways-jet-biofuel-plant-will-open-2015/

Marty Vanags, CEO
Economic Development Council of the Bloomington-Normal
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Normal, IL 61761
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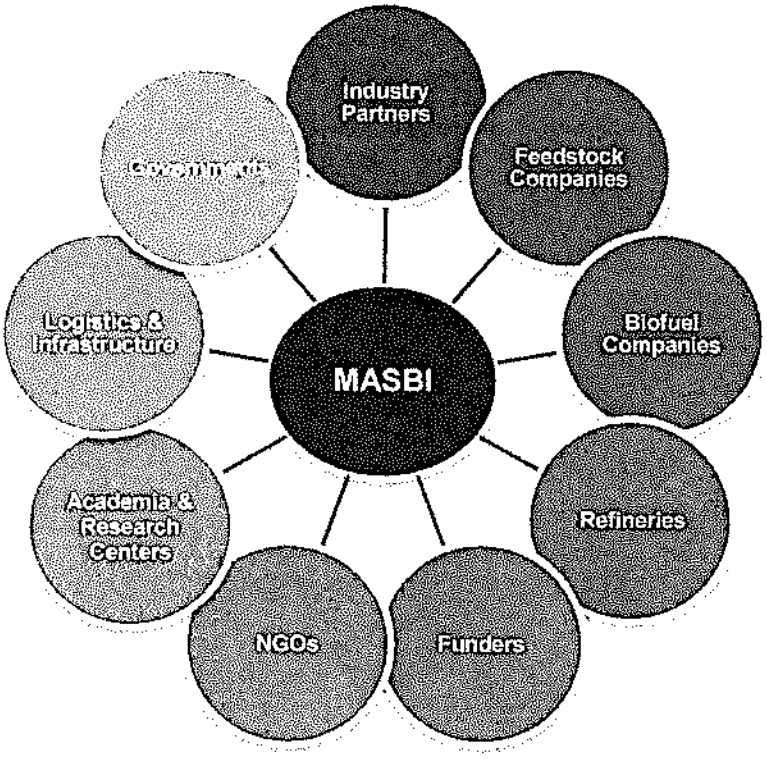
C: 309-838-9715
Email: mvanags@bnbiz.org
Twitter: @bnedguy

Midwest Aviation Sustainable Biofuels Initiative

A STAR ALLIANCE MEMBER

UNITED

United launched MASBI to define an action plan for biofuel development regionally



MASBI Objectives

- Evaluate current state of biofuels supply chain, focusing on Midwest region's gaps
- Assess clean energy technology maturity and potential
- Define strategies to address commercialization of the industry
- Identify appropriate public-private partnerships and policy opportunities to promote development of the biofuels market within the region
- Create actionable roadmap to drive market development of advanced biofuels in the Midwest

MASBI

UNITED eco-skies

MASBI is led by United with stakeholders from across the Midwest biofuel value chain

Steering Committee

UNITED

BOEING

UOP
A Honeywell Company

CHICAGO CDA DEPARTMENT OF AVIATION

CLEAN ENERGY TRUST

Program management provided by
OLIVER WYMAN

Stakeholders

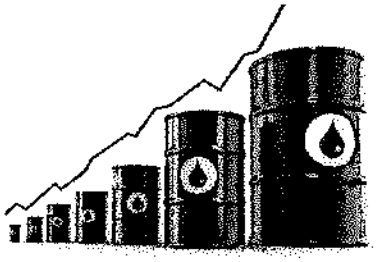
Air BP
Airlines for America
Algal Biomass Organization
Argonne National Lab*
Buckeye Partners
CATF
Carbon War Room
Civic Consulting Alliance
Commercial Aviation Alternative Fuels Initiative
Consumer Energy Alliance
Elevance
Environmental Law and Policy Center
Federal Aviation Administration
Fredrickson & Byron P.A.
Gas Technology Institute
GE Aviation
Gevo
Global Clean Energy Holdings
Illinois Farm Bureau Federation
Iowa Farm Bureau Federation
Iowa State University
Kansas Alliance for Bioenergy
Kansas State University
LanzaTech
Magellan Pipeline
Metron Aviation
Metron Aviation
Midwestern Governors Association
Monsanto
National Wildlife Federation
Natural Resources Defense Council
Northwestern University
Ohio Aerospace Institute
Purdue University
REG
SkyNRG
Solazyme
Sun Grant Initiative / SDSU
U.S. Department of Agriculture
U.S. Department of Navy
University of Illinois
University of Nebraska-Lincoln
Virent
Western Illinois University
World Wildlife Federation

MASBI
Midwest Aviation Sustainable Biofuels Initiative

UNITED eco-skies

Why Biofuels Are Important to United & Aviation Industry

- Fuel Supply Diversification
  - Sustainable aviation biofuels will help us achieve our goals of improving energy security, cost stability and the environmental impact of our fuels



- Fuel is Critical to Our Airline
  - United is the single largest jet fuel user in the United States
  - Rising fuel costs affect the entire aviation industry
  - Fuel is the source of our most substantial environmental impact

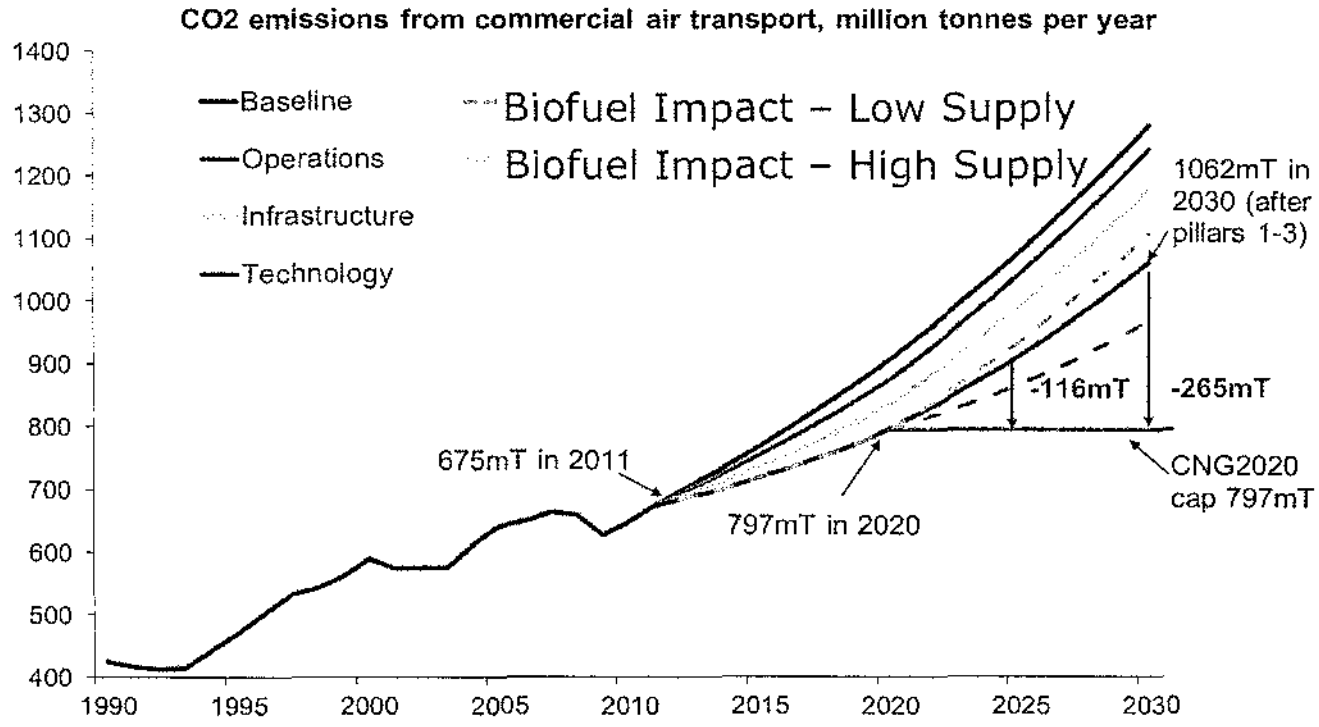
- Obligations to Meet Aviation Industry Carbon Goals

- Commercial aviation today has no real alternatives to jet fuel
  - United has made a long-standing commitment to advancing the use of sustainable aviation biofuels

MASBI

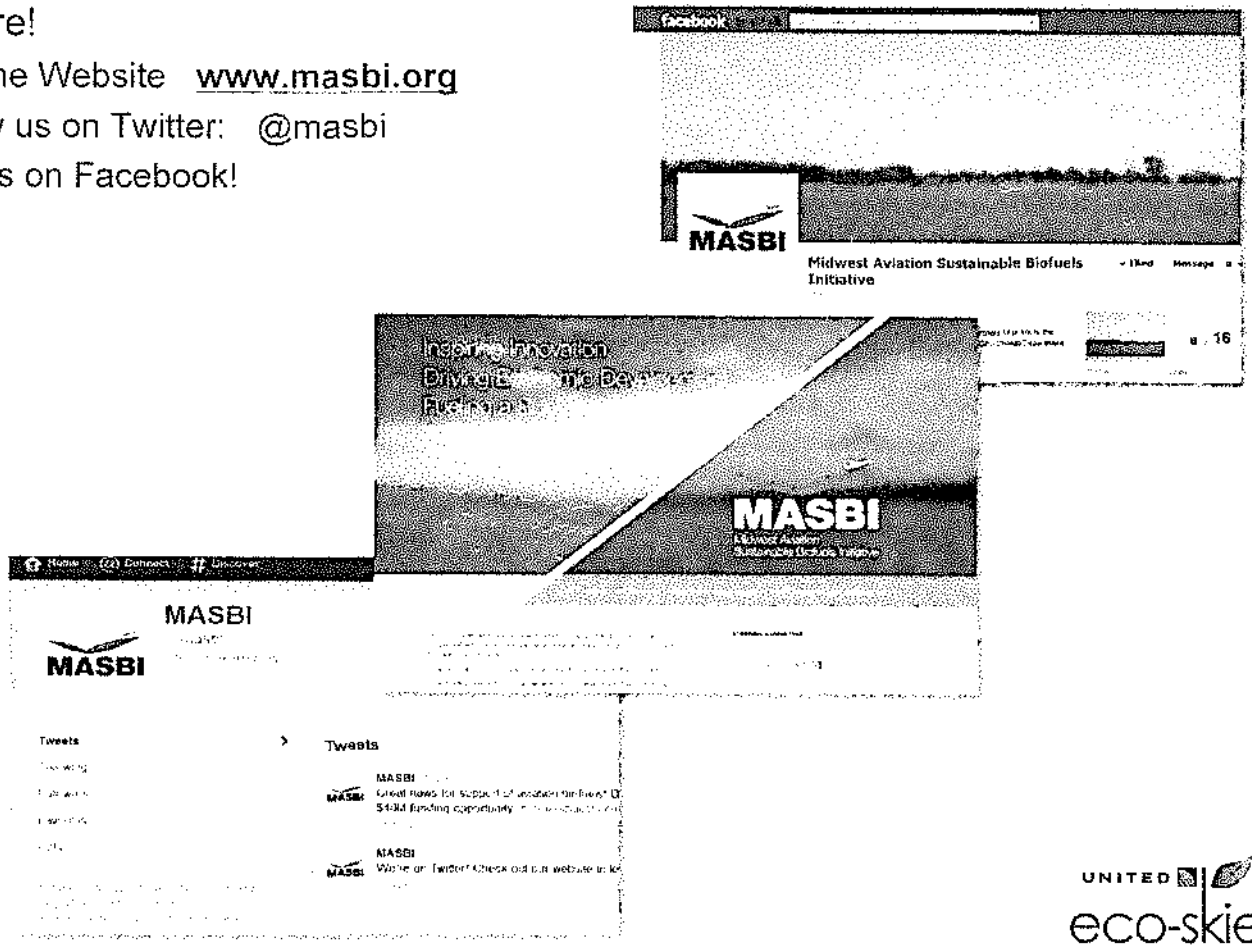
UNITED eco-skies

In order to meet the aviation industry's global climate change reduction goals of carbon neutral growth from 2020, aviation biofuels are a must



Kick-Off Fair and Learning More About MASBI

- Learn More!
  - Visit the Website www.masbi.org
  - Follow us on Twitter: @masbi
  - Like us on Facebook!



MASBI

UNITED eco-skies

Wendy Briggs

From: Marty Vanags <MVanags@bnbiz.org>
Sent: Thursday, January 10, 2013 12:06 PM
To: Aaron McArdle; Aaron Quick; Alan Sender; Alex Calvert; Andrew Carby; Ann Hastings Kafer; Barbara Henderson; Barbara Meek; Barbara Nathan; Bill Johnston; Bill Lawrence; Brent Nussbaum; Bruce Bergethon; Bruce Breitweiser; Bryan Caldwell; Bryan Crabtree; Carl Olson; Chuck Erickson; Daetta Jones; Dave Endsley; David Cate; David Sage; David Stark; Denny Kagel; Dick Eikenberg; Don Cavallini; Don Taylor; Doug Dodson; Doug Roesch; Dr. A Gigi Fansler; Eric Rankin; Frank F. Lunn; Fred Drake; George Gordon; George Wendt; George Woods; Hans Rasmussen; Harlan Geiser; Heather Kimmons; Heather Vanvoorhis ; Herb Eaton; Jake Davis; Jane Moore; Jeff Solberg; Jim Britton; Jim Connolly; Jim Fruin; Jim Soeldner; John Carter; John Collins; John Franklin; John McIntyre; Jude LaCasse; Judy Stearns; Julie Brandt; Justine Robinson; Karen Schmidt; Kevin Callis; Larry Hundman; Larry Timm; Laurie Wollrab; Mary Ann Webb; Mary Strack; Matt Mamer; Matt Parson; Matt Potts ; Matt Sorensen; Mboka Mwilambwa; Michelle Houchin; Mike O'Grady; Pamela Reece; Paul Brown; Paul Segobiano; Paula Pratt; Ralph Turner; Randy Wood; Rich Buchanan; Richard Stroyan; Rob Brent; Rob Fazzini; Robert Dobski; Russel Francois; Sally Pyne; Scott Black; Sondra O'Connor; Steve Purcell; Steve Timmerman; Steve Wannamacher; Steve Warren; Susan Schafer; Susan Yoder; T. Sean Wells; Terry Baum; Terry Hinds; Thomas Good; Thomas Mercier; Thomas N. Jacob; Tim Hickey; Tom Kirk; Tom Restivo; Tracy Davis-Pitts; Vernon Schrof; Vicki Tilton; William Allison; William Caisley; Allen Goben; Barry Reilly; Ben Owens; Benjamin Hart; Bernie Anderson; Bill Wasson; Bob Lakin; Brad Barker; Charlie Moore; Mayor Chris Koos; Colleen Kannaday; Crystal Howard; David Hales; Dick Wilson; Elizabeth Binning; Gary Niehaus; Greg Cook; Greg Yount ; Jay Groves; Jeff Flessner; Jeff Fritzen; Jeff Fritzen; Jeff Lynch; Jennifer McDade; John Penn; John Whalen; Julie Hile; Karen Jensen; Ken Natzke; Larry Horvath; Mark Kotte; Mark Peterson; Mary Bennett Henrichs; Matt Sorenson; Mike Shumaker ; Nick Grojean; Paul Russell; Ron Greene (RONGREENE@afni.com); Steve Martin; Steve Stockton; Tim Davis; Tim Norman; Wallace Lewis
Cc: Angie Huonker
Subject: EDC Investor Update - December 2012
Attachments: December 2012 Investor Report.pdf

Dear Investor and Stakeholder:

As part of our improved communication to you, attached you will find the December 2012 Investor Update. This update provides information on the four major goals under the EDC's current Forging Ahead strategic plan. The Investor Update is attached in PDF form.

