Town of
Normal

NOTICE OF DENIAL

Your request for copies of public records received on 9/8/14 has been partially denied on 9/19/14, as per 5 ILCS 140/7(1)(b) – Private information, unless disclosure is required by another provision of this Act, a State or federal law or a court order, as defined at 5 ILCS 140/2 (c-5) - "Private information" means unique identifiers, including a person's social security number, driver's license number, employee identification number, biometric identifiers, personal financial information, passwords or other access codes, medical records, home or personal telephone numbers, and personal email addresses. Private information also includes home address and personal license plates, except as otherwise provided by law or when compiled without possibility of attribution to any person is exempt from disclosure.

Wendelly J Bujold

Town Clerk

APPEAL RIGHT

Pursuant to law, you are entitled to appeal the decision denying your request for certain information. You may appeal by requesting a review by the Attorney General's Public Access Counselor within 60 calendar days from the date of this denial. Here is the contact information of the Public Access Counselor:

Office of the Attorney General
Public Access Bureau
500 S. 2nd Street
Springfield, Illinois 62706
217-558-0486
publicaccess@atg.state.il.us

You also have the right to judicial review. Suit may be filed in the Circuit Court for McLean County:

Law and Justice Center
Circuit Clerk
104 W. Front St.
Bloomington, IL 61701
309-888-5301
www.co.mclean.il.us/circuitclerk

Town of
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5 ILCS 140/7(1)(f) Preliminary drafts, notes, recommendations, memoranda and other records in which opinions are expressed, or policies or actions are formulated, except that a specific record or relevant portion of a record shall not be exempt when the record is publicly cited and identified by the head of the public body. The exemption provided in this paragraph (f) extends to all those records of officers and agencies of the General Assembly that pertain to the preparation of legislative documents.

5 ILCS 140/7 (1)(m) Communications between a public body and an attorney or auditor representing the public body that would not be subject to discovery in litigation, and materials prepared or compiled by or for a public body in anticipation of a criminal, civil or administrative proceeding upon the request of an attorney advising the public body, and materials prepared or compiled with respect to internal audits of public bodies.

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UK Professional Advisors

Shipleys, LLP, London – Auditors

IFS - International Fiscal Services Ltd. – International Tax Advisors

Charles Russell – London – Legal Advisors

Berwin Leighton Paisner – Legal Advisors

Wendy Briggs

From: Lester Vicary <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"

Wendy Briggs

From: Mark Peterson
Sent: Wednesday, September 05, 2012 9:21 AM
To: David Hales
Subject: Re: Paradigm BioAviation - Letter of Interest

David, I only briefed the Mayor. I don't recall discussing this project with the full Council. Mp

Sent from my iPhone

On Sep 5, 2012, at 9:13 AM, "David Hales" <dhales@cityblm.org> wrote:

> Mark,
>
> Paradigm has shared with me the two letters of interest you signed on April 30th. They have asked for similar letters from me.
>
> My question is have you briefed all your council members regarding Paradigm's proposed waste to fuel project?
>
> Thanks,
>
> 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: Wednesday, September 05, 2012 11:15 AM
To: Mark Peterson
Subject: Re: Paradigm BioAviation - Letter of Interest

Thanks, that is what I needed to know.

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

-----Mark Peterson <mpeterson@normal.org> wrote: -----
To: David Hales <dhales@cityblm.org>
From: Mark Peterson <mpeterson@normal.org>
Date: 09/05/2012 09:20AM
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dhales@cityblm.org<mailto:dhales@cityblm.org>

Wendy Briggs

From: Mark Peterson
Sent: Thursday, December 13, 2012 1:54 PM
To: Lester Vicary
Subject: RE: Presentation

Les, Do you want all of three of the presentations that you e-mailed to me yesterday loaded on the Council Chambers lap top for display during the Council meeting on Monday evening? If not, which ones should be load up for public viewing? Also, the thumb drive that Orval Yarger dropped off yesterday contains different variations of the presentations that you e-mailed to me. I will send you via e-mail the presentations that were contained on the thumb drive. 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: Wednesday, December 12, 2012 11:27 AM
To: Mark Peterson
Subject: RE: Presentation

Mark:

I know I may have sent you some of the written information attached before, but I wanted to send you everything in one e-mail so you could distribute to your council members before the meeting if you so chose.

Orval will drop off a thumb drive with the PowerPoint presentation shortly.

Please let me know if you need any additional information.

Sincerely,

Lester Wm. Vicary, Jr.

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[redacted]

From: Mark Peterson [mpeterson@normal.org]
Sent: Wednesday, December 12, 2012 9:02 AM
To: Lester Vicary
Subject: Presentation

Les, I will need the presentation for the Council Meeting on the 17th by the end of the day today. Thanks! Mark

Mark R. Peterson
City Manager
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From: Lester Vicary <lesterv@paradigmbioaviation.com>
Sent: Wednesday, December 12, 2012 11:27 AM
To: Mark Peterson
Subject: RE: Presentation
Attachments: Stern Brothers Biomass Nov2012 article.pdf; Normal City Council -- articles on waste to fuel.pdf; Normal City Council - Paradigm plan.doc

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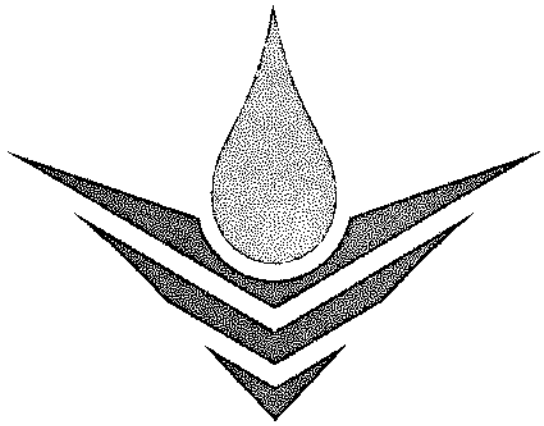

ParadigmBioAviation

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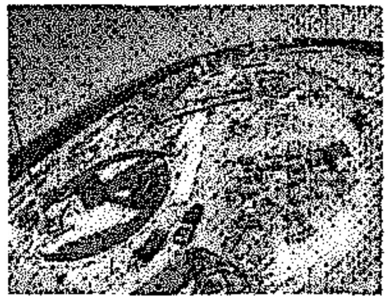
Back to Biomass homepage

Meet the Biobanker

How John May and bond based financing are commercializing bioenergy.

By Luke Geiver | October 30, 2012



THE CAPITAL: Myriant's Lake Providence facility is a job creator that exemplifies how commercial contract projects can be paid for.
PHOTO: MYRIANT CORP.

The unemployment rate in the rural region surrounding Lake Providence, La., hovers around 18 percent. Thanks to Massachusetts-based Myriant Corp., the term biobased succinic acid will soon be synonymous in the struggling region, however, with the term employed. By the time Myriant begins operations at its 30 MMgy biobased chemical plant, 250 people in the area will have been employed to build the plant, and for everyday operations, another 50 will call the Lake Providence facility their full-time employer.

Although the creation of 50 jobs may not impress someone outside the region, for the biobased chemical industry, the story of Myriant's Lake Providence facility is significant. The story reveals what the future of biobased project finance looks like, why a town with a population under 4,000 is the new capital (unofficially) of the biobased chemical industry, and, why every new or future hire at Myriant's facility, or any other biobased facility that may soon begin operations, should thank a particular investment banker from St. Louis.

