City of Lawrence
Sustainability Advisory Board (SAB)
April 14, 2010 (5:30 PM) Meeting Minutes

MEMBERS PRESENT:	Sarah Hill-Nelson, Eileen Horn, Chad Luce, Beth Johnson, Megan Poindexter, Daniel Poull, Andrea Repinsky, Brian Sifton
MEMBERS ABSENT:	Matt Lehrman, Simran Sethi
STAFF PRESENT:	Tammy Bennett, Kathy Richardson
GUESTS PRESENT:	Les Blevins
PUBLIC PRESENT:	Mark Bowser, Laura Routh

Call Meeting to Order (Sarah Hill-Nelson, Vice-Chairperson)
Take Roll Call to Determine Quorum of Members

The board congratulated Eileen Horn who on May 3rd will start her new job as the County/City Sustainability Coordinator.

APPROVAL OF MEETING MINUTES

Motion and second to approve the February 10, 2010 minutes (Poull/Sifton).
Vote: Motion was passed unanimously.

Review and Approve 2010-2011 SAB Goals

The board briefly discussed their new goals developed at two Goal Setting Sessions (March 10th and April 8th) facilitated by Lisa Patterson (see attached).

Motion and second to approve the SAB goals (Poindexter/Repinsky).
Vote: Motion was passed unanimously.

The next step for the board will be to decide on a work plan for their goals. This item will be placed on a future meeting agenda.

Discussion of Les Blevins' Project as Directed by City Commission

One of the consent agenda items from the February 16th City Commission meeting was to refer the proposal from the Advanced Alternative Energy Corporation to SAB for review and comment.

Les Blevins the President and CEO of Advanced Alternative Energy Corporation presented information about his biomass conversion technology (see attached) and answered questions from the board. Mr. Blevins clarified that he is not asking the City for financial support instead he is asking that the City support his project and assist in finding the pathway to a demonstration of his patented technology.

The board discussed what the next step should be. Some board members proposed that further research and investigation be done before SAB advised the City about this project. The board discussed forming a subcommittee to look into this further. Chad Luce, Daniel Poull and Brian Sifton volunteered for this subcommittee. This topic will be an agenda item at a future meeting.

Laura Routh commented that this is an issue that the state of Iowa addressed and they recently formed a pilot project. She will email SAB the links to Iowa's project. She also suggested that SAB should receive a written request from Les Blevins regarding his request to the City (i.e. supporting his project). The board agreed that this is a good idea.

Draft Horizon 2020 Environmental Chapter Update

Kathy Richardson informed the board that the draft of the Environmental Chapter has been released. Comments on the draft chapter are due to staff by 10:00 am on Monday, April 26th for inclusion in the April Planning Commission Packet. The Planning Commission will hear a presentation on the proposed chapter at their April 28th meeting, but no action will be taken on this first draft at this time.

The board discussed that there was not enough time for them to submit comments prior to the April 26th deadline and would make this an agenda item for their May board meeting. All board members were tasked to read the Environmental Chapter of Horizon 2020 prior to the next SAB meeting. The board encouraged its members (who are available) to attend the Planning Commission meeting on April 28th. Any board member can submit comments as an individual.

Laura Routh commented that she thinks the Environmental Chapter lacks measurable, objective indicators and encourages the board to look into this. She brought a copy of a document, Sustainable Sites Initiatives: A Guideline of Performance Benchmarks, which follows the logic of the Environmental Chapter but also provides a two page summary describing the intent, requirements, strategies and resources. Laura Routh encouraged SAB as stakeholders to express interest and intend to comment on the draft Environmental Chapter.

Motion and second to approve re-drafting a letter to the Planning Commission stating that SAB is interested in submitting comments on the Environmental Chapter as the process proceeds (Poindexter/Sifton). Megan Poindexter volunteered to re-draft the letter.