We encourage you to share this information with your Board, or others in your organization if applicable. While we do schedule periodic presentations or private visits to your organization, we hope that you will find this update to be the most effective way to communicate the EDC's progress in reaching our goals and objectives.

We invite your feedback as well. Due to the public nature of this update, we cannot disclose all information here. We also, often work on projects that require full confidentiality by our clients. If at any time you feel there is information you are missing, please let us know. We will provide you with as much detail and information on a project as we can.

Furthermore, our business retention database, Executive Pulse allows us to produce a variety of reports. If you have questions about our business climate, or the type of companies that are growing, please let us know. We will do our best to accommodate your request.

Thank you for investment in the EDC.

Marty Vanags
Chief Executive Officer

Bloomington Normal Economic Development Council
200 West College Ave., Suite 402
Normal, IL 61761
O: 309-452-8437
C: 309-838-9715
Email: mvanags@bnbiz.org
EDC Website: www.bnbiz.org

ECONOMIC DEVELOPMENT COUNCIL
OF THE BLOOMINGTON-NORMAL AREA
Investing in McLean County

Monthly Investor Update

SECTION I: Five-year Goal Progress **Month of December, 2012**

1. **Targeted New Business Recruitment:**
   a. ***Our Targeted Industries are best remembered using the acronym: "A LIFE" or,***
      - ***A***griculture or Agribusiness
      - ***L***ogistics and Warehousing
      - ***I***nformation & Manufacturing Technology
      - ***F***inancial and Insurance Services
      - ***E***ducation and Training

The following activities reports have not changed since last month. There is ongoing progress in each of them:

   b. ***Incentives Program:*** Staff has completed a draft proposal for an incentives package for Bloomington-Normal and is soliciting feedback from governmental units.
   c. ***Future Attraction Calls and Trips:***
      - Chicago call trip will occur January 15-16-17. Eight meetings confirmed and several more are tentative. Meetings will be with site location specialists and corporate real estate executives.
      - Future Trips: Site Selectors Guild Conference; New Orleans – February 24-27
      - International Asset Management Spring Forum; March 17-20
   d. ***Proposal and Inquiry Response:***
      - EDC responded to one new site request in December, for a restaurant business. Another attraction lead from a prior month indicated that they would be coming to visit potential buildings sometime in early 2013.
   e. ***New Attraction Project:***
      - In November, EDC staff began working on a sizable attraction project on the behalf of Wirtz Beverage Illinois. The company is seeking to build a $7.25 million, 120-job mid-state HQ facility on the west side of Bloomington near the Interstate Center. The EDC continues to work on the incentives side of this deal. So far, the EDC has secured approval from the City of Bloomington in December. The balance of taxing bodies will review the request in January.

2. **Existing Business Assistance, Support and Expansion:**
   a. ***Executive Pulse Visits (local business visits)*** – 2 Visits in December; 102 year-to-date.
   b. ***Angel Capital Group*** – Work continues on the formation of an Angel Group. Staff expects to begin talking with potential members in the first quarter of 2013.
   c. ***Revolving Loan Fund (RLF) & MicroEnterprise Loan Fund (MLF)*** – No new activity this month.

3. **Enterprise Zone Activity**
   a. ***Enterprise Zone (EZ)*** - EDC certified a food retail business in Uptown Normal in late December. Cocomero frozen yogurt will begin remodeling the interior of their Uptown Crossings unit for an opening later this year.

4. **Community Enhancement & Advocacy**
   a. ***One Voice***
      - The AgriBiz Summit was held on December 5th at Heartland Community College. Over 50 attendees and 25 panelists were present to discuss the status of the AgriBiz community in McLean County and some of the issues it faced. The data collected from the event will be used to develop a One Voice white paper and agenda for the One Voice program.

5. **Economic Information & Communication**
   a. ***BN by the Numbers/Quarterly Economic Data***
      - The 4th Quarter BN by the Numbers event was held on Thursday, December 20th at the ISU Alumni Center. December's event was a business roundtable comprised of representatives for some of our community's key industry sectors. The 2013 BN by the Numbers series will kick off on Thursday April 4th.
   b. ***CEO Coffee Series***
      - Beginning in 2013 the CEO Coffee's will occur bi-monthly on the 3rd Tuesday of each month, with each month focusing on a different topic that relates to our local economy. They will address why the EDC targets specific industries, what tools and programs are available to grow the economy and how to get involved in the process.
      - The last CEO Coffee was held Tuesday, December 18th, 2012 at Heartland Bank & Trust Company. The topic was Retail Development.
      - The next CEO Coffee will be held Tuesday, February 19th, 2012 at Heartland Bank & Trust, 200 W. College Ave., Normal, 4th Floor Community Room, 7:30am-8:30am.
   c. ***Website and Communications Plan:***
      - EDC Staff has been working to redesign our marketing and brand for future attraction activities and local business retention programs. Thus far the EDC has received an outline of a marketing plan that targets three specific audiences: Business and expansion opportunities from the Chicago Market including site selectors, business and expansion opportunities outside Illinois (national and international), and local businesses, and entrepreneurs. There are target and metrics for each of these and Staff would happy to speak to anyone regarding this plan. In addition Staff is reviewing the plan for the new website that will continue the brand building and help target businesses that want to pursue locations in Bloomington Normal and McLean County. The new website and programs will receive a larger rollout in the months to come.

6. Media Mentions, Appearances and Public Presentations:

Pantagraph article about Bridgestone undertaking phase II of its expansion. EDC arranged the incentive package for Bridgestone in 2012. http://www.pantagraph.com/business/local/bridgestone-expanding-b-n-plant-adding-workers-to-meet-demand/article_c3538c42-5081-11e2-a8f9-001a4bcf887a.html

Pantagraph article about Paradigm BioAviation, Marty Vanags was quoted:
http://www.pantagraph.com/news/local/company-wants-to-produce-alternative-jet-fuel-in-bloomington-normal/article_eebb5e26-3f4e-11e2-8c32-001a4bcf887a.html

Pantagraph article about Wirtz Beverage, Ken Springer was quoted:
http://www.pantagraph.com/news/local/government-and-politics/west-side-distribution-center-could-mean-at-least-jobs/article_158d2cec-3fd5-11e2-a4a5-0019bb2963f4.html

WJBC article about Paradigm BioAviation, EDC was mentioned:
http://www.wjbc.com/common/page.php?pt=Local+leaders+cautious+with+Paradigm+proposal&id=20411&is_corp=0

Pantagraph article about Wirtz Beverage, Ken Springer was quoted:
http://www.pantagraph.com/news/local/government-and-politics/wirtz-beverage-seeks-tax-abatement-to-build-mid-state-headquarters/article_81da4a10-43f9-11e2-9a7f-0019bb2963f4.html

SECTION II – Five Year Goals Summary (January 1, 2011 to present)

The metrics below provide a cumulative summary of our primary goal metrics.

Company/Project	Close Date	Jobs Created/Retained (Goal 1,500)	Capital Investment (Goal $150 Million)	Service Provided
The Pod	5/2011	2	$35,000	EZC
Chill Out	5/2011	3	$15,000	EZC
Tenacious Tactics	6/2011	1	$0 *(equipment loan only)*	ML
GDS Professional Display	1/2012	26	$1,150,000	RLF
Bridgestone Phase I	2/2012	42	$19,600,000	EZE, PTA
Kongskilde	4/2012	105	$5,000,000	EZC
Nussbaum	4/2012	74	$6,500,000	EZC
Commerce Bank	4/2012	8	$1,888,209	EZC
One Earth Energy	10/2012	50	$0	EZE
Aunty Tammie's	11/2012	2	$15,000	ML
Total:		**313**	**$34,103,209**	

Services Provided Key
EZC: Enterprise Zone Certification
EZE: Enterprise Zone Extension
ML: EDC's Micro Loan Program
RLF: McLean County Revolving Loan Fund
PTA: Property Tax Abatement

Defining Success

Jobs Created / Retained: The EDC only counts those jobs created by companies that the EDC has directly assisted. Examples of this "direct" assistance include recipients of EDC financial programs, Enterprise Zone expansions/certifications or other types of incentive packages. Jobs figures include only jobs tied to the specific project on which the EDC worked and as such these figures do not include on-going hiring taking place at companies that have been past clients of the EDC.

New Businesses Attracted: This metric represents the number of new businesses that the EDC has been able to bring to McLean County from outside our borders.

Existing Business Assistance: The EDC does not take credit for jobs created in cases where the EDC has only provided advisement, referrals or other types of "soft" assistance. Rather, the number of businesses we have assisted in this manner is quantified in the "Existing Businesses Assisted" category.

Capital Investment: This metric includes all investment that has taken place as a result of "direct" EDC assistance through financial programs, Enterprise Zone expansions/certifications or other types of incentive packages.

Wendy Briggs

From: Robin Weaver
Sent: Wednesday, January 30, 2013 10:47 AM
To: jkarch@cityofblm.org
Subject: FW: Cool Plasma Gasification webinar

The first seminar may be of interest to you too given Paradigm's pitch.

Robin

From: Arti Kamatar [arti.kamatar.sjzq@statefarm.com]
Sent: Wednesday, January 30, 2013 10:36 AM
To: Aaron Quick ; Andrea Reiff ; Andy Scott ; Arti Kamatar; Becky Jayne ; Benjamin Harroun; Bernie Anderson; Bert Jacobson ; Bill Wiley ; BJ Hilton; Bob Croteau ; Bob Dickey; Bob Dozier; Bob Duvall; Bob Furgeson; Brian Davie ; Brian Houchin; Brian Kumer ; Bruce Selway ; Carol Timms; Cheryl Miller; Chris Burger; Chuck Scott; Craig Pals; Dave Kramer; Dave Pearson; Don Fournier; Don Harrod; Don McGee; Don Taylor; Doug McCarty; Ecology Action Center; ed ho; Fred Schreiber; George Evans; Greg Lenaghan; Greg Troemel; Jackie Sims; James Hubbard; Jeremy Wilcox; Jim McGrath; Joe Driscoll; John Freitag; John Griffard; John Marley; John Schoenbrun; Jolene Willis- IIRA; Julie Elzanati; Julie Scherer; Justin Harrel; Justin Stuva; Keith Martin; Kelly Shelton; Kulkarni, Manohar R; Ladeen Finley; Larry Brown; Linda Files; Luis Rodriguez; Mark Gailiart; Mark Shoemaker; Mark Wilson; Mercy Davison; Michael Brown; Mike Waldinger; Molly Hall; Molly Hammond; Monty Keim; Pete Pohlman; Rand Veerman; Randy Bennett; Richard Reese; Robert Cole; Robin Weaver; Rod Sabick; Rodney Tribe; Ron Kalley; Ron Kelley; Ronald Swager; Scott Fisher; Steve Runyan; Steven E. Smith; Tom Lentz; Tim Kastle; Tim Kiefer; Tom Bierma; Missy Nergard; Arti Kamatar; Dawn Perry; Julie Elzanati; Mercy Davison; Michael Brown; Tom Bierma
Subject: FW: Cool Plasma Gasification webinar

Passing along for those that may be interested.

Arti Kamatar, LEED AP
Environmental Affairs
Administrative Services
309-766-1984

From: Luber, Elizabeth Lynn [mailto:eluber2@illinois.edu]
Sent: Tuesday, January 29, 2013 4:30 PM
To: Holm, Nancy L
Subject: Sustainability Seminar Reminder and Upcoming Seminars

Seminar Reminder:

Jan. 31 noon – 1 pm CST
Cool Plasma Gasification
Kris Skrinak - President of adaptiveARC, Inc., San Jose, California

Gasification for energy has been practiced for over 100 years and biomass is the leading source of renewable energy in the USA. There is a very large and growing untapped market for portable, modular and scalable gasification solutions and plasma arc is recognized as the state-of-the-art for mixed waste. Key proprietary innovations enable adaptiveARC to, for the first time, build and deliver a more economical and flexible plasma arc gasification solution to this untapped market. The two key unique innovations are: 1) the pulsed plasma energy torch and 2) a unique mechanical process inside the reactor that enable Cool Plasma® Gasification to occur. Commercial scale prototypes of the plasma arc reactor are operational and are currently being demonstrated at the company's customer sites in Mexico City. With these

innovations, adaptiveARC delivers a modular and portable solution at a fraction of the cost of the existing competitors (40-70%) while maintaining lower air emissions, greater energy and cleaner residual waste processing throughputs. When used in conjunction with material recovery systems nearly 100% recycling is achieved.