The Right Idea, the Right Time

John May calls St. Louis home, but his job requires a grueling travel schedule that takes him to places in South America, southern Florida and in the case of Myriant, Lake Providence. As the managing director at investment banking firm Stern Brothers & Co., May knows well what it takes for a company to secure funding to build a bioenergy plant. His client list includes nearly all of the advanced biofuel production companies who've applied for and secured commitments for guaranteed loans from USDA for commercial plant build-out in the last two years, including ZeaChem Inc., Chemtex International, Fulcrum Bioenergy, Enerkem Inc., Fiberight LLC and others. According to May, his success at Stern Brothers wouldn't have happened if his team hadn't decided to test a new financing strategy in 2002.

"Stern Brothers took a risk of its own in trying to create a demand in the bond market for bioenergy project finance among different types of funds," he says, including mutual, insurance and hedge funds. The result of May's attempts to create a demand for project debt in the bond market has proven, he says, that Stern Brothers was at the right place at the right time with the right idea.

May's idea on bond based financing created in 2002 is also the same financial model used today by nearly all of his clients in bioenergy, including Myriant, and as May explains, there's one huge reason why: risk. The five major banks in the U.S. currently hold nearly 60 percent of all total bank assets in the country, meaning that if large scale projects over $25 million, receive traditional debt financing, one of the big five will be the source, May says. But, banks haven't been willing or able to lend significant sums of debt for the past 10 years, especially for projects that come with inherent risks like commercially unproven technology, feedstock input uncertainty or a lack of end user contracted agreements.

"The bank market of the U.S., and really around the world," May says, "is such that commercial banks aren't capable of handling a large, sophisticated transaction (like the Myriant project) because they simply do not have the risk appetite."

In the past, if U.S. banks were unwilling to provide project debt to bioenergy companies, developers could turn to European banks such as WestLB of New York. But, that office has closed and sold its renewable energy practice due to the exposure it faced in the European financial crisis. And, when May says U.S. banks don't have the risk appetite, it's because those banks simply can't take on projects with the risk profiles that many bioenergy project finance transactions represent. Upcoming Basel III new capital and liquidity standards, from the globally recognized banking standards committee that most globally recognized banks adhere too, could soon force large banks to adopt a strategy that some are already using, holding more cash or liquidity on hand, while avoiding (due to regulations that limit the ability of banks to invest in risk intensive deals) loans that are too risky and could result in a significant loss to a bank if a loan recipient defaulted.

And unless a company is willing to give up a significant portion of its collateral to strategic partners, venture capitalists or private equity providers through financing rounds, equity financing in exchange for company control is not an option.

Because May and his team knew that the bond market was not, and would not be under the same regulations of major banks or require a company to option off portions of its company, he went to the bond market.

Bioenergy firms however, haven't succeeded solely on bonds issued to mutual or hedge funds, in part, because May and his team realized something else, that investors looking at projects with higher risk profiles would need some element of certainty that their investment would pay off. To appease investors, May developed a project finance strategy that involves credit enhancing tools similar to a USDA loan guarantee which pushes a poorly rated bond up by assuring through the guarantee that a bond will be paid out if the loan recipient defaults, with a complex bond placement structure that brings bond investors looking for small returns in the 4.5 to 6 percent range together with investors that are actually looking for riskier investments that could potentially return 14 to 17 percent.

Myriant, like nearly all of May's previous clients, is a prime example of what the bond based, credit-enhanced, structurally complex project finance model of today, and tomorrow, looks like. The Lake Providence facility is the first ever biobased chemical plant to receive a USDA Business and Industry Rural Development loan guarantee, a program that has been around since the 1970s, and more importantly, offers a loan-backing provision that will guarantee up to 60 percent of the loan amount issued.

In Myriant's case, that meant $15 million of the bonds the company placed in the market were guaranteed by the USDA. Here is where the structure gets complex. In order to appease the investor who also wants higher yields (willing to underwrite the riskier investment), while also offering a bond package to the investor looking for a less-risky investment, May used the $15 million in guaranteed bonds, in combination with another $10 million worth of unguaranteed bonds to achieve a placement for $25 million with a very competitive blended rate. In short, May achieved a sweet spot rate that can attract risk averse investors, who like the guaranteed portion, and risk seeking investors, who are all about the unguaranteed, 16 percent yielding portion.

Typical projects of this type have installed bond tenures in the 15 to 20 year range, allowing the bioenergy companies enough time to build the equity and produce fuels or chemicals and also comfortably manage amortization of outstanding principal and accrued interest. In the end, May has found a way to offer hope to project developers strapped with technology, feedstock or any other risk, by pairing an investment market (bonds) that has and will always have an appetite for the potential earnings created by a unguaranteed investment, with those in need of investments that hold a perceived risk. Although several of the transactions that May is working on in the bioproduct space will use USDA loan guarantees, he believes the bond market is viable even without credit enhancement.

Myriant's success at using the bond based financing approach wasn't just about the ability of May to explain the story of Myriant or the circumstances surrounding the bioenergy industry to investors, a message he says most bond investors understand. Feedstock requirements, off-take agreements, terms of debt and technology risk, he says, are all issues in other markets, but May says the bond market understands those factors may not all be answered in the world of bioenergy and be neatly wrapped and accounted for.

The Project Finance Regimen

Stephen Gatto, chairman and CEO of Myriant, is no stranger to bioenergy or project finance. He's already built and sold a biofuel production company and for the last 25 years, he's been working on project finance for office buildings, labs or fuel production plants. "My experience over the last 25 years is that project finance regimens, if utilized by themselves," Gatto says, "lower the cost of debt because they effectively lower the risk profile." That is exactly why Gatto says, in addition to performing independent engineering and technology analysis on Myriant's biochemical production process prior to seeking out funding, he decided to follow the bond based financing approach for his Lake Providence project.

May and Gatto share the same understanding of the bioenergy market, as evidenced through their history together. Gatto was the first person to let May deploy his bond based financing method in the early 2000s. "Going into a project today, where you can mitigate the risk through contractual elements... is probably the only way you get these deals done," he says.

Gatto believes that if Myriant had attempted to use a traditional debt-style financing, the weighted cost of capital received for the project, if any capital were received at all, would have been around 18 percent (almost 10 percent higher than that achieved by Stern Brothers for the Lake Providence project). "That is a very high cost of capital, certainly for a first of its kind plant," he says. If the success of Myriant's Lake Providence facility, or others who've worked under the guidance of May on bioenergy installations isn't enough to prove why bond based financing is the new normal for project finance, then Gatto's future expansion plans should. "We will not change our financial structure regimen," Gatto says, on plans for new plants. The company's future regimen will include a third-party process evaluation that allows investors to see that the company can deliver what it says it will, and the regimen will also go to the $1 trillion bond market for financing, a place where typical regulations don't exist and risk is welcomed.

Although the complex nature of issuing a renewable-energy linked bond placement might sound as if an aspiring company would need a previous relationship to work with May and his team, it's not the case. May says he takes all calls from project developers, and is willing to pursue any type of bond based project. The team is currently working on roughly 30 projects for 30 separate clients, the lion's share of which, he says, are in the biomass industry. Over the next 18 months, he believes at least six deals will go through, ranging in size from $25 million to $250 million. Typically, at any given time, his team has at least two bond placements on the market.

The life of a bond placement for a biobased company can be broken down into two parts. The first part involves a financial advisory relationship between a company such as Stern Brothers and the bioenergy firm. The first stage can last two to three months. The second part is the execution, when May sets up an online data room offering investors a chance to view a company's profile, technology and overall risk. That step can take roughly one year.

May and his team earn their compensation through monthly retainer fees and a placement fee that is paid when the bonds are sold to investors. The compensation can vary he says, but typically is based on 3 to 4 percent of the total amount of the bonds sold.