Earth Day Event Details

Kathy Richardson gave a brief overview of the Earth Day event: the Earth Day Celebration in South Park, hosted by the Waste Reduction and Recycling Division, will be held at 11:30 a.m. Saturday, April 17, in South Park. The day will start with a parade, hosted by KU Environs, at 11 a.m. on Massachusetts Street from Seventh Street to South Park. The celebration in the park features live music, children's activities and food vendors. The Lawrence Transit System will offer free rides on the T all day Saturday, April 17th. The list of confirmed exhibitors, food vendors, and entertainment was emailed today to SAB with the WRR staff report (see attached).

The volunteer email instructions were sent out today to the following SAB volunteers:
Set up volunteers (8am-10am): Sarah Hill-Nelson, Matt Lehrman, Andrea Repinsky, Chad Luce
-Helping set up tables, chairs, posting signs, other tasks as assigned
Break down volunteers (4pm-5pm): Megan Poindexter, Brian Sifton
-Helping take down tables, chairs, collecting recycling bins, other tasks as assigned
Parade Volunteers (10:30am-11:30am): Eileen Horn, Simran Sethi
-Carrying Parade for the Earth banner in front of all parade entries

Kathy Richardson discussed the staff decision on the SAB banner/signage. The student designed SAB banner/signage submitted to the board did not meet the requirements of the City's identity guidelines. Staff designed a new banner which includes the City's logo, the SAB name and a small image. The banner will be printed in time for the Earth Day Celebration on Saturday. Staff will also bring a table cloth and the printed SAB bookmarks for the SAB table.

Staffing for the SAB table (volunteers): Matt Lehrman (11am-12pm), Eileen Horn (11am-1pm), Brian Sifton (all day), and Megan Poindexter (2pm-4pm).

Local Foods Policy Council Update

Daniel Poull announced that he attended the North East Sector Plan meeting as a representative of the Local Foods Policy Council. Comments for the Planning Commission regarding this plan are due tomorrow April 15th. Email comments to dwarner@ci.lawrence.ks.us.

The GOALS of the Local Foods Policy Council are:
1. Support for local producers
2. Public education and information
3. Increased access to local foods
4. Sustainable development of local resources
5. Positive environmental impacts

Daniel Poull also announced the Farm to School lunch at Cordley Elementary. The elementary students will pick the locally grown food and the meal will be served on Friday, May 21st from 11:50 am to 1:00 pm.

The Local Foods Policy Council heard a presentation from Jennifer Smith with the DG CO K-State Extension office. This group is starting a DG CO local community garden project.

Update on Burroughs Creek Trail Fruit/Nut Tree Proposal

Andrea Repinsky reported that the Lawrence Fruit Tree Project group met with Lawrence Parks and Recreation Department staff. She noted that the City's plan for the Burroughs Creek Trail uses native trees and not fruit trees, but she is not clear why or what the decision making process is on this issue.

The board discussed whether to write a letter in support of planting fruit trees in the Burroughs Creek Trail. Andrea Repinsky will find out more information about this topic for the next meeting and let SAB know if she thinks they should write the letter. If so, she will bring a draft letter for the board to approve at the May meeting.

Update on the 12th and Haskell Bargain Center Issues

Andrea Repinsky mentioned that this site is still under investigations by both the Kansas Department of Health and Environment and the City of Lawrence. Investigation details are not available to the public. She will report on this topic at the next SAB meeting.

Discussion of SAB Vacancy

The board discussed possible candidates for the SAB vacancy and decided to continue the discussion at the next SAB meeting. The board was reminded that there is a volunteer application form on the City's website. Any person interested in the SAB vacancy should be directed to fill out this form and encouraged to email or write a letter to the Mayor.

Waste Reduction & Recycling Report

The WRR report was emailed to SAB (see attached). Kathy Richardson highlighted that in the report there is a note below the amount of yard waste collected stating that the tonnages may change. Staff is currently in the process of re-evaluating the estimated weight of containers (carts, cans and compostable paper bags) by weighing samples curbside once a month throughout the year. Staff is also weighing the rearloader trucks on one Monday a month before they dump their yard waste loads at the Compost Facility. These two weighing methods will be compared.

The Compost Sale report was also emailed to SAB as part of the WRR report. Kathy Richardson highlighted that the sale generated $11,240.