This webinar will be broadcast live and also archived on our website www.istc.illinois.edu<http://www.istc.illinois.edu> for later viewing. If you cannot attend the event at ISTC, you may view the webinar live by registering at: https://www4.gotomeeting.com/register/306782247.

Upcoming Seminars in February:

Feb. 14 noon – 1 pm CST
Sustainable Use of Algae Biomass for a Swedish Bio-based Economy Dr. Fredrik Grondahl - Associate Professor at the KTH Royal Institute of Technology, Stockholm, Sweden

The talk will be about using algae both micro- and macroalgae cultured or collected from the Swedish coastal waters. The algae biomass may be used in a biorefinery extracting valuable ingredients for food, feed and biochemicals. The rest products from the biorefinery will be used for bioenergy production, e.g., biogas. If the algae are cultured in the sea, the project will also work as an environmental project reducing the nutrient content in coastal waters. If the ideas will work out, it may be an important part of blue growth in Sweden and Sweden's strategy for a bio-based economy.

Dr. Grondahl is at ISTC for a 3-day visit with other colleagues to discuss research collaborations and internship opportunities at UIUC.

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Feb. 28 noon – 1 pm CST
Multiple Facets of Sustainability: Rock Island Clean Line - Bringing Wind Energy to the Eastern U.S.
Rob Martin and Hans Detweiler - Clean Line Energy Partners, LLC, Chicago, Illinois

The Rock Island Clean Line will connect 3,500 megawatts of wind power from Iowa, Nebraska, South Dakota, and Minnesota to communities in Illinois and other states to the east. The name of the Rock Island Clean Line comes from the Rock Island Railroad, which stretches across the entire state of Iowa, through the city of Rock Island and into Illinois. Just as the Rock Island Railroad allowed farmers to move their goods to market, the Rock Island Clean Line will deliver clean, renewable energy to communities that need it, representing the new farm to market model for the 21st century.

This webinar will be broadcast live and also archived on our website www.istc.illinois.edu<http://www.istc.illinois.edu> for later viewing. If you cannot attend the event at ISTC, you may view the webinar live by registering at: https://www4.gotomeeting.com/register/604829871.

*three attachments

Wendy Briggs

From: Robin Weaver
Sent: Wednesday, January 30, 2013 10:58 AM
To: jkarch@cityblm.org
Subject: FW: Cool Plasma Gasification webinar

Hi Jim. This may be of interest to you especially with Paradigm's pitch.

Robin

From: Arti Kamatar [arti.kamatar.sjzq@statefarm.com]
Sent: Wednesday, January 30, 2013 10:36 AM
To: Aaron Quick ; Andrea Reiff ; Andy Scott ; Arti Kamatar; Becky Jayne ; Benjamin Harroun; Bernie Anderson; Bert Jacobson ; Bill Wiley ; BJ Hilton; Bob Croteau ; Bob Dickey; Bob Dozier; Bob Duvall; Bob Furgeson; Brian Davie ; Brian Houchin; Brian Kumer ; Bruce Selway ; Carol Timms; Cheryl Miller; Chris Burger; Chuck Scott; Craig Pals; Dave Kramer; Dave Pearson; Don Fournier; Don Harrod; Don McGee; Don Taylor; Doug McCarty; Ecology Action Center; ed ho; Fred Schreiber; George Evans; Greg Lenaghan; Greg Troemel; Jackie Sims; James Hubbard; Jeremy Wilcox; Jim McGrath; Joe Driscoll; John Freitag; John Griffard; John Marley; John Schoenbrun; Jolene Willis- IIRA; Julie Elzanati; Julie Scherer; Justin Harrel; Justin Stuva; Keith Martin; Kelly Shelton; Kulkarni, Manohar R; Ladeen Finley; Larry Brown; Linda Files; Luis Rodriguez; Mark Galliart; Mark Shoemaker; Mark Wilson; Mercy Davison; Michael Brown; Mike Waldinger; Molly Hall; Molly Hammond; Monty Keim; Pete Pohlman; Rand Veerman; Randy Bennett; Richard Reese; Robert Cole; Robin Weaver; Rod Sabick; Rodney Tribe; Ron Kalley; Ron Kelley; Ronald Swager; Scott Fisher; Steve Runyan; Steven E. Smith; Tom Lentz; Tim Kastle; Tim Kiefer; Tom Bierma; Missy Nergard; Arti Kamatar; Dawn Perry; Julie Elzanati; Mercy Davison; Michael Brown; Tom Bierma
Subject: FW: Cool Plasma Gasification webinar

Passing along for those that may be interested.

Arti Kamatar, LEED AP
Environmental Affairs
Administrative Services
309-766-1984

From: Luber, Elizabeth Lynn [mailto:eluber2@illinois.edu]
Sent: Tuesday, January 29, 2013 4:30 PM
To: Holm, Nancy L
Subject: Sustainability Seminar Reminder and Upcoming Seminars

Seminar Reminder:

Jan. 31 noon – 1 pm CST
Cool Plasma Gasification
Kris Skrinak - President of adaptiveARC, Inc., San Jose, California

Gasification for energy has been practiced for over 100 years and biomass is the leading source of renewable energy in the USA. There is a very large and growing untapped market for portable, modular and scalable gasification solutions and plasma arc is recognized as the state-of-the-art for mixed waste. Key proprietary innovations enable adaptiveARC to, for the first time, build and deliver a more economical and flexible plasma arc gasification solution to this untapped market. The two key unique innovations are: 1) the pulsed plasma energy torch and 2) a unique mechanical process inside the reactor that enable Cool Plasma® Gasification to occur. Commercial scale prototypes of the plasma arc reactor are operational and are currently being demonstrated at the company's customer sites in Mexico City. With these

innovations, adaptiveARC delivers a modular and portable solution at a fraction of the cost of the existing competitors (40-70%) while maintaining lower air emissions, greater energy and cleaner residual waste processing throughputs. When used in conjunction with material recovery systems nearly 100% recycling is achieved.

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This webinar will be broadcast live and also archived on our website www.istc.illinois.edu<http://www.istc.illinois.edu> for later viewing. If you cannot attend the event at ISTC, you may view the webinar live by registering at: https://www4.gotomeeting.com/register/604829871.

*three attachments

Wendy Briggs

From: Ed Thomas
Sent: Wednesday, December 12, 2012 6:10 AM
To: Keith Simpson
Subject: FW: Interesting items from the council meeting last night

From: Mboka Mwilambwe [mailto:ward3@cityblm.org]
Sent: Tuesday, December 11, 2012 11:21 PM
Subject: Interesting items from the council meeting last night

Hello,

I hope this note will find you in great holiday spirit. Last night the council dealt with a couple of items that I thought you might find interesting:

1. We voted to decrease the tax levy. We did so primarily for the following reasons:

a. We know that residents have been feeling the pinch of a tough economy and a higher cost of living.

b. Sales taxes receipts have been coming in higher than expected, which is a sign of a rebounding economy. We are remaining cautious however.

c. City staff over the past few years have been pretty good about holding the line on spending under the direction of our city manager who himself has a financial background.

2. We were given a presentation by the Paradigm group. This group is looking to build a plant in Bloomington that would turn municipal waste into sources of energy such as electrical power, jet fuel and gasoline. They chose Bloomington because they believe it is the right size for what they are trying to do, its location, the presence of universities within a relatively small radius and the fact that there is a landfill that is almost at capacity. Rather than go in more detail, click on the link below to view the presentation. Feel free to share any thoughts you have. I have to say that those are the days that make me feel even better about being on the council because we are considering something that could be of great benefit to the community, if all falls into place. I find examining proposals that are forward thinking to be very inspirational. That said, there is much more to study about this proposal and as a council, we (along with the staff) will do our due diligence before reaching a final decision.

http://www.cityblm.org/modules/showdocument.aspx?documentid=4553

I look forward to hearing from you and if I don't, I look forward to seeing you out and about.

Mboka

Mboka Mwilambwe
Alderman, Ward 3
ward3@cityblm.org
309-530-7664

Wendy Briggs

From: Robin Weaver
Sent: Thursday, January 17, 2013 9:29 AM
To: Mark Peterson
Cc: Tom Ramirez
Subject: FW: Waste to Energy Technology Seminar

Mark,

The presentation topic below seems to relate to the Paradigm proposal to use multiple waste streams.

Robin

From: Debra Jacobson [mailto:Istc-Info@illinois.edu]
Sent: Thursday, January 17, 2013 9:04 AM
To: Robin Weaver
Subject: Waste to Energy Technology Seminar

I would like to extend a personal invitation to you. ISTC will be hosting a technical seminar on a cool plasma gasification presented by Kris Skrinak of ***adaptiveARC***, a company based in San Jose, CA. Cool plasma gasification is just one of the technologies that ISTC is evaluating, we plan to host additional similar seminars in the coming months. The cool plasma presentation will be hosted live and by webinar on January 31, 2013, 12-1 PM. You and your colleagues are welcome to attend in person at our facility in Champaign or to register as a remote participant using the web link https://www4.gotomeeting.com/register/306782247

adaptiveARC claims to have a Cool Plasma Gasification modular system that is proven commercially (outside the US) for a large variety of feedstock materials such as biomass, manure, hazardous waste, industrial waste, MSW, plastic packaging, medical waste, cardboard, paper pulp, sludge, carpet backing and construction debris. They have a system being tested at University of California – Riverside.

We hope you can join us to learn about these emerging technologies.

Best,

Deb Jacobson

Debra Jacobson
Illinois Sustainable Technology Center
Prairie Research Institute
University of Illinois at Urbana Champaign
1010 Jorie Boulevard
Suite 338
Oak Brook, Illinois 60523
630.472.5019
djacobso@illinois.edu

Wendy Briggs

From: Kevin McCarthy
Sent: Monday, December 10, 2012 12:46 PM
To: Mayor Chris Koos
Cc: Mayor Mac
Subject: Fwd: GreenSky UK

This is the email I mentioned this morning

Kevin McCarthy
Councilman, Town of Normal

Begin forwarded message:

> **From:** Dennis Miller <DMiller@solenafuels.com>
> **Date:** December 6, 2012, 3:35:06 PM CST
> **To:** "'mayor@cityblm.org'" <mayor@cityblm.org>, "'citycouncil@cityblm.org'" <citycouncil@cityblm.org>, Mayor Chris Koos <ckoos@normal.org>, Adam Nielsen <anielsen@normal.org>, "Sonja Reece (earthlink.net)" <sreece7@earthlink.net>, Kevin McCarthy <kmccarthy@normal.org>
> **Subject: GreenSky UK**
>
> Dear Bloomington-Normal Mayors and some Council Members:
>
> I read with interest your decision to allow an alternative fuel company to produce jet fuel in Bloomington-Normal. I am not aware of the Paradigm BioAviation company and the information in the news release is somewhat sketchy. The article postulated that a plant will be built if the company can finance the proposed plant and offer a performance warranty. From what I read, I am somewhat skeptical that the company has the ability to meet such objectives. Since area seems interested in biofuels and renewable power, I thought I should give you some solid information about biofuels plants we are developing around the world, including three in the U.S.
>
> The Solena Fuels Corp. is in the process of building a biofuels plant for British Airways (BA) in East London, UK. I have provided below a BA press release in regard to this facility. BA is so pleased with Solena Fuels' work, we have been asked to build three more plants for BA—one more in the UK and two in Spain. Similar plants a under development in Berlin for Lufthansa, in Stockholm for SAS, in Rome for Alitalia, in Indianapolis for US Airways and FedEx, and in Gilroy, CA for United and American Air.
>
> This same model could easily be built in Bloomington-Normal area. In order to do this, we would need to find 25 acres to lease, easy access to power and water lines, and off-take agreements for the fuels and power, and an agreement for delivery of 1800 tons per day of RDF/biomass waste to the facility. The biomass can include the green portion of MSW, agricultural, wood, plastic, and some tire waste materials. Our typical biofuels plant like those being developed in London, Berlin, Stockholm, Rome, Gilroy, CA, and Indianapolis produce approximately 45 million gallons per year and are energy self-sustainable. You can obtain more information on our website: www.solenafuels.com.
>
> If your interest is only in renewable power production, we have a standard size renewable power plant that produces 40MW gross and 32MW net based on a feedstock supply of 500 tons of RDF per day. Our

plants do not create any pollution, no Sox or particulate matter emissions, low GHG emissions, and the CO2 is carbon neutral. We will finance our plants through local financial institutions and give a full performance warranty. Usually the banks like to see about 30% equity investment. Our EPC is the Fluor Group, and other strategic partners include GE, Honeywell, UOP, and Velocys. This is just a brief introduction, but it may help solve your waste disposal problems by avoiding landfilling, eliminate methane emissions from your landfills, and produce useful biofuels and renewable power. All this is accomplished without creating any pollution or contamination of any sort, no toxic ash, low GHG emissions, and carbon neutral CO2.

Please let me know your questions.

Best regards,

Dennis F. Miller
Director
Solena Fuels Corporation
1000 Potomac St. N.W., 301
Washington, D.C. 20007
202.682.2405
www.solenafuels.com

The following is the recent press release of 30 Nov. 2012 from British Airways regarding the Solena biofuels project in East London, and a stock market report resulting from the press release.

The press release from British Airways was issued on 30 Nov. 2012. Since information of this type is not usually covered in the media, I thought you would like to see this update on the Solena Fuels project in East London to build a biofuels plant producing 45 million gallons per year, as well as renewable power net exported to the grid. This energy self-sufficient plant will produce no toxic ash, no Sox or particulate matter, very low GHG, and carbon neutral CO2. This is the same model that we would use in Indianapolis, except it would be a little larger in order to produce the required steam for the CG.

http://www.greenaironline.com/news.php?viewStory=1627

FYI

GreenSky project provides boost for Oxford Catalysts Group

30 November 2012 | **11:59am**

StockMarketWire.com - Oxford Catalysts Group (OCG.L), the modular gas-to-liquids technology innovator, has reported several significant milestones announced by British Airways concerning the GreenSky London project being developed by Solena Fuels Corporation.

British Airways has confirmed that it has committed to purchase the sustainable jet

fuel produced by the plant for ten years (at market rates) - worth £315m at current prices.#

In July 2012, Oxford Catalysts was selected by Solena to provide its Fischer-Tropsch (FT) technology to GreenSky London, Europe's first commercial scale sustainable jet fuel facility, being developed in partnership with British Airways.