For companies interested in pursuing a bond-based financing package but are worried about expiring loan guarantee programs, May says his firm is already developing, or has developed other credit enhancing tools like insurance guarantees for certain technology. May believes that over the next few years his travel schedule will not decrease, and his bond-backed strategy will continue to offer the best alternative to traditional debt-financing and in most cases, a better alternative. Comments from Gatto also show just how important the first ever biobased project in the U.S., and its ability to deploy a bond-based financing regimen, truly is for the entire industry. "The good news," Gatto says of his Louisiana plant, "is that the construction will be completed shortly. Not only do you prove to investors that the plant and the operations are viable, but you have effectively de-risked your second plant."

Author: Luke Geiver
Features Editor, Biomass Magazine
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lgeiver@bbiinternational.com

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technology review
Published by MIT

Wednesday, May 27, 2009

Converting Garbage into Fuel

Waste Management, a large waste company, gives technology for gasifying trash a boost
By Kevin Bullis

Waste gasification, a process for converting garbage into fuel and electricity without incinerating it, may be a step closer to large-scale commercialization. Last week, Houston's Waste Management, a major garbage-collection and -disposal company, announced a joint venture with InEnTec, a startup based in Richland, WA, to commercialize InEnTec's plasma-gasification technology.

Waste Management will fund the new venture, which will be called S4 Energy Solutions, as well as provide infrastructure and expertise from its waste-collecting and -processing businesses to make the technology economical. The company, which will operate and market plasma-gasification technologies, will be announcing specific projects to build facilities later this year. The involvement of Waste Management could signal that the technology, which has been more expensive than other waste-disposal options, is finally reaching a stage at which it can be practical. "Up until late last year, it was under the radar," says James Childress, the executive director of the Gasification Technologies Council. "Now the big players are finally getting involved in this."

InEnTec's technology, originally developed at MIT and the Pacific Northwest National Laboratory, in Richland, WA, uses a multiple high-temperature processes--including subjecting garbage to plasma arcs--to break down organic materials into syngas, a mixture of hydrogen and carbon monoxide. Syngas can either be directly burned in gas turbines to produce electricity, or it can be converted into other fuels, including gasoline and ethanol. Metals and other inorganic materials in garbage can be isolated and recycled. The combination of high temperatures and an oxygen-poor environment that prevents the garbage from catching fire eliminates the production of dioxins and furans, two toxic chemicals produced during incineration.

That core technology has been proved, says Joseph Vaillancourt, managing director at Waste Management and the senior vice president of the new joint venture. What's kept it from being commercialized, he says, is the need to develop the processes for economically collecting and feeding waste into the system, and on the "back end" pairing the syngas produced with gas turbines for generating electricity, or other chemical processes for converting it into fuels. Vaillancourt says that Waste Management has already developed infrastructure for collecting and processing waste and for using heat from incinerators for generating electricity, and it will employ its "knowledge and wherewithal" to develop an "integrated system" using InEnTec's technology.

S4 Energy Solutions plans to market the first gasification units in specialized markets such as those concerned with the disposal of automobile shredder residue or medical waste, for which landfills often aren't an option, hence companies are willing to pay more to dispose of waste. Eventually, they could be used more generally for municipal solid waste, especially in rural towns and small cities that do not produce enough waste for cheaper incinerator technologies to be practical. The technology has the benefit of allowing customers to generate some of their own electricity, which could make it more affordable.

There may still be hurdles to commercial success. Childress notes that waste gasification may still face problems with local regulations. And companies using similar technologies have failed in the past. Nevertheless, some waste-gasification companies are reporting initial success. For

example. Enerkem, based in Edmonton Alberta, has opened a commercial facility to convert used utility poles into methanol and ethanol. It has signed an agreement with the city of Edmonton to process 100,000 tons of municipal solid waste a year for 25 years, although that's still a relatively small amount compared with other options for disposing of waste

technology review
Published by MIT

Friday, December 21, 2007

Fuel from Waste

A portable system converts biowaste into jet fuel and diesel for the military
By Prachi Patel

Last year, the U.S. military used more than five billion gallons of petroleum-based fuels. Transporting the fuel to battle zones and remote military bases is costly and time consuming, and the fuel is a prime target of terrorists. So the U.S. Department of Defense is looking for cheaper, more secure, and easier options.

Two companies, Diversified Energy and Velocys, are working together on a portable system that converts coal, natural gas, and biomass into diesel and jet fuel. The military could use the system to convert waste created at military bases—food scraps, paper, wood—into a fuel for military jets and vehicles.

The system has two main parts: a gasifier and a fuel reactor. Diversified Energy, an energy company based in Gilbert, AZ, will make the gasifier that converts any carbon-containing material into a mix of carbon monoxide and hydrogen, known as synthesis gas, or syngas. The fuel synthesizer made by Velocys, based in Plain City, OH, will convert the syngas into a hydrocarbon liquid fuel.

Converting waste into fuel at defense bases is the answer to two problems that the military faces, says Eric Sattler, project engineer at the army's Tank-Automotive Research, Development and Engineering Center, which is funding the new project. The transportation of fuel to bases accounts for 70 percent of military trucks and convoys that are on the road in Iraq and Afghanistan. At the same time, the military has to truck out waste from bases to dispose of it.

Portability is the key aspect of the waste-to-fuel system. Erik Kallio, power and energy technology team leader at the army's research and engineering center, says that the system will have to be scalable to different sizes, making daily anywhere from about 2,100 to 21,000 gallons of fuel, while weighing between 150 and 1,500 tons, respectively. The system should also be able to make fuel from various feedstocks, including coal and natural gas.

Jeff Hassannia, vice president of business development at Diversified Energy, says that the new gasifier and reactor technologies should meet these requirements. The military should be able to move the system on a semitruck or an aircraft carrier, he says.

In conventional gasifiers, hot steam or air is mixed directly with the biomass. But in Diversified Energy's gasifier, coal or biomass is introduced into a bath of molten iron and tin at a temperature of 1,300 °C to which steam has been added. Any carbon source immediately gasifies and produces carbon monoxide and hydrogen, says Hassannia. Using molten metal keeps the gasifier compact and produces syngas with significantly fewer impurities, which eliminates the cost of cleaning it.

Velocys's reactor, which converts the syngas into liquid fuel, is also compact and efficient. It is made of tiny crisscrossing channels, each between 0.01 and 0.2 inches wide. The syngas flows through some of these channels, where it comes in contact with a cobalt-based catalyst and gets converted into long chains of hydrocarbons. Other channels in the reactor carry a coolant—typically water—to absorb the heat from the catalytic reaction.

British Airways partner with Solena to convert trash into jet fuel

By Andrew Nusca | February 16, 2010, 7:58 AM PST

British Airways and Washington, D.C.-based bioenergy firm the **Solena Group** announced on Monday a partnership to establish Europe's first sustainable jet-fuel plant and convert trash into jet fuel.

The new fuel will be derived from waste biomass and manufactured in a new facility that can convert several types of waste materials destined for landfill into aviation fuel.

The airline said it plans to use the low-carbon fuel to power part of its fleet beginning in 2014.

The self-contained plant will likely be built in east London. It's expected to convert 551,000 tons of waste into 16 million gallons of green jet fuel each year.

Quick hits about the savings:

- The plant offers lifecycle greenhouse gas savings of up to 95 percent compared to fossil-fuel derived jet kerosene.
- The project will reduce the volume of waste sent to landfill.
- The plant itself will be CO_2 neutral, and will emit oxygen, plus small quantities of nitrogen, argon, steam and carbon dioxide.
- The only solid waste product is an inert vitrified slag material, which can be used as an alternative to aggregates used in construction.
- Tail gas can be used to produce 20MW of excess electricity for export to the national grid or converted into steam to be used in a district heating system.