A couple board members asked why the Woodchip Sale closed within hours of the start of the event. Staff reported that the Forestry Division of the Lawrence Parks and Recreation Department organizes the Woodchip Sale. It seemed like they had a lot less woodchip material to sell than in past events. Laura Routh questioned if Westar or other utility companies would be able to donate their woodchips to the City. Chad Luce said he will find out what Westar does with their woodchips in Lawrence and will email this information to the board.

Guest Comments and Miscellaneous

Megan Poindexter announced that last week and this week there is a Learning about The Environment Through Arts Program at the Lied Center for second graders across the Lawrence school district.

Sarah Hill-Nelson asked Chad Luce if he could inform the board about coal fly ash landfills and whether or not the one by the river is lined. Chad Luce said their coal fly ash landfill is clay lined, has well monitoring, and slopes away from river, but he will email the board the complete information.

Daniel Poull mentioned that there is a program on PBS called “Dirt” on April 20th at 10 pm. It is about agricultural soils and soil types.

Meeting adjourned 7:35 p.m.

Next meeting: May 12, 2010 at 5:30 pm.

Attachments:

- Sustainability Advisory Board Goals
- Les Blevins’ Handouts
- Waste Reduction and Recycling Division Report

City of Lawrence Sustainability Advisory Board
DRAFT Goals
Spring 2010

Sustainable Citizens Goal

1. Advocate the 2010 recommendation to the City of Lawrence adopt a Pay as You Throw system (i.e. by meeting with the City Commission in at least one study session and following up on the study session outcomes).

Energy Efficiency Goal

2. Support energy efficiency for the citizens and businesses and municipality of Lawrence to reduce energy consumption.

Sustainable Citizens Goal

3. Advocate for Lawrence to achieve a 50% recycling rate by 2015.

Sustainable Business Community Goal

4. Collaborate with the Chamber of Commerce to encourage businesses to define and adopt sustainable practices.

City Policies Goal

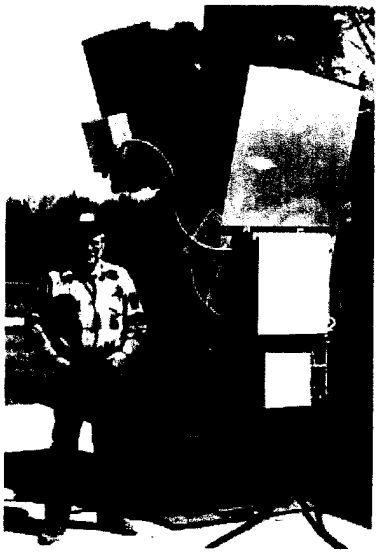
5. Support and advocate for city policies to reflect sustainability principals in the following areas:
   - agricultural land preservation;
   - brownfield development.

Advanced Alternative Energy Corp.

www.aaecorp.com

It has been said that there is no "Silver Bullet" approach for controlling climate change but perhaps there could possibly be "Silver Buckshot".

Les Blevins and the 'Sequential Grates' fuels conversion and biorefining system, currently patented and under further development for "Silver Buckshot" installations globally.



Les Blevins, Jr.
Inventor
Sequential Grates System

Les Blevins was born in Kansas. His background is in the mechanical trades. He is developing mechanical concepts to address multiple energy and environmental problems at the local level through his innovative distributed energy & fuels technology for village to city scale applications with an emphasis on basic practicality and economy.

Blevins believes humans and the environment are on a collision course. Our activities are inflicting harsh and irreversible damage on the environment and on critical resources. Many of humanity's current practices put at serious risk the future that we all wish for humanity to unprecedented degrees.

Les believes new innovations in fuels processing systems can bring about the needed improvements - and that more than ever fundamental changes are urgent this decade if we are to avoid the life altering collision our present course will bring about. Our practices may so alter the living world that it will be unable to sustain life in the manner we now know ever again if we don't make immediate changes.

Les Blevins became concerned about the future during the middle 1970,s upon reading in the news about oil issues and reading reports on then President Jimmy Carter's position on fossil fuels, the likely effects of our growing energy consumption of fossil fuels on the environment and on international politics.