GreenSky London is the first of several waste-biomass to jet fuel projects planned by Solena. Successful implementation of the GreenSky London project and receipt of the notice to proceed (targeted for next year) is expected to generate revenues for Oxford Catalysts in excess of $30m during the construction phase, and additional ongoing revenues of more than $50m over the first 15 years of the plant's operation.

Roy Lipski, CEO of Oxford Catalysts Group said: "Today's confirmation of British Airways' financial commitment to the project represents a major step forward for GreenSky London. We are very pleased to be part of this landmark facility and to contribute to British Airways' strategy for sustainable aviation, as well as Solena's worldwide project roll out plans."

At 11:59am: [LON:OCG] share price was +16.75p at 130.5p

Story provided by StockMarketWire.com

Wendy Briggs

From: Michael Brown <mbrown@ecologyactioncenter.org>
Sent: Friday, September 13, 2013 12:48 PM
To: Robin Weaver; Jim Karch, PE CFM; Bill Wasson; Hannah Eisner; Phillip Dick
Subject: Fwd: Msg - Paradigm

FYI - I am just getting back into the office after being away for two weeks but had a visit from Dr. Steven Johnson with Paradigm BioAviation in my absence. It sounds like he wants information on our municipal waste audits.

As at this point it sounds like the facility could be sited anywhere, I might need guidance on whether I am likely to be part of the permit review process if it takes place in Normal or Bloomington. I ask, as in contrast to the county, the city and town codes do not (to my knowledge) specifically require that the "solid waste coordinator" help facilitate the permit review process. If I am to be part of the process, I do not wish to say or do anything that might interfere with the permit review process.

Unless directed otherwise, it seems as though I should assist Dr. Johnson with his requests - please let me know if you have any guidance or information updates for me on this matter.

Thank you,

Michael

Michael Brown
Executive Director
Ecology Action Center
mbrown@ecologyactioncenter.org
www.ecologyactioncenter.org

309-454-3169

Upcoming Ecology Action Center Events:

- *Saturday, September 7, 2013: McLean County Freecycle Free-For-All*

- *Saturday, September 28, 2013: We Care Twin Cities Half Marathon benefiting the Ecology Action Center*
- *Saturday, October 5, 2013: McLean County Household Hazardous Waste Collection - volunteers needed*

---------- Forwarded message ----------
From: **Kris Hall** <khall@ecologyactioncenter.org>
Date: Tue, Sep 3, 2013 at 10:05 AM
Subject: Msg - Paradigm
To: Michael Brown <mbrown@ecologyactioncenter.org>

Hi Michael –

This is the first of what I'm sure will be lots of messages for you this week. I think it's easiest to log them via email – and much easier for you than trying to decipher my handwriting. So here we go:

Dr. Steven Johnson, Paradigm's "Head of Process Research & Technology Integration" (so says his business card) stopped in this morning to request the EAC's help in gathering specific information about waste audits for COB and TON. Sounds like he wants the info we already have, plus maybe wants to do another one?? I didn't let him get too far into it – I told him he would absolutely need to talk to you, not only in your capacity as the EAC Director, but also in your role with the McLean County Solid Waste Committee. (I wanted to make sure he knew there was that link.) We wanted me to set up an apt for him to meet with you the week you return, and I told him I wasn't authorized to make appointments for you, and he would need to call you when you return. He is out of town on Sept 16 – expect a call from him on Sept 17. His business card is on your desk.

K

Wendy Briggs

From: Mark Peterson
Sent: Thursday, February 28, 2013 10:16 PM
To: Robin Weaver
Subject: Fwd: Our Waste Disposal - The Future Next Steps

Sent from my iPhone

Begin forwarded message:

> **From:** Kevin McCarthy <kmccarthy@normal.org>
> **Date:** February 28, 2013, 4:22:09 PM CST
> **To:** Mark Peterson <mpeterson@normal.org>, Mayor Chris Koos <ckoos@normal.org>
> **Subject: Fwd: Our Waste Disposal - The Future Next Steps**
>
> Do you guys know Mr. Meeks?
> Let me know what your response to him is if any. Other than recycling, is there a conversation we have going on about this issue?
>
> Kevin McCarthy
> Councilman, Town of Normal
>
> Begin forwarded message:
>
> > **From:** Bruce Meeks <[redacted]
> > **Date:** February 24, 2013, 12:33:22 PM CST
> > **To:** David Hales <dhales@cityblm.org>
> > **Cc:** City Council and Mayor <citycouncil@cityblm.org>, Mayor Chris Koos <ckoos@normal.org>, Sonja Reece <sreece@normal.org>, Cheryl Gaines <cgaines@normal.org>, Adam Nielsen <anielsen@normal.org>, Jeff Fritzen <jfritzen@normal.org>, Chuck Scott <cscott@normal.org>, Mark Peterson <mpeterson@normal.org>, Pamela Reece <preece@normal.org>, Kevin McCarthy <kmccarthy@normal.org>, Barb Adkins <badkins@cityblm.org>
> > **Subject: Re: Our Waste Disposal - The Future Next Steps**
> > **Reply-To:** Bruce Meeks <brucehelp@yahoo.com>
> >
> > City Manager Hales,
> >
> > It seems to me that logically that all questions listed below need (a- j) answer back to myself and the public in weeks not months or years.
> > The questions presented originally on purpose was not listed in an specific order related to time-lines or priorities.
> > Where are both muncipilites on a deadline date on a time line to make a decision ?
> > Certainly should not be May 2016.
> >
> > There is no doubt that there are numerous other questions that need a structured open and transparent approach answers in a timely manner that allows the solution to be implemented.
> > This is important to all of us and deserve answers.*(citizens, elected officials, staff)*
> > There is a great deal to work on and should not be only on the staff of both municipalities. Instead of waiting for some solution that has yet to magically present it's self to us.

No, I do not seek nor recommend yet another study. Focused discussion to define the issues, ask the questions, research the answers, define the solutions, detail the costs and benefits of solutions and propose the solution with all of us working together. We all make the non-recyclable waste seems we all need to be involved in the answers.
This approach that needs to be applied is ground up solution driven process involving a larger number of citizens than ever before and not top down driven solution process which many citizens sees both city governing and managing occuring.

With the working budget(s) not yet approved some of the answers will impact the budget now and not waiting yet another fiscal year. (i.e. man hours staff meetings & live streaming)

But seems **now** seems it is appropriate to ask that they all get answered but seems the three questions listed below. **(b, g, h)**

They should be answered immediately in an open, transparent and public access.(both questions and answers)

One way to be open and transparent would be that the discussion is public on showing the questions and answers on both Town of Normal and City of Bloomington websites and another would be live streaming of not only meetings that meet the open meetings act but others that can be informative and show the process as accessible with liver streaming and community channel on Comcast.

With public input and discussions starting at the beginning of this process and not at the end. This public detailed inclusion which as to go beyond a public hearing, sharing with the media and the current status quo approaches to engage the public to make them full partners in this. Many citizens need convinced their opinions are valued, wanted and will adhered to. This can be accomplished by simply reaching out to them.

.

This topic as you have listed as "very important" needs to be moved on with a direction decided on by all of us *(citizens, elected officials, staff)*. With this deadline to be November 22, 2013.
We need a deadline and need to meet it. *(citizens, elected officials, staff)*

****
****
****

b.) But logically it would seem that the first question that needs answered in my thought process is there a **compelling desire by the municipality(ies)** to explore the alternatives ?

g.) Is there date marked on everyone's calender *(citizens, elected officials, staff)* that a choice must be made to what is the next best direction to go for MSW for Bloomington-Normal ?

h.) Is there an organized joint discussion group between the both staffs of Bloomington or Normal with a structure and plans to explore the alternatives ? Assuming to answer this question the question b.) is yes.
Note Edit change "question a.)" to b.) 2/24/2013

****
****
****
****

Kindly,
Bruce

From: David Hales <dhales@cityblm.org>
To: Bruce Meeks (concerned resident) <brucehelp@yahoo.com>
Cc: City Council and Mayor <citycouncil@cityblm.org>; Jim Karch <jkarch@cityblm.org>; Justine Robinson <jrobinson@cityblm.org>
Sent: Friday, February 22, 2013 1:28 PM
Subject: Re: Our Waste Disposal - The Future

Bruce,

Thank you for submitting your thoughts on Waste Disposal and the future of the area landfills. I agree that there is much discussion that will need to take place on this topic, especially between now and May 2016. You have raised some great questions and this will be a very important topic over the next year or two.

Please feel free to send emails with your thoughts anytime. I appreciate hearing from residents who care about the future of our community.

Respectfully,

David

David A. Hales
City Manager
City of Bloomington
109 E. Olive Street
PO Box 3157
Bloomington, IL 61702-3157
P 309-434-2210 F 309-434-2802
dhales@cityblm.org

-----Bruce Meeks <brucehelp@yahoo.com> wrote: -----
To: City Council and Mayor <citycouncil@cityblm.org>, "mayor@normal.org" <mayor@normal.org>, "sreece@normal.org" <sreece@normal.org>, "cgaines@normal.org" <cgaines@normal.org>, "anielsen@normal.org" <anielsen@normal.org>, "jfritzen@normal.org" <jfritzen@normal.org>, "cscott@normal.org" <cscott@normal.org>, "mpeterson@normal.org" <mpeterson@normal.org>, "preece@normal.org" <preece@normal.org>, "kmccarthy@normal.org" <kmccarthy@normal.org>, David Hales <dhales@cityblm.org>, Barb Adkins <badkins@cityblm.org>
From: Bruce Meeks <brucehelp@yahoo.com>
Date: 02/21/2013 01:23PM
Subject: Our Waste Disposal - The Future

Dear Elected Officials of both Bloomington and Normal Illinois

This email is about discussing the waste disposal for both cities in the future. Clearly we know that the local landfill will be full by May 2016 unless the waste is taken to for example - Pontiac

and Clinton. Which may be already occurring and thus less utilization of the local landfill which might extend it's life. We are all on the same boat here and there is garbage to content with no matter how wonderful we continue to recycle.
My questions are probably already been asked and answered by yourselves and others. So pardon me for not having all the knowledge on this topic. These are my offering of open and transparent questions to add to the discussion.
This email does focus on Waste to Energy which on purpose is **not** about which design, process or what kind of energy would be produced. *(i.e. - syngas, thermal, liquid fuel, steam, bioreactor, algae to oil)*
Clearly this particular discussion is focused on the **cash** cost of any alternative to the municipality(ies), citizens and business's if a paradigm shift occurs away from bulldozing a hole and putting MSW in it.
Meaning in the simplest terms what will be the tipping fee costs of any alternative. Not factoring in anything else but that for this discussion.

a.) But what is the solution to this change ?

b.) But logically it would seem that the first question that needs answered in my thought process is there a **compelling desire by the municipality(ies)** to explore the alternatives ?

If the current question of doing something different with 109,000 tons a year of MSW by or before 2016 is what at least we all see *(citizens, elected officials, staff)* is agreed to with the answer of ---- YES.

c.) Then, who will take the leadership role to move this complex shift like this with a clear increase in cost and educate the citizens so they can make a well informed choice ?

It must be factored in that any alternative(s) will cost more than any EPA approved land fill new or old. Any technical solution that I am aware of will be more expensive than landfilling here in the Midwest at this moment in time.
Our costs here even if we think they are high at this moment in time are far lower than many other cities and states for electricity and natural gas here in the United States.

d.) So do we know if available capacity will be an issue when the local landfill closes in 2016 ?

e.) Do we know if the costs will go up at a normal pace or will they because of supply and demand escalate ?

f.) What are the known options and potential projected costs after 2016 to landfill at other locations outside of Bloomington-Normal ?

g.) Is there date marked on everyone's calender *(citizens, elected officials, staff)* that a choice must be made to what is the next best direction to go for MSW for Bloomington-Normal ?

h.) Is there an organized joint discussion group between the both staffs of Bloomington or Normal with a structure and plans to explore the alternatives ? Assuming to answer this question the question b.) is yes.
Note Edit change "question a.)" to "b.) " 2/24/2013

i.) Can the cities of Bloomington and Normal jointly commission, build or contract out commissioning and building a MSW plant of their own to produce energy for use by the municipality(ies) ?

j.) Do both staffs have their representative governing bodies and thus City Manager release and guidance to pursue a wide range of solutions for 109,000 tons a year of MSW in any alternative way besides landfilling ?

Kindly, keep in mind I am asking the questions not making any suggestions or offering any solutions at this time to be helpful in the discussion and moving it forward. The questions should NOT be taken as **ANY** kind of negative commentary to either of the staffs including the city managers. This is for the discussion and interaction between elected officials for an open and transparent discussion so we all can navigate to the right solution.

This is not to be taken as ANY kind of commentary on you work efforts as elected officials to date at all.