The green fuel will be produced by feeding waste into a patented high temperature gasifier that produces BioSynGas, or biomass-derived synthetic gas. Using a process known as Fischer Tropsch, the gas is converted into biofuels to produce biojet fuel and bionaphtha.

Bionaphtha is used as a blending component in gasoline, as well as a feedstock for the petrochemicals industry.

The resulting fuel would make all of British Airways' flights at nearby London City Airport carbon-neutral, and is the equivalent of taking 48,000 cars off the road per year, BA says.

Wendy Briggs

From: Alan S M Robinson <alanr@paradigmbioaviation.com>
Sent: Monday, August 12, 2013 11:36 AM
To: Mark Peterson
Subject: Re: Question

Mark

Thank you for the heads-up regarding the enquiry from Donny Herrin.

Yes, Donny Herrin has been retained by Orval to do certain background research, principally in relation to counsel planning matters, where he seems to have a historic and an ongoing interest in such matter as he attends a number of public meeting for his own knowledge.

We ran a background check and established he has a prison record where he worked as a librarian. We were assured that he was accepted as a legitimate researcher as he had performed work for certain political figures in the Bloomington area.

Clearly if there is any concern as to his standing to perform the part time work he is doing then we would wish to know sooner rather than later.

I am in Florida and North Carolina for the next 2 weeks, but I can be reached on my cell phone [redacted] or I can give you a call?

With regards,

Alan

Alan S M Robinson
President & CEO
Paradigm BioAviation, LLC
AlanR@paradigmbioaviation.com
www.paradigmbioaviation.com

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USA Tel: +1 704 817 0373
UK GSM [redacted]
UK Tel: +44 (0) 208 816 8015
Skype: AlanSMR

On 9 Aug 2013, at 12:52, Mark Peterson <mpeterson@normal.org> wrote:

Alan, I received a call yesterday from a local guy named Donnie Herrin. He represented to me that he is working "with" or "for" Paradigm Aviation. He asked several questions about the north warehouse property and the proposed TIF. He asked me to send him information on the proposed TIF. I referred him to the attorney that is representing the property owners on the TIF negotiations (Tom Jacob). I am curious to know if Donnie is actually working for and/or with your company? If so, I would like to discuss his background with you. Thanks Alan! Mark

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

"Committed to Service Excellence"

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Wendy Briggs

From: Alan Robinson <alanr@paradigmbioaviation.com>
Sent: Friday, August 09, 2013 1:54 PM
To: Mark Peterson
Subject: Re: Question

Gail

Not good news

With Regards
Alan

Alan S M Robinson
US Cell: [redacted]
UK GSM [redacted]
AlanR@paradigmbioaviation.com

Sent from my iPhone

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> *mpeterson@normal.org*
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Wendy Briggs

From: Mercy Davison
Sent: Monday, April 30, 2012 2:55 PM
To: 'Michael Brown'
Subject: RE: Safety Vests -- can Mercy have a pile?

Dave Kennell mentioned it to me recently and he sounded excited, which makes it sound more like a real possibility. (I thought the whole idea sounded too good to be true.) That said, I've heard nothing else about it.

From: Michael Brown [mailto:mbrown@ecologyactioncenter.org]
Sent: Monday, April 30, 2012 2:29 PM
To: Mercy Davison
Subject: Re: Safety Vests -- can Mercy have a pile?

Great - thanks!

Unrelated, do you know anything new about the Paradigm BioAviation project? After that initial meeting a year to two ago, I hadn't heard anything more about it until just recently I have heard that they appear to be moving forward.

Thanks,

MB

Michael Brown
Executive Director
Ecology Action Center
309-454-3169
mbrown@ecologyactioncenter.org
www.ecologyactioncenter.org

On Mon, Apr 30, 2012 at 2:18 PM, Mercy Davison <mdavison@normal.org> wrote:

Oh yea!

Here it is:

Join us for the FIRST EVER "Central Illinois Bike Summit" on May 23! This affordable event is guaranteed to inspire, whether you're a hard-core cyclist, a fair-weather bike commuter, leisure biker, or just like the idea of our community becoming more bike friendly. The summit has a great line-up of speakers, including Andy Clarke, President of the League of American Bicyclists. Check out the complete agenda and registration information at http://www.normal.org/CivicAlerts.aspx?AID=116 or contact Town Planner Mercy Davison for more information at mdavison@normal.org or at 454-9590. Hope to see you there!

Edit it as you like!

From: Michael Brown [mailto:mbrown@ecologyactioncenter.org]
Sent: Monday, April 30, 2012 2:07 PM

To: Mercy Davison
Subject: Re: Safety Vests -- can Mercy have a pile?

Hey, I have an email newsletter going out this week - do you want to put a blurb on the bike conference in it?

Thanks,

MB

Michael Brown
Executive Director

Ecology Action Center

309-454-3169

mbrown@ecologyactioncenter.org

www.ecologyactioncenter.org

On Mon, Apr 30, 2012 at 10:25 AM, Mercy Davison <mdavison@normal.org> wrote:

I'd come get them on Thursday and return them around May 25. The last time I took a couple of bags of vests, and there were way more than I needed. I can only take what I need this time!

Mercy

From: Michael Brown [mailto:mbrown@ecologyactioncenter.org]
Sent: Monday, April 30, 2012 10:16 AM
To: Mercy Davison
Subject: Re: Safety Vests -- can Mercy have a pile?

Yes, when do you need them for? I don't think we have any upcoming storm drain stenciling workdays but just need to make sure we don't have a conflict.

Thanks,

Michael

Michael Brown
Executive Director

Ecology Action Center

309-454-3169

mbrown@ecologyactioncenter.org

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On Sun, Apr 29, 2012 at 12:43 PM, Mercy Davison <mdavison@normal.org> wrote:

It's that time again. Can you spare about 32?

Mercy Davison

Town Planner

100 E. Phoenix Ave.

Normal, IL 61761

(309) 454-9590

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Wendy Briggs

From: Bruce Meeks <4meeks@comcast.net>
Sent: Thursday, February 21, 2013 1:52 PM
To: Bruce Meeks; Alex McElroy; Robin Weaver
Subject: Re: Waste Disposal - Twin Cities

Dear Alex and Robin,

After some thought on the matter I did send a slightly modified version of this email to both the Town of Normal Council and City of Bloomington as well as I hope to both City Managers.
I know you both have and will continue your very solid work effort on this matter as directed. It was to support your efforts I choose to broaden the dispensing of my questions.
Kindly,
Bruce Meeks

On 2/21/2013 12:55 PM, Bruce Meeks wrote:

> Dear Alex and Robin,
>
> 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.
>
> 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, steam, bioreactor, algae)*
> 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 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.
>
> b.) 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.

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

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

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

f.) 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 ?

g.) 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 a.) is yes.

h.) Can the cities of Bloomington and Normal jointly commission, build or contract out commissioning and building a MSW plant of their own ?

i.) 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. This is not to be taken as ANY kind of commentary on you work efforts to date at all. Quite the contrary
it is because of your work efforts that I come to be of any help I can on having this discussion to make for all of us well informed choices.

Bruce Meeks

Wendy Briggs

From: Marcy Kaufman
Sent: Friday, August 31, 2012 11:17 AM
To: Tom Ramirez
Cc: oyarger@paradigmbioaviation.com
Subject: Stats on waste collection

Orval Yarger from Paradigm Bioaviation stopped by to request stats on our weekly and monthly amounts of waste and recyclables collected.

His e-mail address is above (I cc'd him on this).