[redacted]

Wendy Briggs

From: Pinnamaraju, Vasudha <vpinnamaraju@mcplan.org>
Sent: Friday, September 20, 2013 1:56 PM
To: Steven Mahrt
Subject: Fwd: Waste to Jet Fuel
Attachments: image001.png; ATT00001.htm; image001.png; ATT00002.htm; Fiberight 2011.pdf; ATT00003.htm

Steve,

Below is additional info on the subject. I am at a conference and did not have a chance to completely read through this. But, here it is. Feel free to get in touch with Fred if necessary.
Vasu

Sent from my iPhone

Begin forwarded message:

> **From:** Fred Iutzi <F-iutzi@wiu.edu>
> **Date:** September 19, 2013, 5:13:59 PM CDT
> **To:** "Pinnamaraju, Vasudha" <vpinnamaraju@mcplan.org>
> **Cc:** Steve John <sfjohn@agwatershed.org>
> **Subject: Re: Waste to Jet Fuel**
>
> Vasu,
>
> Thanks for contacting Steve and I, and sorry for my delayed response. One rule of thumb I have heard is that any type of MSW to liquid biofuels facility will perform better on air emissions than a conventional MSW incinerator handling the same amount of the same feedstock. Many technologies are supposed to be able to perform much better. Another rule of thumb is that a biojet plant will have very similar characteristics to a plant that uses the same technology to produce a road biofuel product that can be substituted for diesel -- after all, jet fuel is simply a grade of kerosene, which in turn is closely related to diesel. You can find an overview of technologies for MSW to liquid biofuel conversion in Chapter 13 of this online book: http://www.swcs.org/index.cfm?nodeID=37391&audienceID=1.
>
> The closest MSW to liquid fuels project I am aware of to Illinois is a proposal by Fiberight LLC to build a small MSW to ethanol facility near Blairstown, IA: http://fiberight.com/. I have attached a filing about the project that I downloaded from Regulations.gov in 2011. You can see the facility and its geographic relationship to the tiny town of Blairstown by plugging 2154 78th St., Blairstown, IA into Google Maps. I believe the buildings visible there are a shuttered corn ethanol plant that Fiberight intends to convert. According to their website, Fiberight is planning a related recycling facility in the Cedar Rapids, IA suburb of Marion, which might have a more interesting local government siting process attached to it than for the Blairstown facility. I don't have any personal contacts with the company or either of the communities.
>
> Fiberight is not an exact parallel to Paradigm Bioaviation, since Fiberight's process is based entirely on fermentation to ethanol, which is their final product. In contrast, Paradigm is (based on the public information I've seen, at least) planning to start with gasification and initially just combust the resulting syngas for power generation. My speculation is that the later biofuel phase of their plan will use a catalytic process like Fischer-Tropsch to convert some of the syngas into a hydrocarbon fuel that is specced as biojet. There could easily also be important

differences in the exact MSW fraction each company plans to use, and/or the manner in which they plan to handle it, but I haven't read closely enough to say.

So I have given you kind of a scattershot response, but I hope it is at least a little helpful. Please let me know what additional questions you have, and I will keep my eyes open for any resources that get more precisely at your interest in the siting process.

-Fred

Fred Iutzi, Manager
Value-Added Sustainable Development Center
Illinois Institute for Rural Affairs
Western Illinois University
1 University Circle
Macomb, IL 61455-1390
309-298-1453
http://www.iira.org

From: "Vasu Pinnamaraju" <vpinnamaraju@mcplan.org>
To: "Steve John" <sfjohn@aqwatershed.org>, "Fred Iutzi" <F-Iutzi@wiu.edu>
Sent: Wednesday, September 11, 2013 4:43:08 PM
Subject: RE: Waste to Jet Fuel

Steve,

Thanks for your prompt response in this regard. I believe it is solid waste – recyclables (as much as possible). I knew you would have the right connections ☺

Fred,
As Steve mentioned, I am relatively new to my position here. As a regional planning commission, we want to provide assistance with issues like this one. As you can imagine we sure do not have the expertise in all the areas. I would greatly appreciate your assistance in this regard. Thanks much. Vasu.

Vasudha Pinnamaraju, AICP
Executive Director

Fiberight

Fiberight Blairstown Operating, LLC
P.O. Box 261
Blairstown, IA 52209

October 11th 2011

PRODUCER FACILTY REGISTRATION – MSW DERIVED FEEDSTOCKS

COMPANY INFORMATION

FIBERIGHT OF BLAIRSTOWN, LLC
2154 78TH STREET
BLAIRSTOWN, IA 52209
319-454-9937 BUSINESS PHONE
319-454-9938 BUSINESS FAX
CRAIG STUART-PAUL, CEO
RFS2
RIN GENERATOR
RFS1 COMPANY ID 3416
CELLULOSIC ETHANOL PRODUCTION ID 70219

1. **The types of renewable fuels that Fiberight intends to produce.**
   - Cellulosic ethanol (D-3)
   - Advanced Biofuel (D-5) As compressed biogas
   - Renewable Fuel (D-6) (Separately produced from waste seed corn)

   Fiberight will produce renewable cellulosic ethanol that is produced from renewable biomass as well as Compressed Natural Gas. This transportation fuel is suitable for use in motor vehicles, motor vehicle engines, non-road vehicles and non-road engines that are ethanol fuel blend capable or designed to operate on CNG. Fuels produced comply with applicable Federal renewable fuel standards for the following reasons;

   - The facility will recover and recycle over 70% of inbound waste that would otherwise be landfilled, as well as support Iowa's aggressive 50% waste reduction target.
   - The facility features as it's initial processing step a fully functional recycling plant that recovers recyclable materials before biofuel production
   - All plastics and non-organic materials are removed prior to production of biofuels. Fuels produced can be tested using Carbon dating methods to affirm that the fuel is

fully derived from renewable sources.

- The plant will ultimately be energy self-sustaining.
- Feedstock is sourced from waste material derived from domestic and commercial waste, and thus no land is displaced for supply.
- The plant will recycle virtually all process water with the exception being an effluent stream from the Reverse Osmosis system.
- The facility will contribute to the objectives of Iowa's Solid Waste management plan by recycling and re-using MSW
- Fiberight employs a low-temperature biochemical approach to bio-fuel production which will demonstrate significant air quality advantages over other waste disposal solutions such as incineration or gasification.
- Fiberight employs a hydrolysis and fermentation process designed to convert MSW derived renewable biomass to cellulosic ethanol in a manner that complies with the requirements of applicable Federal Renewable Fuel Standards.
- Greenhouse gas emissions from the Fiberight process can be demonstrated to be reduced by 80% or more when compared to fossil fuel consumption or landfill disposal.

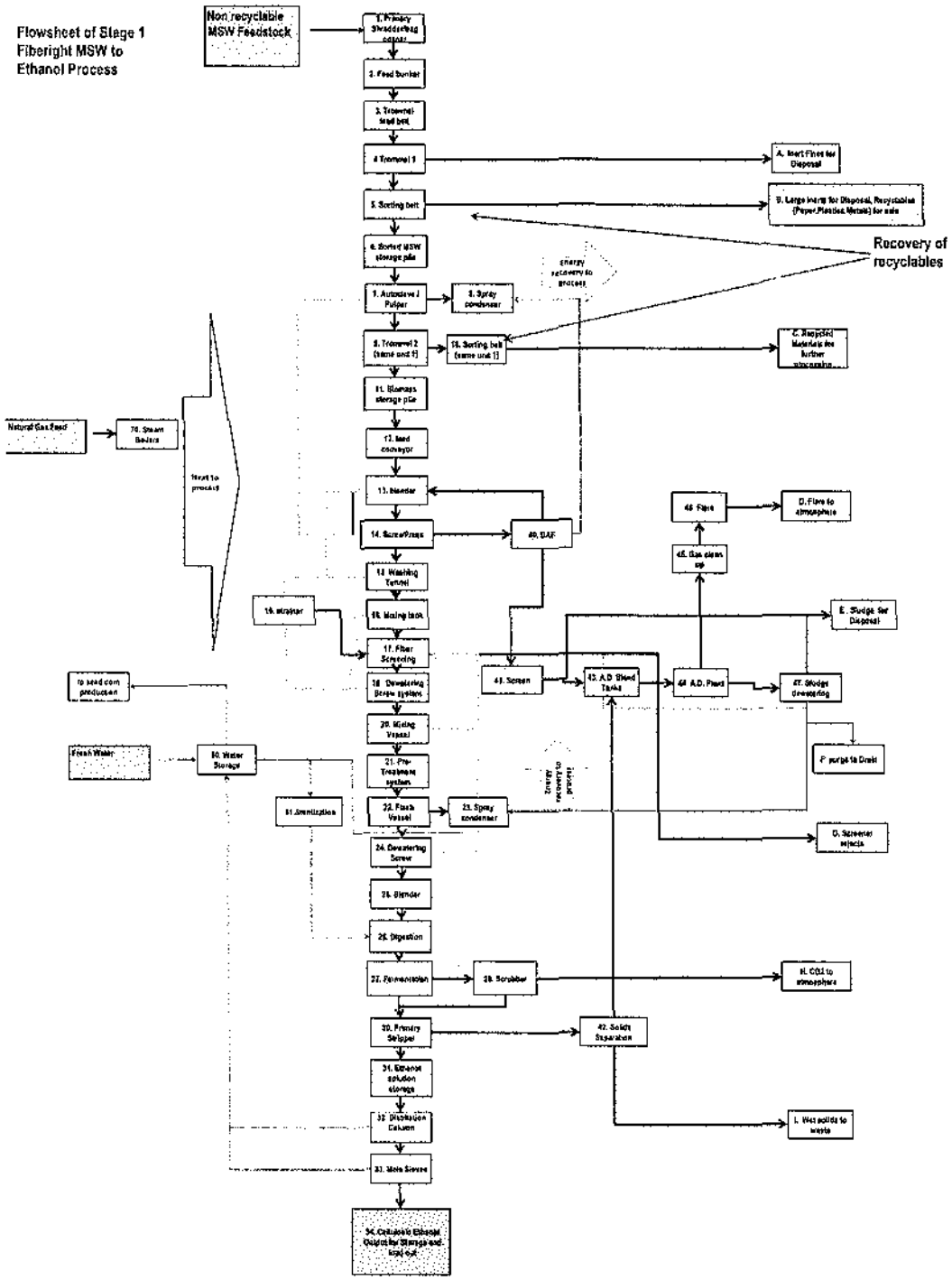
2. **List all the feed-stocks the facility is capable of using without significant modification to the existing facility.**

MUNICIPAL SOLID WASTE: The facility will be fully capable of using renewable biomass that originates from municipal solid waste (MSW), sourced from community refuse pick up, commercial sources, municipal or county sorting facilities or landfills. The renewable biomass is composed of both cellulosic and non-cellulosic materials. This renewable biomass is then subjected to various specifically designed recycling processes in order to separate recyclable paper, cardboard, plastics, rubber, textiles, metals, and glass from the residual biomass. Fiberight's separation methodology separates and efficiently converts residual cellulosic wastes into cellulosic ethanol thereby reducing GHG emissions when compared to petroleum, corn or other conventional MSW disposal options.

COMMERCIAL CELLULOSIC WASTES: The Fiberight facility will be fully capable of accepting commercial cellulosic wastes from industrial processors, such as paper mills and book or diaper manufacturers that wish to dispose of separated fine cellulosic particles otherwise impossible to recycle. Such materials are introduced in a specially designed apparatus to effectively introduce them midway into the cellulosic ethanol processing facility.

WASTE SEED CORN: The facility is currently able to process waste seed corn using proprietary methods. Approximately 1/5 of the ultimate plant production will be derived from this source.

3. **For each renewable fuel, describe the facilities renewable fuel production process, which could include a diagram of the overall process train and a description of each stage in the process, including major and minor ancillary equipment, process heat fuel, collection and treatment of waste streams, etc. (Please note PFD Below)**



The following are the technologies incorporated into the process:

- MSW Sorting
- MSW Pulping
- Biomass Washing
- Biomass Thermal Treatment
- Digestion (Enzymatic Hydrolysis)
- Fermentation
- Seed Culture Propagation
- Ethanol Distillation
- Ethanol Dehydration
- Anaerobic Digestion

MSW Receiving and Storage: Municipal Solid Waste (MSW) will arrive on-site by truck. Trucks will be weighed as they enter the facility and empty trucks will be weighed as they exit. Weighed trucks will be directed the MSW receiving storage area where they will unload. Unloaded MSW will remain in the receiving storage area until used.

MSW Pre-Sorting: MSW from the receiving storage area will be transferred by a front-end loader to a receiving bin. The receiving bin is a walking-floor or belt type storage container that continuously transfers MSW forward. MSW from the receiving bin is then conveyed to a bag-breaker that continuously liberates the waste from bags and containers. MSW is then conveyed to a rotating trommel screen where the waste is separated into under-sized, mid-sized and over-sized materials.

Undersized materials, which are too small to be properly processed, are discharged from the screen directly into a roll-off container. This material will be removed from the site and sent to the landfill. Other materials, including uncontaminated paper and cardboard, unprocessables, rigid containers, etc. are transferred to a belt conveyor where they will be sorted into one of several bunkers. These bunkers will be also removed from site either for sale as recyclables or disposal. Any large, but otherwise acceptable materials will be sent to a shredder and incorporated into the feed stream to process. Acceptable mid-sized materials will be processed through a magnet to remove any ferrous metals. The middle fraction will be combined with the outlet from the shredder and transferred to a pre-sort stockpile until pulping.

MSW Pulping: Pre-sorted MSW will be transferred from the storage pile to the pulper feed conveyor using a front-end loader. MSW is pulped using a high solids pulping (steam autoclave) process that both destroys harmful biological components and converts residual cellulose to usable pulp. The pulping system is operated in a batch mode. A load of sorted MSW is fed into the pulper along with recycled process water. The pulper is then heated and held at the required temperature for a predetermined amount of time. This is to insure that the MSW is sufficiently pulped and that initial sterilization has occurred. Following completion of the heat cycle, the pulped contents of the vessel are discharged to a storage pile to be next fed to the post-sorting system.

Biomass Post-Sorting: The pulped material from the high solids pulper is transferred to a storage bin with an integral conveyor. The pulp is conveyed to a rotating screen (trommel). Under-size material, primarily cellulose fiber, is separated from larger materials like plastics, metals and any other un-pulped components, in this fashion the biomass is efficiently separated from plastics and other non-organic materials. Oversized materials are discharged from the screen and conveyed to an air knife where plastic films are separated. The oversized material is then processed through a magnet to remove any ferrous materials and through an eddy current separator to remove non-ferrous metals. The remaining material is then separated manually to remove any recyclables that may have value, including for example plastics and metals. The various separated materials, i.e. ferrous, non-ferrous, plastics, etc. are placed in separate containers that will be transported off-site for recycling. All remaining material is discharged into a container that will be sent to landfill.

Biomass from the screen is conveyed to a screw press where it is rinsed with filtered water from the biomass washing area. Filtrate water from the press is collected in a tank and then pumped to the water treatment system. Pressed cake is discharged into a storage bin that feeds the biomass washing area.

Biomass Washing: Biomass pulp cake is conveyed to a mixing screw where it is blended with hot, filtered water from the outlet of the washing process. The pulp slurry is fed into a proprietary washing process where soluble and insoluble (ash) impurities are removed from the biomass pulp. Water containing the impurities is collected, combined with the recovered solids from the washing screen water and filtered to a dissolved air flotation (DAF) system that concentrates the insoluble solids into sludge. Sludge from the DAF system is pressed in a filter press and the cake is collected for disposal. Liquid from the filter press is recycled to the autoclave and the post-sort screw press. Clean liquid from the DAF is recovered, heated and reused in the washing process.

Industrial solid wastes will be received by truck and discharged into a storage bin with integral conveyor. Industrial biomass waste will be mixed with filtered process water from the discharge of the biomass washing system. Washed biomass pulp received from the washing step will be combined with the industrial biomass waste slurry in the mixing screw. The mixing screw discharges into a screen which separates larger fiber and non-fiber materials from the mixed slurry. The rejects are collected for disposal.

The fiber slurry is collected in a tank and then processed through a series of hydro-cyclones to remove grit and other smaller entrained solids. Grit from the first hydro-cyclone is discharged for disposal. Remaining "heavies" removed in the hydro-cyclones are recycled to the DAF system for separation. Lighter solids (fiber) and water are collected and then fed to side-hill screens to remove excess water and concentrate the solids. The concentrated solids are then sent to a screw press to remove excess water from the fiber. Filtered water from the screw press and screens is collected, heated and recycled to the washing mixer, the screening mixer and the industrial cellulose mix tank.

Biomass Thermal Pretreatment: Washed biomass pulp from the prewashed and screened storage area is fed to a mixer using conveyors. In the mixer, the pulp is diluted using hot process water. The diluted pulp is then thermally treated in a high-pressure reaction vessel using steam. Reaction time and conditions are precisely controlled to insure that product properties are within a specific range. Following the required reaction time, the pressure within the reactor is released and the solids are separated from steam in a flash vessel. Steam from the flash vessel is condensed and collected for reuse or treatment in the water treatment system. Additional pre-treatment by refining may occur.

Digestion: Reacted solid biomass pulp is treated to the required pH and adjusted to particular conditions as it is introduced to the primary digestion vessel. In the digestion vessel, the cellulose is partially hydrolyzed into monomeric and oligomeric sugars. Enzymes are added to most efficiently achieve hydrolysis in the required time.

Fermentation: Following completion of the first stage of digestion, partially hydrolyzed solids are transferred to one of several vessels where they are heated and treated to specific operating conditions necessary for optimum hydrolysis and fermentation using yeast or a proprietary microorganism. In the fermentation process, the produced sugars are converted to ethanol. Ethanol, water and any unconverted solids remaining at the end of this step are sent to a temporary storage tank prior to being processed in the distillation process.

Fermentation off-gas, primarily carbon dioxide, is vented from the fermentation vessels and is treated by a scrubber system. The scrubber system removes a majority of the volatile organic compounds (VOC), predominantly ethanol, from the off-gas before it is vented to the atmosphere. Liquid containing the organic compounds is collected in the bottom of the scrubber and returned to the process for recovery.

Seed Culture Propagation: The seed culture propagation system consists of a series of vessels designed to produce increasing levels of inoculums to be used in the fermentation system. Dry lab medium is charged to a mixing vessel and diluted using hot process water. The liquid medium is then charged to the smallest of the culture growth vessels. The proprietary fermentive microorganism is first grown in small laboratory vessels until sufficient cell mass is developed. The laboratory culture is then charged to the first culture growth vessel and allowed to propagate. Once the required time and culture growth are achieved, the contents of the first culture growth vessel are transferred to the second culture growth vessel. These vessels are maintained at the required temperature using steam or cooling water that is circulated through external jackets.

Hydrolysate slurry from the digestion step is charged to two, larger culture growth vessels. Following the completion of propagation in the smaller vessels, culture medium is charged to one of the larger growth vessels and allowed to propagate. Once the required cell mass is achieved, the contents are again transferred to the final growth vessel and the process repeats. At the completion of the culture growth process, the contents of the final growth vessel are transferred to the fermentation system. The larger growth vessels are equipped with external heat exchangers and pumps to regulate vessel temperature.

Distillation & Dehydration: The ethanol mixture (beer) from the fermentation system is separated from the water and solids in the distillation system. The beer enters the first distillation column where solids and a portion of the water are removed. The solids and excess water (termed stillage) flow to the bottom of the distillation column and are sent to the stillage storage tank for further processing. Ethanol and water vapor from the top the first column are condensed in a series of heat exchangers and collected in a tank before being fed to the second distillation column. In the second column, the ethanol vapor is concentrated as it rises through the column eventually reaching the isotropic point (95.5 % v/v) as it exits the top of the column. A portion of the column overheads are condensed and returned to the column as reflux. The remaining part of the concentrated ethanol is then fed to a dehydration system. Liquid water is removed from the bottom of the column and recovered for reuse.

The final removal of water to produce fuel grade ethanol is achieved in a two-bed molecular sieve dehydration system. Water is absorbed on the sieve bed material while ethanol passes through the bed. The dehydration system uses a pressure swing process that requires virtually no external heat. Each of the sieve bed cycles between adsorption and regeneration modes to maintain maximum water removal capacity. Adsorption takes place under positive pressure while regeneration is accomplished under vacuum. The adsorbed water is removed during a regeneration step and is routed back to the distillation system.

Water Treatment and Recovered Water: The solids within the stillage from distillation are separated using a decanting centrifuge. The liquid stream, or thin stillage, is sent to the water treatment system. The remaining stillage solids are a byproduct of the process that can be used in multiple pulp products.

Purge water from the pulp washing and screening system and the distillation system are sent to the spent water tank. The spent water is cooled and sent to an anaerobic digestion (AD) system. This system uses microorganisms to digest suspended and dissolved solids in the water and produces methane rich biogas and reduces the chemical oxygen demand (COD) of the water. The use of a reverse osmosis (RO) system will be used to produce a clean water stream that can be reused in the process. The biogas produced by AD will be used as a supplementary fuel for the bio-refinery boilers, compressed for vehicle fuel or used for power generation depending on prevailing market factors.

Clean-in-Place: A portion of the recovered water will be sent to the Clean-in-Place (CIP) storage tank. In this tank, sodium hydroxide (caustic) is added to the water to produce a cleaning solution for use throughout the process. The CIP solution is circulated to tanks, heat exchangers and other equipment to remove any accumulated solids and to sterilize equipment to prevent the growth of bacteria. Cleaning frequency varies based on the type of equipment and monitoring of plant performance.

Ethanol Storage & Load Out: Fuel ethanol is pumped to one of two shift tanks, each sized for 24 hours of production at design rate. The production rate of the ethanol from the distillation/dehydration system will be monitored with in-line instruments, while moisture content will be monitored with laboratory equipment from regularly scheduled samples. After

the quality of the ethanol is confirmed, it is transferred to a product storage tank. A blending system will be used to combine gasoline denaturant with ethanol, producing the final product which is transferred to the product storage tank while awaiting shipment. Gasoline denaturant has a separate storage tank on-site.

4. **List the types of co-products produced. Ie. DDGS, carbon dioxide, industrial alcohols, oils, etc.**

    - CO_2 – This is an off gas from fermentation which is first scrubbed and then released to atmosphere or compressed and sold.
    - Residual solids – This material is a combination of unreactable fiber and paper fillers, primarily Calcium Carbonate. It is dried and then fractionated to produce a number of specialty products such as SMA fibers for asphalt roads and filler for drywall
    - Fines – Predominantly silicates and food waste; may either be land applied, land filled or further screened and food waste added to the anaerobic digestion plant feed
    - Recyclables – Uncontaminated waste papers, plastics, metals and other materials which are sold for beneficial use.

5. **Fiberight's independent third-party engineering review will be conducted by.**

    Nayes Associates, LLC
    Terry Nayes, P.E.
    9133 Preserve Blvd.
    Eden Prairie, MN 55346

The required third-party engineering review is attached to this registration document. The engineers report affirms that the facility has a material recycling facility integrated that allows Fiberight direct control and full capability to recover residual recyclables including marketable paper and corrugated containers, as well as plastics and metals. The facility is capable of re-sizing and sequestering the organic fraction of waste stream and there is an efficient removal of virtually all plastics from the bio-fuel processing ensuring no hydrocarbon content in the fuel.

6. **Process heat fuel supply plan:**
    - **List the types of process heat fuel used (i.e. natural gas, biogas, coal, etc.)**
        - Natural Gas
        - Biogas (Commencing 2012)
    - **Name and location of facility providing the process heat fuel to the renewable fuel producer**
        - Alliant Energy
          22 Second Street NW
          Mason City, IA 50402
        - Fiberight LLC
          2154 778th Street
          Blairstown, IA 52209

For a facility using biogas for process heat, provide an affidavit from the biogas supplier stating its intent to supply biogas to the renewable fuel producer

The Fiberight bio-refinery will take the waste liquid stream and soluble organic concentrate from the washing plant and process them to produce biogas through microbial degradation. The degradation will take place at approximately 100°F.

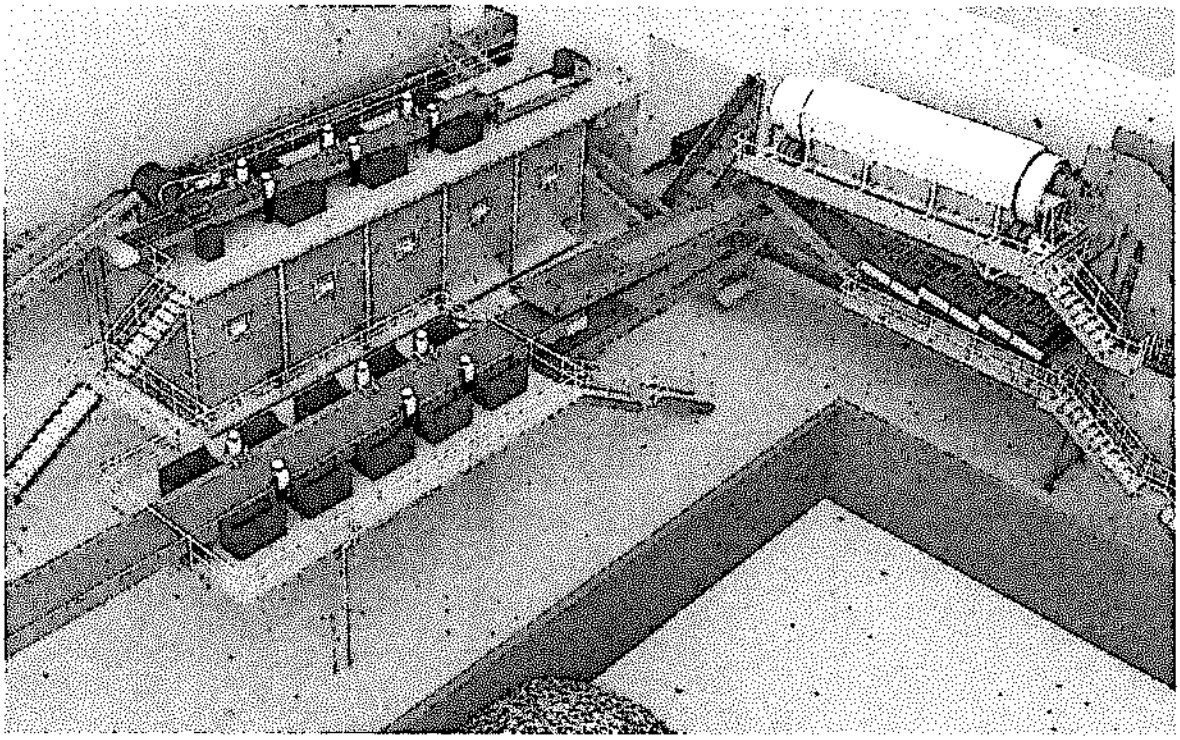
The Anaerobic Digestion "AD" facility will be designed for year-round un-manned operation, with connection to the main bio-refinery control system to provide warnings to the operators if there are issues. The bio-refinery performance will be monitored daily by the laboratory though collection and testing of samples of the liquid feed and residual solids produced.

The biogas from the AD plant will be stored and used in the process boilers to raise steam. In the event that there is excess biogas or a process interruption, the biogas will be used to generate power, sold as transportation fuel or flared once the storage capacity is full. The flare stack will be designed to flare the entire biogas production in the event of an unplanned outage.

7. **Separated MSW Plan**

Extent and nature of recycling that occurred prior to receipt of the waste material by the renewable fuel producer

Fiberight's facility is designed around a "recycling first" philosophy wherein the first part of the process involves processing MSW through a recycling plant (see artists rendering below)



The extent of the nature of recycling will vary by supplier, however given that most materials will pass through Fiberight's front-end recycling plant, it can be demonstrated that recycling of waste material will occur to a great extent using the methods described herein and below.

Identification and explanation of the available recycling technology and practices that were selected to remove the recyclable materials

Fiberight's management team has extensive experience in the recycling industry, which experience has heavily influenced the design of the facility. Technologies and practices that will be used to remove the recyclable materials include;

- Shredding – methods to open bags to release paper and other recyclables contained therein while minimizing damage to the materials
- Screening - Bounce adhesion and trommel screening to separate recoverable paper from other materials, as well as to recover biomass while separating plastics and metals
- Pulping – Proprietary methods to render biomass for conversion while preserving plastics and metals for recycling. This process also makes it easier to recover small plastics and metals from the biomass using;
- Hydrocyclones – to separate heavy materials (metals etc.) from biomass pulp and
- Screen washing - for removal and cleaning of plastics

- Air separation – methods to remove rocks and other heavies, and "float" lighter plastics and paper
- Magnetic separation
  - Electro-magnets for ferrous metals
  - Rare-earth Eddy Current for Aluminum
- Optic Sorting (planned) for sorting of ridged containers and removal of PVC from mixed plastics
- Automated bunkers to store recyclables during shift and maximize efficiency of;
- Baling – To compress paper, plastics and metals for efficient shipping
- Manual sorting will occur after screening and in certain circumstances is still the most efficient method to recover recyclables.

Fiberight has chosen to utilize known technologies for all other process operations. All equipment will be specified and selected based on its applicability to the process requirements. In addition, a significant portion of the process will utilize the existing equipment assets of the Blairstown site exactly as they were original designed, without modification.