Marcy Kaufman
Office Associate
Town of Normal Public Works
1301 Warriner St., Normal, IL 61761
Phone: 309-454-9571
Fax: 309-454-9636

Wendy Briggs

From: Mark Peterson
Sent: Friday, December 14, 2012 4:47 PM
To: Sandy Fedden
Attachments: Normal Pres-PBA HP SRIV5Final-17 Dec12.pptx

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

"Committed to Service Excellence"


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ParadigmBioAviation

Transforming Municipal Solid Waste

into

Alternative -Jet Fuel & Power

Normal, Illinois
Monday December 17, 2012

Alan Robinson, President & CEO – AlanR@paradigmbioaviation.com

Presentation Team

Paradigm BioAviation LLC

Alan Robinson -President & CEO

Doug Nord - Chairman Paradigm Advisory Board

Southern Research Institute

Dr. Steven Johnson - Paradigm Head of Process Research & Technology Integration, presenting for SRI

Hensel Phelps Construction Co

Lester Wm Vicary - Paradigm Director of Business Services, presenting for HPC.

ISU

Prof. David Loomis - Director, Center for Renewable Energy,
Executive Director, Institute for Regulatory Policy Studies

Our Mission Statement

The Production of Alternative Fuels and Power for commercial, corporate and military markets through deployment of Bio-Synthetic fuel production technologies into regional Integrated Biofuel Refineries (IBR's) using locally available feedstock, to:

- Converting organic waste (Agro & MSW) to Liquid Fuels and Power
- Empower communities with green options for Energy & Jobs
- Facilitate Zero Landfill growth & single stream recycling
- Significantly reduce dependence upon imported fossil fuels.
- Buffer military against Peak Oil with local fuel production
- Reduce aviation carbon emissions to ICAO objectives

Paradigm's - Our Roots

We are historically an Aviation, Telecommunications, Chemicals, Pharmaceutical, Property and infrastructure Group - USA, UK and Europe.

- Aviation - Owned, operated, & designed regional commercial airports and FBO's in UK, Europe and South Atlantic plus part 91 & 135 operations -30 yrs experience

- Telecommunications - Owned & operated Telephony, Cable TV, Submarine cable and Wireless - founded Telewest (UK) which IPO'd for £1.4bn -24 yrs experience

- Chemical & Pharmaceutical - Managed plants in USA and Europe - 25yrs

- Infrastructure construction- Middle East & Europe - regional power generation, roads, Airports, telecoms systems -land, submarine, wireless, and IDC's

Our IBR Project Teaming Partners

Hensel Phelps Construction Co

Our EPC and General contractor

Southern Research Institute

Our Gasification and GTL technology development supplier

Illinois State University ISU

Our Economics and Feedstock Research provider

Paradigm's MSW to Alternative JetFuel Timeline

For MSW to Alternative Aviation Fuels & Power IBR plant in Bloomington, IL

Preparation and Development Phase

- 2006 – Investigate Carbon CO^2 reduction in Coventry Airport, operations, UK
- 2009 – ACI Europe launches Airport Carbon Accreditation ACA program at AGM.
- 2009 – EU commission announces EUETS tax on aircraft emissions will take effect in January 2012.
- 2010 – Paradigm moots vertical integration for Airport & Aircraft Carbon Emission reductions with production and use of Alternative Fuels instead of CER credits for planting "Trees in Brazil"
- 2010- 2011- Extensive research into feedstock, Algae, Jatropha, Camalina, Switchgrasses, Wood Pellets, and Organic Wastes – Crop and MSW
- 2011-2012 – Working from AIRCRAFT BACKWARDS - *Research supply chain risks,* feedstock types & availability, production methods, site locations, airport storage, blending and inter-plane infrastructure

Paradigm's MSW to Alternative JetFuel Timeline

For MSW to Alternative Aviation Fuels & Power IBR plant in Bloomington, IL

Permitting, Construction and Operational Phases

- 2012 – Secured land, feedstock availability, off-take agreements, technology options, modeling, risk mitigation and routes to market.
- 2013 – site permitting, interconnection studies, EPC work, bond funding, etc.
- 2014- 2015 Construction & commissioning for MRF, Gasification, Power & GTL Pilot
- 2016 – BNL Landfill closes - Start Full commercial operation of MRF, Power & RDF plus GTL pilot
- 2017 – Commercial Alternative fuels plant constructed – based on cost scalability of GTL
- 2018 – Full production of alternative aviation fuels – JetA, 100LL, Diesel & Gasoline
- 2017 – Replication of Paradigm MRF/IBR facilities in in USA, UK and EU, regional and island communities with airports

Paradigm's Answer to Aviation Emissions Challenges

By approximately 80%

Aircraft Emissions
Landfill Emissions
RegionalFuel Delivery Chain

Local alternative fuels production

SPK Jet Fuel
Renewable Diesel
Renewable Power
Renewable Heat

Sustainable alternative to landfilling

Single point recycling
Clean Energy generation
Land reclaimation

Value Creation

Green Jobs
New Industries
Fuel Self Sufficiency
Lower Air Pollution
Local Tax Contributions

Why now - Global and Economic Drivers

- Peak Oil- It's going to happen, its only a matter of time - early adoption is a must.
- Commercialization of IBR technology has been a long process
- Regional fuels production is a new paradigm (& window of opportunity)
  - Obtaining sustainable local feedstock is crucial.
  - Zero new landfills is being socially responsible
- Support & Consensus with State & Local government as is essential.
- Additional airport & upgrade infrastructure will be required to meet future Carbon Neutral aviation needs.

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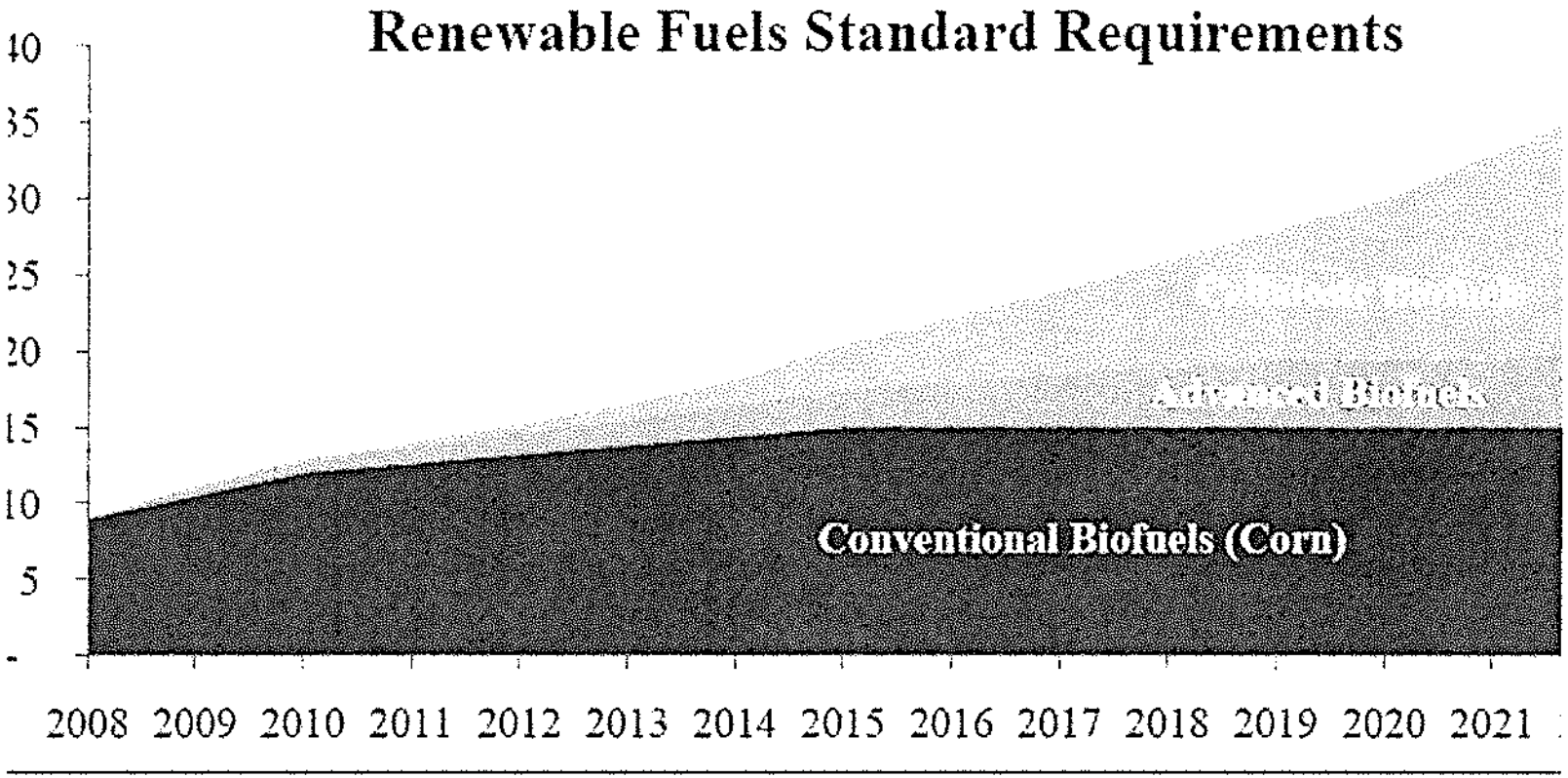
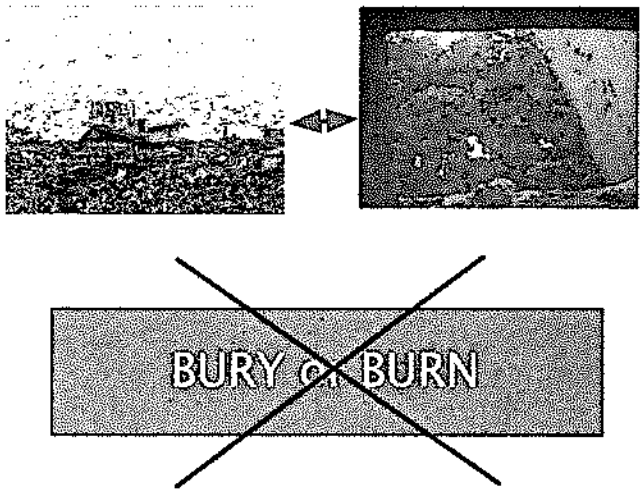
RFS2 (EPA) Calls for 36bn gpy by 2022

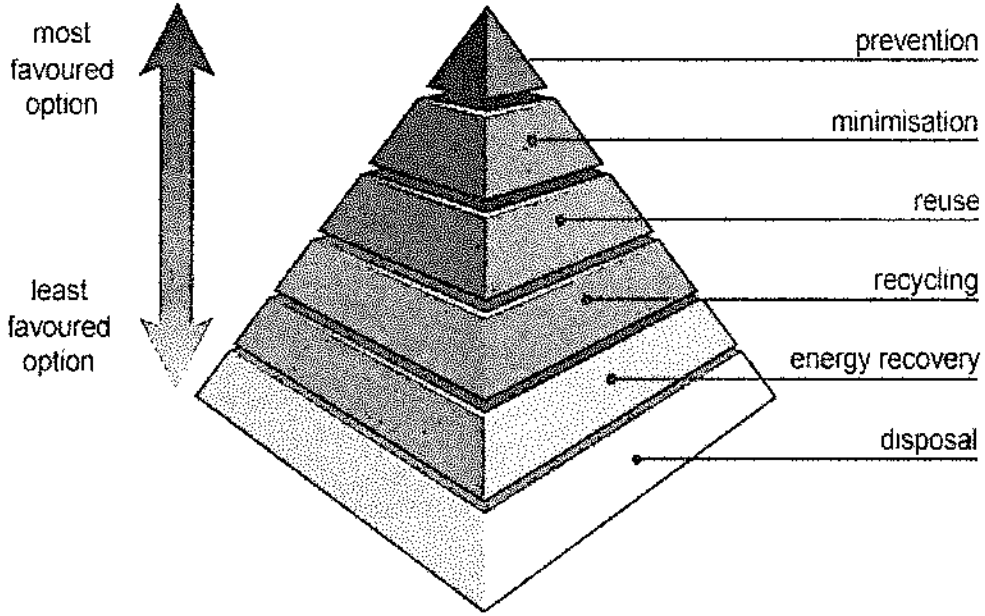


H.R. 6 – Energy Independence and Security Act of 2007

The Renewables Fuel Standard 2 (RFS2), Calls for 36bn gallons per year to be in production by 2022