Evidence of contractual arrangements for paper, cardboard, plastics, rubber, textiles, metals or glass that is recycled

Fiberight will sell recyclables from the facility to the following local processors;

- Paper and Cardboard – International Paper, Cedar River Mill - 4600 C St SW Cedar Rapids, IA 52404
- Plastics (Containers), glass & Metals – City Carton, 901 Ingleside Drive Southwest Cedar Rapids, IA 52404
- Film Plastic & Rubber – U.S. Green Steel

Certification by the renewable fuel producer that the recycling is conducted in a manner consistent with goals and requirements of applicable state and local laws relating to recycling and waste management

Fiberight certifies that all recycling will be conducted in a manner consistent with the goals and requirements of applicable laws directed by the State of Iowa and Benton County Iowa.

The State of Iowa, under the waste reduction act (Code of Iowa, Chapter 455D), has enacted a requirement for 50% waste diversion, which has yet to be achieved. Further, the State is now seeking to increase the waste reduction requirement to 60% (HSB 74 & SF249) which goal is supported by Fiberight. Please also see attached letter from Iowa Department of Natural Resources concerning Fiberight's role in Waste Management Planning.

Fiberight's facility specific information (Title 40 CFR 80.1450)

FIBERIGHT OF BLAIRSTOWN, LLC
2154 78TH STREET
BLAIRSTOWN, IA 52209
319-454-9937 BUSINESS PHONE
319-454-9938 BUSINESS FAX
CRAIG STUART-PAUL, CEO
STEVE GERBER, VICE PRESIDENT OPERATIONS – SITE MANAGER
RFS2
RIN GENERATOR
RFS1 COMPANY ID 3416
CELLULOSIC ETHANOL PRODUCTION ID 70219

New renewable fuel category ("D" codes):
Fiberight is eligible for D Code – 3 (cellulosic ethanol) and D Code – 5 (biogas). All other fuel produced at the facility will be sold under D Code - 6

Fiberight LLC Answers to:

Renewable Fuel Standards (RFS2) Program
MSW Separation Plan
Supplemental Questions for Renewable Fuel Producers

1. The RFS2 regulation provides that only separated yard waste and food waste may be used to make RFS2. How much separated yard and food waste will you need to run your facility on an annual basis?

Fiberight anticipates that the 2.5MM GPY plant will be sustained by approximately 330 Tons per day of residential solid waste pursuant to modeling data, data extrapolation, and pilot plant experience. 330 Tons per day of inbound mixed waste will yield approximately 83.82 tons of yard, food and other non-recyclable waste suitable for biofuel production under RFS2 regulatory guidelines.

2. What is your planned source of that material?

Fiberight will source Residential Solid Waste from landfill diversion, specifically from Iowa landfills generally within a 100 mile radius of the facility. Fiberight considers the name and nature of these supply agreements to be confidential, however the agreements will specify that material is not collected as part of any recycling program. 2,684,649[1] tons of waste was landfilled in Iowa in 2010.

3. Describe the collection practices and recycling technologies you are planning to use to separate paper, cardboard, plastic, rubber, textiles, metal and glass so that only incidental, de minimus amounts that are impracticable to remove are left in the waste stream?

A detailed flowsheet and outline designs have been included as a part of Fiberight's plant registration. However in summary the steps to be taken include;

MSW Receiving and Storage: Municipal Solid Waste (MSW) will arrive on-site by truck. Trucks will be weighed as they enter the facility and empty trucks will be weighed as they exit. Weighed trucks will be directed the MSW receiving storage area where they will unload. Unloaded MSW will remain in the receiving storage area until used.

MSW Pre-Sorting: MSW from the receiving storage area will be transferred by a front-end loader to a receiving bin. The receiving bin is a walking-floor or belt type storage container that continuously transfers MSW forward. MSW from the receiving bin is then conveyed to a bag-breaker that continuously liberates the waste from bags and containers. MSW is then conveyed to a rotating trommel screen where the waste is separated into under-sized, mid-sized and over-sized materials.

Undersized materials, which are too small to be properly processed, are discharged from the screen directly into a roll-off container. This material will be removed from the site and sent to a landfill. Other materials, including uncontaminated paper and cardboard, unprocessables, rigid containers, etc. are transferred to a belt conveyor where they will be sorted into one of several bunkers. These bunkers will be also removed from site either for sale as recyclables or disposal. Any large, but otherwise acceptable materials will be sent to a shredder and incorporated into the

[1] Source – Iowa Department of Natural Resources

feed stream to process. Acceptable mid-sized materials will be processed through a magnet to remove any ferrous metals. The middle fraction will be combined with the outlet from the shredder and transferred to a pre-sort stockpile until pulping.

MSW Pulping: Pre-sorted MSW with recyclable paper removed will be transferred from the storage pile to the pulper feed conveyor using a front-end loader. MSW (food and yard waste with other contaminated cellulose) is pulped using a high solids pulping (steam autoclave) process that both destroys harmful biological components and converts residual cellulose to usable pulp. The pulping system is operated in a batch mode. A load of sorted MSW is fed into the pulper along with recycled process water and the pulper is then heated and held at the required temperature for a predetermined amount of time to insure that the MSW is sufficiently pulped and that initial sterilization has occurred. Following completion of the heat cycle, the pulped contents of the vessel are discharged to a storage pile to be next fed to the post-sorting system.

Biomass Post-Sorting: The pulped material from the high solids pulper is transferred to a storage bin with an integral conveyor, it is important to note that plastics are little changed during the pulping process making their subsequent recovery more practicable. The pulp is then conveyed to a rotating screen (trommel). Under-size material, primarily cellulose fiber, is separated from larger materials like plastics, metals and any other un-pulped components, in this fashion the biomass is efficiently separated from plastics and other non-organic materials. Oversized materials are discharged from the screen and conveyed to an air knife where plastic films are separated. The oversized material is then processed through a magnet to remove any ferrous materials and through an eddy current separator to remove non-ferrous metals. The remaining material is then separated manually or by automated optic sorting to remove any remaining recyclables, for example plastic containers and films. The various separated materials, i.e. ferrous, non-ferrous, plastics, etc. are placed in separate containers that will be transported off-site for recycling. All remaining material is discharged into a container that will be sent to landfill. Additional sorting and separating occurs during a separate wash process that separates soluble organics (generally from food waste) from cellulosic materials (yard waste and other cellulose such as vegetable peelings for example), each of which will be processed into biofuel using optimized conversion pathways.

4. Specify what you plan to do with the separated paper, cardboard, plastic, rubber, textiles, metal and glass.

The materials described in point 4 above, to the extent recovered in processing, will be sold to local recycling facilities under contract. It is anticipated that much of the paper and cardboard recovered by sorting (to the extent it meets ISRI {International Scrap Recycling Institute} quality requirements as conditioned by the end user) will be ultimately sold to International Paper in Cedar Rapids, IA, which company operates a large paper mill using recycled paper as feedstock.

5. What are the recycling rates for paper, cardboard, plastics, rubber, textiles, metals and glass your collection system and recycling operations are achieving or will be designed to achieve?

The system is being designed to recover a minimum 70% of recycle grade materials listed in point 5 above.

6. Provide a list, by city and county, of the collection practices and recycling technologies being used in

the state or states from which the facility receives waste. Specify the amount of waste coming from each as well as the current collection and recycling rates for each of these areas, specifying the rate for each category (i.e., paper, cardboard, plastics, rubber, textiles, metals, glass, food waste, and yard waste).

Iowa DNR does not collect the statistics requested above, however please see table 1 below showing, County by County, which materials are collected.

Additionally, the State of Iowa conducted a comprehensive waste characterization study in 2005, Based upon the results from the 2005 Study, "additional source reduction and landfill diversion opportunities were identified for the solid waste stream. The items in the solid waste stream representing the greatest potential for source reduction and recovery through recycling and composting and the estimated tonnages disposed of each statewide included the following:

- OCC (180,600);
- Mixed recyclable paper (148,200);
- Compostable paper (138,000); (Please note; Fiberight's process may be viewed as a highly evolved, high-rate composting process that accelerates the breakdown of paper, amongst other materials)
- Food waste (225,000);
- Film/wrap/bags (139,300); and
- Demolition/construction debris (516,600);

Mixed paper was categorized into the three subcategories of recyclable, non-recyclable, and compostable to measure opportunities for both mixed paper recycling and composting."

In the absence of recycling rate data Fiberight has selected the 2005 Iowa Waste Characterization Study (Conducted by R.W. Beck, Inc) as a source of available tonnage that is de-facto not recycled. Table 2. Below illustrates the breakdown of materials found in Iowa's Municipal Solid waste.

7. How will you ensure that a sufficient amount of this separated material will be available for your operation?

Recyclable materials are already separated from Residential Solid Waste in Iowa thus only waste otherwise landfilled will be used at the facility. Please see table 3 below which details Fiberight's "waste-shed", a term used to describe waste available in a transportation efficient radius from the facility. Using this data, and the compositional analysis contained in table 2, the following can be extrapolated;

- Using a conversion factor of 85 gallons per ton (feedstock to cellulosic ethanol and/or biogas) Fiberight's plant may be sustained by 330 tons per day of inbound mixed waste.
- 330 Tons per day represents 115,500 Tons per year (at 350 day/yr processing) which in turn represents only 6.7% of the total waste landfilled in Fiberight's waste-shed. Thus a significant feedstock surplus is available to the operation.

8. What impact will your facility have on the recycling collection and recycling rates for these nine materials?

Given that Fiberight then undertakes a series of additional separation steps as described herein after waste is received at its facility, it is anticipated that recycling rates for the materials listed will be significantly improved concomitant with the total volume of waste processed. Records will be kept at the facility and reported to the Iowa DNR quarterly indicating the total amount of materials recycled by type, thus empirical audited data will be available to confirm increased recycling of paper, cardboard, plastics, rubber, textiles, metals, glass, food waste, and yard waste as a result of Fiberight's facility. Please note that food and yard waste tonnages may be reported as a single item given that they will be processed together.

Using the data presented below, it is possible to extrapolate that Fiberight's facility, running at 330 tons per day of inbound mixed waste will increase recycling collection in the following areas;

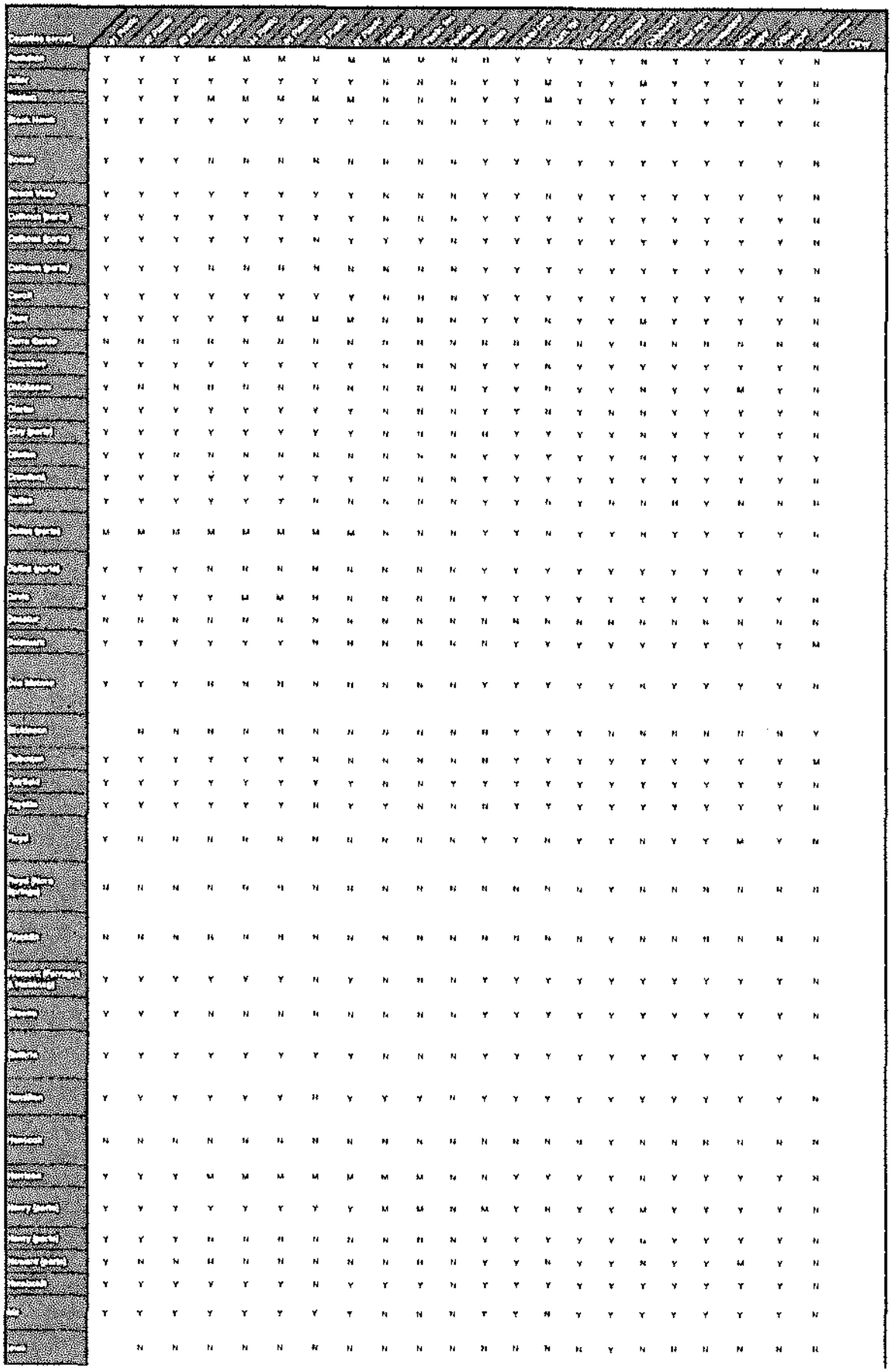
- Recovery of food & yard waste & other compostable materials – 29,337 Tons annual additional recovery
- Recovery of the nine materials listed herein – 40,829 Tons annual additional recovery.

Further improved recycling rates would be possible should Fiberight increase the capacity of the facility.