MSW Becomes an Alternative Fuel





Chemical Reformation Plant rearranges molecules to specified liquid fuel

Source APP

PARTNERSHIPS FOR BNL PLANT CONSTRUCTION

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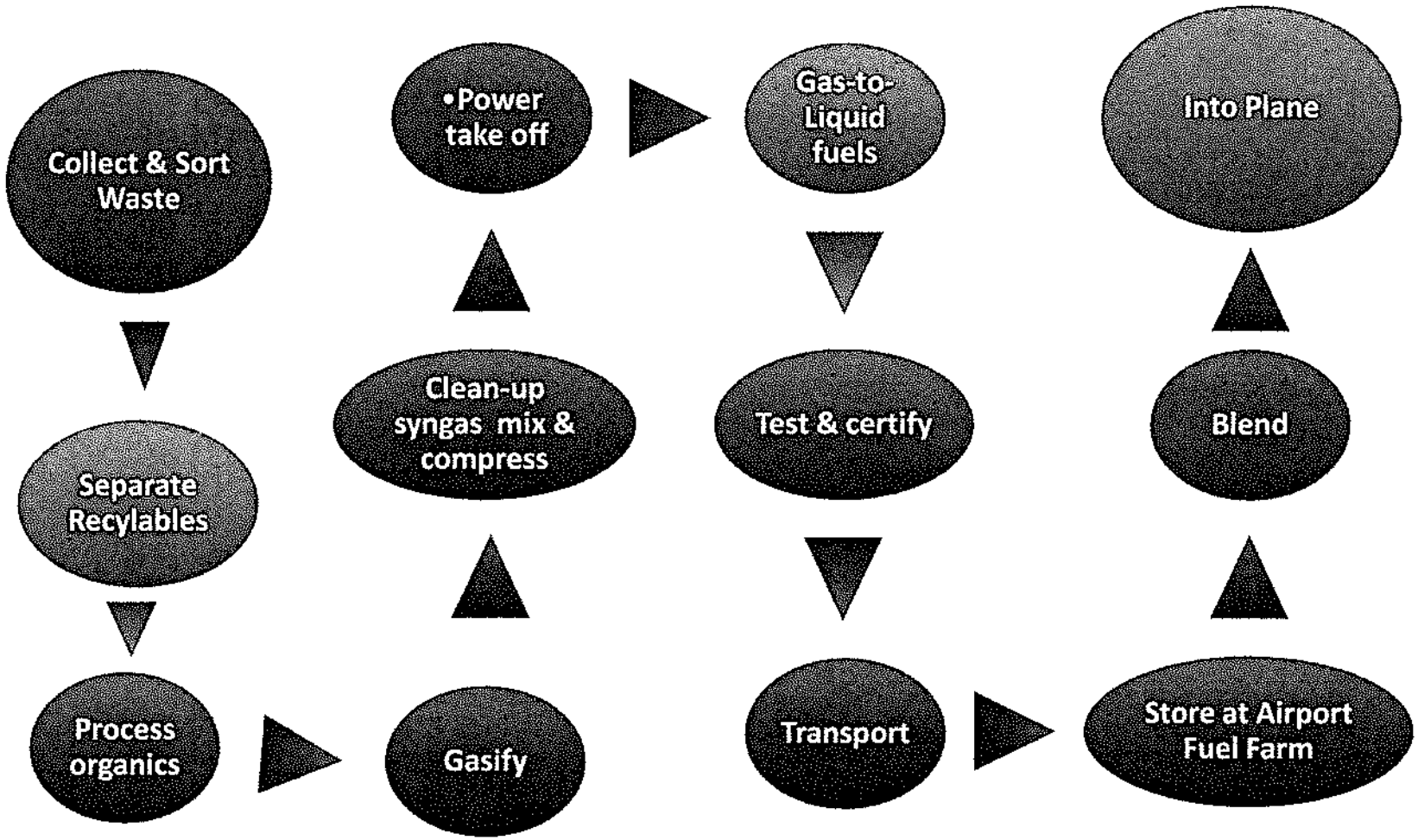
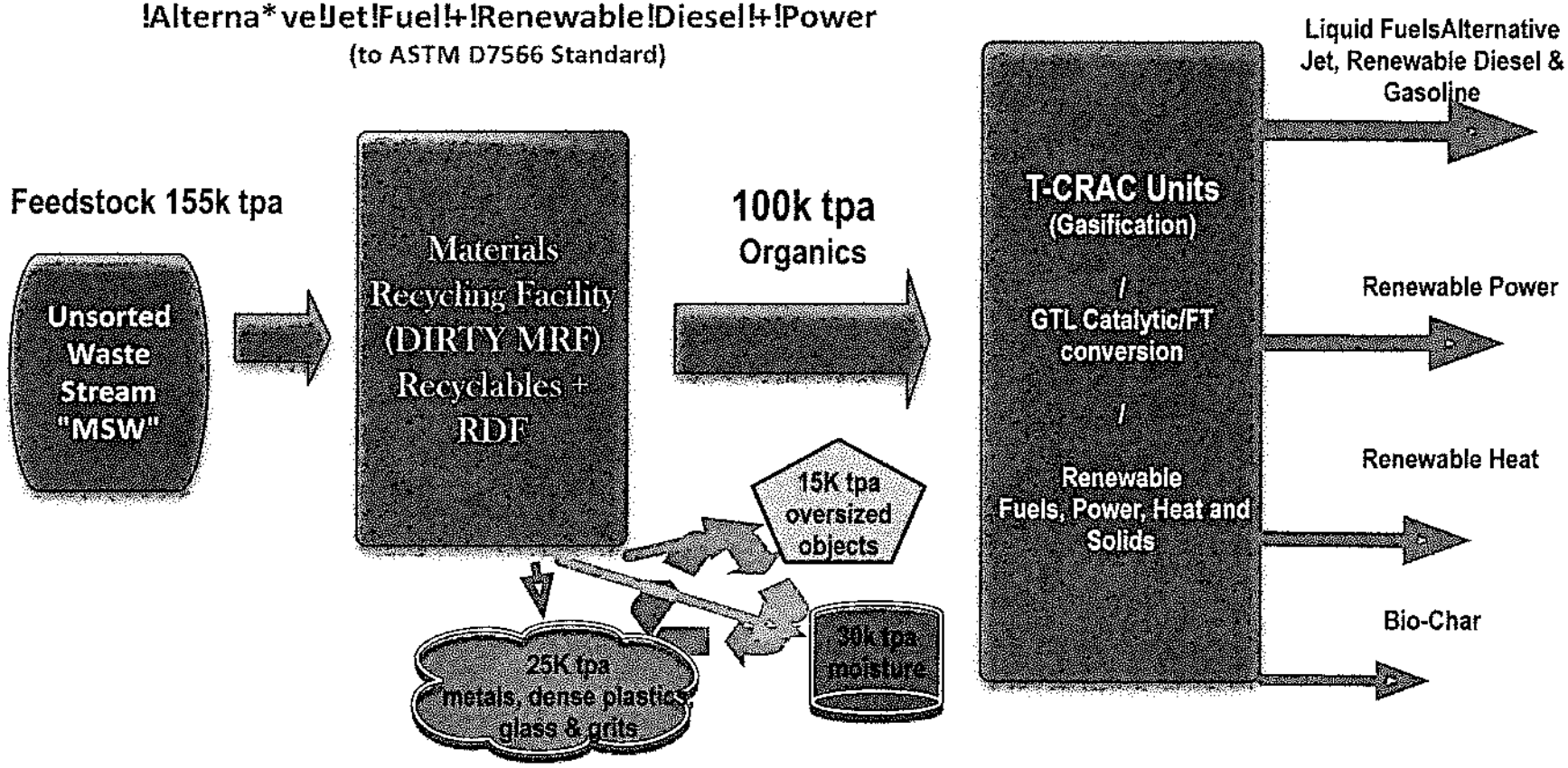
PARADIGM'S SELECTED PROCESS



FULL COMMERCIAL PLANT– 330 tpd

MSW Waste VIA Thermochemical Carbon Reforma9on & Cogenera9on to
Alterna*ve Jet Fuel + Renewable Diesel + Power
(to ASTM D7566 Standard)



- Liquid Fuels - Alternative Jet Fuel , Renewable Diesel, & Gasoline - 8M gals
- Renewable Electrical Power Generation - 5+MWhe
- Bio-Char & Ash for fertilizers & building materials
- Jobs Creation - Direct, Indirect & Induced - c.760 jobs

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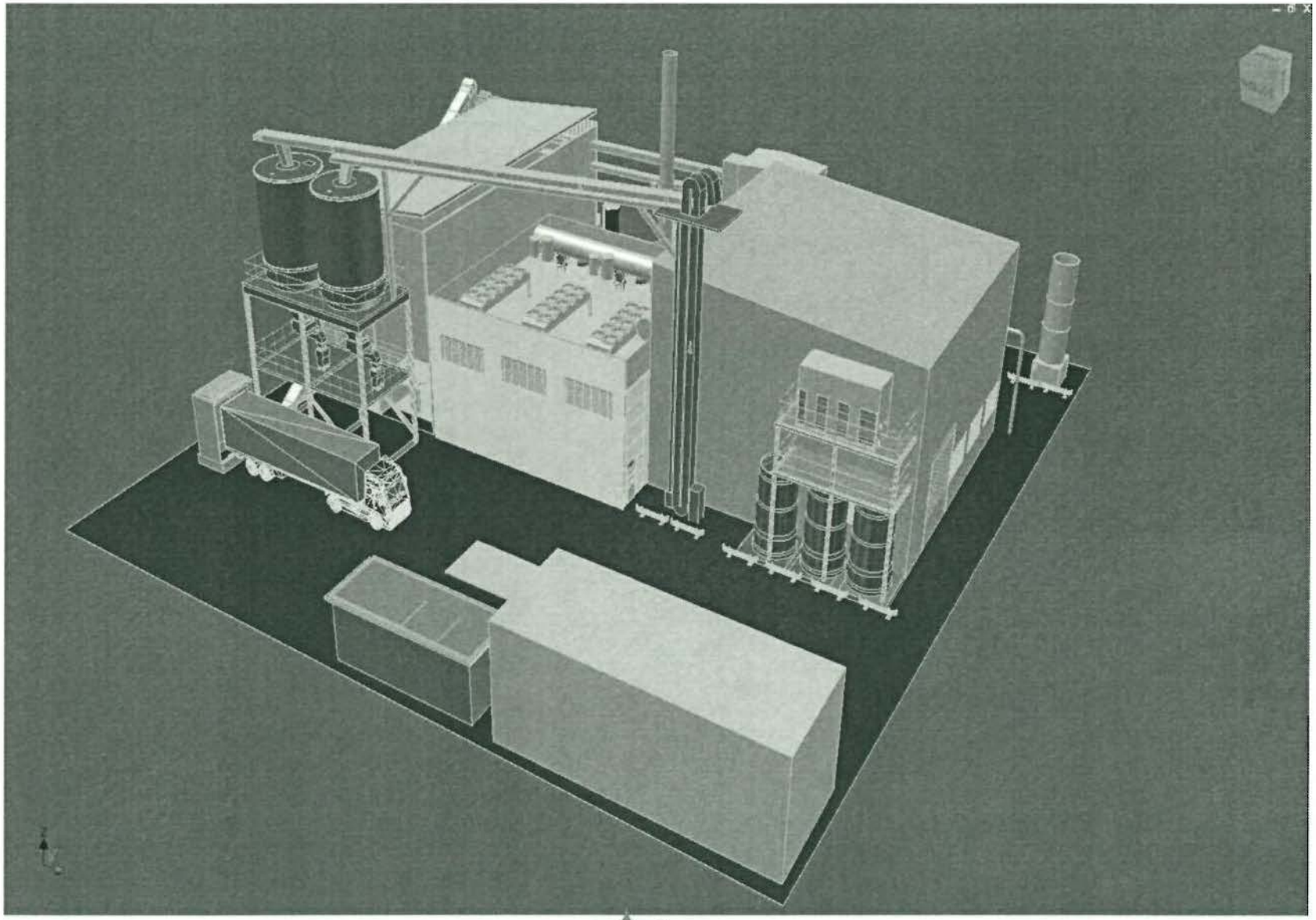
Concept Drawing of 11.7 MWe MSW to Power Plant



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17 December 2012

Concept Drawing of 11.7 Mwe with 6 gasifiers & generators

Actual 11.7 Mwe MSW to Power Plant at Nottingham UK

Gasifier section of Plant at Nottingham UK

Economics of Alternative Jet Fuel & Power

- MSW is long-term sustainable feedstock
- Conversion to Alternative fuels is cost competitive to conventional fossil fuels
- Processing provides superior local recycling of non-sorted waste stream, removing metals, glass and plastics -reduces city operating costs
- Local energy production and local consumption reduces transportation costs, CO^2 emissions and increases local profitability
- Creation of 760+ direct, indirect & induced green jobs
- Circa 70% of $120 million of construction materials and labor costs will stay in Illinois.
- Alternative Jet Fuel produced at BNL plant will reduce carbon emission by 150,000 tons

Benefits to Normal & Bloomington

- **TOWARDS "ZERO LANDFILL"** – no need for new landfill post 2016
- **INCREASED EFFICIENCY** of recycling – Sophisticated MRF will increase recycling and the removal of materials from the present waste stream
- **POWER GENERATION** - opens possibility for GREEN MICRO-GRID for ISU and Electric Cars, for example
- **ALTERNATIVE FUELS** Production – Local availability of Alternative-Jet, Diesel & Gasoline reduces dependency on imported fuels, attractive to Airlines, cleaner environment
- **SPIN-OFF INDUSTRIES** – building and energy materials from bio-char and recycled waste
- **EMPLOYMENT** – Generates in excess of 700 Green Jobs
- **INWARD INVESTMENT** – c. $120 million, 70% spent in Illinois
- **MULTIFACITED R&D Platform** – Long-term benefits for ISU and U of I and association with MIT/FAA/NASA
- **POSITIVE ECONOMIC IMPACT** to regional economy of c. $200 million

Key Issues for 2013

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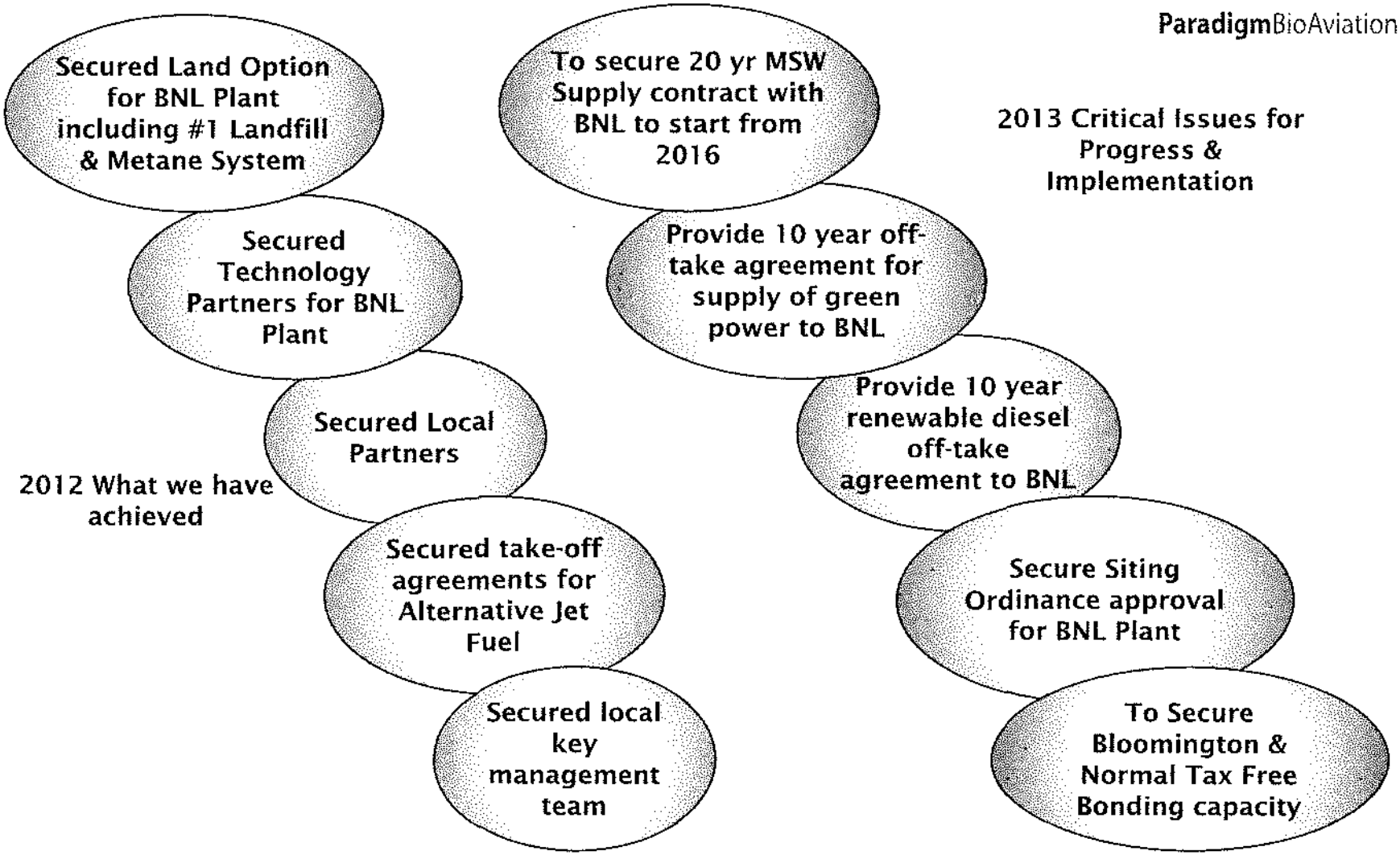

OPPORTUNITY FOR A GREENER FUTURE

- In 2013 Normal 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.