SUPPLEMENTAL DATA

- Table 1 - List of Iowa Counties and materials recycled
- Table 2 – Iowa MSW composition
- Table 3 – MSW available to Fiberight from targeted waste-shed

Table 1 - List of Iowa Counties and materials recycled



Fiberight

Counties Invited																							
Adams	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Bethel	Y	Y	Y	Y	M	Y	M	M	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Androscoggin		N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Aroostook	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Augusta		N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Bath	Y	Y	Y	Y	Y	Y	Y	Y	M	M	N	M	Y	N	Y	Y	M	Y	Y	Y	Y	N	
Biddeford	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	N	N	Y	Y	Y	Y	N	
Boothbay Harbor (Inc.)	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Brewer	Y	Y	Y	M	M	M	M	M	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y	Y	N	
Bridgton	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Brunswick	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Buckfield	Y	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	N	Y	Y	M	Y	N	
Calais	Y	Y	Y	M	M	M	M	M	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y	Y	N	
Camden	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Cape Elizabeth	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Caribou	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Carrabassett Valley	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y	Y	N	
Castine	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Chebeague Island	Y	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y	N	Y	Y	M	Y	N	
Cherryfield	Y	Y	Y	M	M	M	M	M	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y	Y	N	
Corinna	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Cumberland	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	
Damariscotta / City of Old Orchard Beach	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Dayton	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Dexter	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Dixfield	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Dresden	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	
Eastport	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	
Eliot	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Ellsworth	M	M	M	M	M	M	M	M	N	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	
Falmouth	Y	Y	Y	M	M	M	M	M	M	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y	N	
Farmington	Y	Y	Y	M	M	M	M	M	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y	Y	N	
Fayette	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Fort Fairfield	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Fort Kent	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Franklin	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Freeport	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Fryeburg	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Gardiner	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Georgetown	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Gorham	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	
Gray	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Hallowell	Y	Y	Y	Y	Y	Y	Y		N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Hancock County (Mount Desert Island)	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Harpswell	Y	Y	Y	Y	Y	Y	Y	Y	M	M	N	M	Y	N	Y	Y	M	Y	Y	Y	Y	N	
Harrison	Y	Y	Y	Y	M	M	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Hartland	Y	Y	Y	Y	M	M	M	M	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Hebron	Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y	N	Y	N	N	N	Y	N	N	N	
Hermon (town)	M	M	M	M	M	M	M	M	N	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	
Houlton (town)	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Howland (town)		N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Huntington Township (Islesboro)	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Industry	N	N	N	N	N	N	N	N	N	N	N	N	M	N	N	N	N	N	N	N	N	N	
Islesboro	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Jackman (Jackman Twp)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Kennebunk	Y	Y	Y	N	N	N	N	N	N	N	N	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Kittery	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Lamoine	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Lebanon	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Lewiston	Y	Y	Y	N	N	N	N	N	N	N	N	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Limerick	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	
Limington	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	
Lincoln	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	M	Y	N	N	N	N	N	

Table 2 – Iowa MSW Composition (Source Iowa/I.W. Beck 2005 waste characterization study)

Material	Composition %
Compostable paper	6.5
High Grade Office	2.5
Magazines	1.8
Mixed Recyclable Paper	7.0
Newsprint	4.0
Non-Recyclable paper	2.8
OCC and Kraft Bags	8.5
Total paper (Rounded)	33.0
Yard Waste	1.6
Food waste	10.6
Diapers	2.4
Other Organic	1.5
Rubber	0.5
Plastics	14.9
Textiles & Leathers	4.9
Metals	4.7
Glass	1.7
Wood	8.0
C&D Debris	5.5
Durables	5.1
Household Hazardous Materials	0.4

Other Inorganic	2.4
Fines	2.4
Other	0.5
Total Rounded	100%
Total Suitable for Biofuels Production	25.4%
Total Paper, Cardboard, Plastics, Textiles, Glass, Metals, Rubber available for recycling and recovery from mixed waste stream	50.5%
Potential Recycling increase (as % of total waste @ 70% efficiency)	35.35%

Table 3 – Waste disposed at landfill, Fiberight anticipated Market Waste-shed.

Blairstown - Surrounding Counties Landfill Tonnage

County	Landfill	Tonnage
Benton	Benton County Sanitary Landfill	12,808
Blackhawk	Blackhawk County Sanitary Landfill	162,292
Boone	Boone County Sanitary Landfill	48,344
Clarke	Clarke County Sanitary Landfill	8,422
Clinton	Clinton County Sanitary Landfill	36,621
Dallas	North Dallas County Sanitary Landfill	23,522
Dallas	South Dallas County Sanitary Landfill	13,159
Debuque	Debuque Metropolitan Sanitary Landfill	95,089
Debuque	John Deere Debuque Works and Waste	1,749
Fayette	Fayette County Sanitary Landfill	6,265
Hardin	Rural Iowa County Sanitary Landfill	33,523
Iowa	Iowa County Sanitary Landfill	9,442
Jasper	City of Newton Sanitary Landfill	26,285
Johnson	City of Iowas City Sanitary Landfill	120,584
Keokuk	Southeast Multi-County Sanitary Landfill	24,059
Linn	Cedar Rapids/Linn County Solid Waste Agency Site #2	188,077
Linn	Cedar Rapids/Linn County Solid Waste Agency Site #1	57,588
Linn	Cedar Rapids WPCF Ash Sanitary Landfill	1,351
Madison	South Central Iowa Sanitary Landfill	32,155
Mahaska	Mahaska County Sanitary Landfill	41,790
Marion	South Central Iowa Solid Waste Agency	57,216
Marshall	Marshall County Sanitary Landfill	31,539
Muscatine	Muscatine County Sanitary Landfill	29,916

Polk	Metro Park East Sanitary Landfill	498,635
Scott	Scott Area Sanitary Landfill	155,883
Tama	Tama County Sanitary Landfill	15,286
Total		**1,731,600**

Wendy Briggs

From: Dennis Miller <DMiller@solenafuels.com>
Sent: Thursday, December 06, 2012 3:35 PM
To: 'mayor@cityblm.org'; 'citycouncil@cityblm.org'; Mayor Chris Koos; Adam Nielsen; Sonja Reece (earthlink.net); Kevin McCarthy
Subject: GreenSky UK

Dear Bloomington-Normal Mayors and some Council Members:

I read with interest your decision to allow an alternative fuel company to produce jet fuel in Bloomington-Normal. I am not aware of the Paradigm BioAviation company and the information in the news release is somewhat sketchy. The article postulated that a plant will be built if the company can finance the proposed plant and offer a performance warranty. From what I read, I am somewhat skeptical that the company has the ability to meet such objectives. Since area seems interested in biofuels and renewable power, I thought I should give you some solid information about biofuels plants we are developing around the world, including three in the U.S.

The Solena Fuels Corp. is in the process of building a biofuels plant for British Airways (BA) in East London, UK. I have provided below a BA press release in regard to this facility. BA is so pleased with Solena Fuels' work, we have been asked to build three more plants for BA—one more in the UK and two in Spain. Similar plants a under development in Berlin for Lufthansa, in Stockholm for SAS, in Rome for Alitalia, in Indianapolis for US Airways and FedEx, and in Gilroy, CA for United and American Air.

This same model could easily be built in Bloomington-Normal area. In order to do this, we would need to find 25 acres to lease, easy access to power and water lines, and off-take agreements for the fuels and power, and an agreement for delivery of 1800 tons per day of RDF/biomass waste to the facility. The biomass can include the green portion of MSW, agricultural, wood, plastic, and some tire waste materials. Our typical biofuels plant like those being developed in London, Berlin, Stockholm, Rome, Gilroy, CA, and Indianapolis produce approximately 45 million gallons per year and are energy self-sustainable. You can obtain more information on our website: www.solenafuels.com.

If your interest is only in renewable power production, we have a standard size renewable power plant that produces 40MW gross and 32MW net based on a feedstock supply of 500 tons of RDF per day. Our plants do not create any pollution, no Sox or particulate matter emissions, low GHG emissions, and the CO2 is carbon neutral. We will finance our plants through local financial institutions and give a full performance warranty. Usually the banks like to see about 30% equity investment. Our EPC is the Fluor Group, and other strategic partners include GE, Honeywell, UOP, and Velocys. This is just a brief introduction, but it may help solve your waste disposal problems by avoiding landfilling, eliminate methane emissions from your landfills, and produce useful biofuels and renewable power. All this is accomplished without creating any pollution or contamination of any sort, no toxic ash, low GHG emissions, and carbon neutral CO2.

Please let me know your questions.

Best regards,

Dennis F. Miller
Director
Solena Fuels Corporation
1000 Potomac St. N.W., 301

Washington, D.C. 20007
202.682.2405
www.solenafuels.com

The following is the recent press release of 30 Nov. 2012 from British Airways regarding the Solena biofuels project in East London, and a stock market report resulting from the press release.

The press release from British Airways was issued on 30 Nov. 2012. Since information of this type is not usually covered in the media, I thought you would like to see this update on the Solena Fuels project in East London to build a biofuels plant producing 45 million gallons per year, as well as renewable power net exported to the grid. This energy self-sufficient plant will produce no toxic ash, no Sox or particulate matter, very low GHG, and carbon neutral CO2. This is the same model that we would use in Indianapolis, except it would be a little larger in order to produce the required steam for the CG.

http://www.greenaironline.com/news.php?viewStory=1627

FYI

GreenSky project provides boost for Oxford Catalysts Group

30 November 2012 | **11:59am**

StockMarketWire.com - Oxford Catalysts Group (OCG.L), the modular gas-to-liquids technology innovator, has reported several significant milestones announced by British Airways concerning the GreenSky London project being developed by Solena Fuels Corporation.

British Airways has confirmed that it has committed to purchase the sustainable jet fuel produced by the plant for ten years (at market rates) - worth £315m at current prices.#

In July 2012, Oxford Catalysts was selected by Solena to provide its Fischer-Tropsch (FT) technology to GreenSky London, Europe's first commercial scale sustainable jet fuel facility, being developed in partnership with British Airways.

GreenSky London is the first of several waste-biomass to jet fuel projects planned by Solena. Successful implementation of the GreenSky London project and receipt of the notice to proceed (targeted for next year) is expected to generate revenues for Oxford Catalysts in excess of $30m during the construction phase, and additional ongoing revenues of more than $50m over the first 15 years of the plant's operation.

Roy Lipski, CEO of Oxford Catalysts Group said: "Today's confirmation of British Airways' financial commitment to the project represents a major step forward for GreenSky London. We are very pleased to be part of this landmark facility and to contribute to British Airways' strategy for sustainable aviation, as well as Solena's worldwide project roll out plans."

At 11:59am: [LON:OCG] share price was +16.75p at 130.5p

Story provided by StockMarketWire.com

Wendy Briggs

From: Mboka Mwilambwe <ward3@cityblm.org>
Sent: Tuesday, December 11, 2012 11:21 PM
Subject: Interesting items from the council meeting last night

Hello,

I hope this note will find you in great holiday spirit. Last night the council dealt with a couple of items that I thought you might find interesting:

1. We voted to decrease the tax levy. We did so primarily for the following reasons:

a. We know that residents have been feeling the pinch of a tough economy and a higher cost of living.

b. Sales taxes receipts have been coming in higher than expected, which is a sign of a rebounding economy. We are remaining cautious however.

c. City staff over the past few years have been pretty good about holding the line on spending under the direction of our city manager who himself has a financial background.

2. We were given a presentation by the Paradigm group. This group is looking to build a plant in Bloomington that would turn municipal waste into sources of energy such as electrical power, jet fuel and gasoline. They chose Bloomington because they believe it is the right size for what they are trying to do, its location, the presence of universities within a relatively small radius and the fact that there is a landfill that is almost at capacity. Rather than go in more detail, click on the link below to view the presentation. Feel free to share any thoughts you have. I have to say that those are the days that make me feel even better about being on the council because we are considering something that could be of great benefit to the community, if all falls into place. I find examining proposals that are forward thinking to be very inspirational. That said, there is much more to study about this proposal and as a council, we (along with the staff) will do our due diligence before reaching a final decision.

http://www.cityblm.org/modules/showdocument.aspx?documentid=4553

I look forward to hearing from you and if I don't, I look forward to seeing you out and about.

Mboka

Mboka Mwilambwe
Alderman, Ward 3
ward3@cityblm.org
[redacted]

Wendy Briggs

From: Rick Nolan <rnolan@mcplan.org>
Sent: Wednesday, January 09, 2013 9:53 AM
To: jsicks@mcplan.org; Gene Brown; jrobinson@cityblm.org; mbehary@co.mclean.il.us; paul@mcplan.org; 'Dick, Philip'; Mercy Davison; kkothe@cityblm.org; eric.schmitt@mcleancountyil.gov; jerry.stokes@mcleancountyil.gov; mwoolard@cityblm.org; jkarch@cityblm.org; ajohnson@bnpts.com; jkennedy@cityblm.org; Robin Weaver
Cc: Teresa Casselman; pbertrand@cityblm.org; rhonda.donovan@mcleancountyil.gov
Subject: Intergovernmental Staff Meeting

Here is the agenda for this Friday's (January 11) Intergovernmental Staff meeting. The meeting will begin at 9:00 a.m. in room 345 of the Government Center. The meeting will be followed by an East Side Highway meeting in Room 404 for those that regularly attend. Please contact me with any questions.

1. PROJECT REPORTS
   A. Wertz Beverage Update (COB)
   B. Paradigm Aviation Update (COB)
   C. Others?

2. TIP UPDATE/QUESTIONS (Jennifer Sicks)

3. THAT WHICH MAY ARISE

4. NEXT MEETING/ADJOURN

5. EAST SIDE HIGHWAY (10:00 A.M.-Room 404)

Doughnuts: Mercy Davison

Wendy Briggs

From: Orval Yarger <oyarger@telecourier.net>
Sent: Monday, July 09, 2012 8:56 AM
To: Mark Peterson
Subject: Meeting Paradigm BioAviation. week of July 16th

Mark

Alan and I would like to update you on our progress. Would you have an hour or so next week? I am trying to set several meetings and you're the first so you kind of get to pick the times that will fit your schedule.

Thanks

Orval