Blevins believes advancements in energy generation and conservation can play a major role in solving the problem. And he favors developing improved combustion, pyrolysis and gasification methods, and in implementing these new concept systems in distributed and On-site installations as the best means to better utilize very diverse biomass sources, better manage solid, liquid and gaseous wastes, and produce from these a new source of heat, power, liquid fuels such as ethanol and biodeisel, and methane and hydrogen gas.

Blevins decided to look at what he could do to advance the scope of human knowledge on how humanity could address these complex issues. He subsequently decided to look into the possibility that he could best contribute by researching fuels conversion systems designed to reduce dependence on fossil fuels by utilizing diverse low value and widely available biomass and wastes as fuel instead. Thus Les perceived the need for improved biomass conversion technology in the 1970s.

This led to the invention and development of a furnace capable of using bulky biomass fuels such as small square and large round bales of agricultural byproducts like straws, stems, stalks, husks and leaves as well as dedicated biomass fuel crops such as grasses like elephant and switchgrass, miscanthus, sugar cane bagasse etc. The Blevins system can also use several processes in the conversion of these into liquid fuels as well. These processes include direct combustion, pyrolysis and gasification.

Advanced Alternative Energy is developing an advanced system technology for utilizing a wider range of renewable biomass forms in space heating, heating industrial processes, for use in power generation, and in production of biofuels and other valuable products to help achieve sustainability.

This approach offers multiple benefits to society such as reduced demand for finite fossil fuels and in turn lower market prices for such fuels, reduced emissions of carbon dioxide, the primary greenhouse gas, additional cash crops for our farmers and landowners, which would in turn benefit the farm sector and assist rural areas maintain economic viability.

Les Blevins, seeing increased government dedication to using the technological approach to addressing the nations addiction to oil, and fixing the climate, and seeing the recently completed Oak Ridge National Laboratory report outlining a national bioenergy strategy, indications one billion dry tons of biomass, meaning any organic matter that is currently available on a sustainable basis for displacement of up to 30 % of our nation's petroleum consumption as transportation fuel, now plans to seek funding from the government and from investors for comprehensive technology development, testing and validation of the AAEC patented fuels conversion system.

These funding sources combined with the technology validation process are expected to transform Advanced Alternative Energy Co., from a purely R&D organization to a viable commercial business entity.

AAEC success in finding funding would insure AAEC is able to play a role in achieving an increase in ethanol and other liquid fuels production that would see US transportation fuels from agricultural biomass and wastes increase to 20 percent in 2030 and electrical power from clean coal processes also increase to 20 percent by 2030, 30 percent by 2040 and 40 percent by 2050. In fact, depending on several factors, if the company is able to commercialize its new biomass conversion technology, AAEC could be providing similar systems that could provide similar amounts of renewable bioenergy in many developing countries which would improve our chances of successfully addressing climate change in time to avoid a catastrophe.

For more information contact

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President & CEO
Advanced Alternative Energy
1207 N 1800 Rd., Lawrence, KS 66049
Tele: 785-842-1943
Fax: 785-842-0909
Email; LBlevins@sunflower.com
Website Homepage: http://aaecorp.com

To find more background information about the various biomass and waste processing concepts that can be employed in the fuel conversion technology being developed and offered by Advanced Alternative Energy Corp. go to these additional websites;

http://www.nrel.gov/biomass/biorefinery.html
http://www.bvsde.paho.org/bvsacd/cd43/gas.pdf
http://www.rrbconference.com/bestanden/downloads/60.pdf
http://www.gasification.org/media/videos.aspx

Disclaimer Concerning Forward-Looking Statements and Investment Risk

Statements in this press release that are not strictly historical are "forward-looking" and involve a high degree of risk and uncertainty. These include statements related to the ability of Advanced Alternative Energy Corporation's technology to enable the cost-effective production of electric power, cellulosic ethanol and other biofuels, and AAEC's ability to contribute to a reduction in the United States' dependence on fossil fuels, all of which are prospective. Such statements are only predictions, and actual events or results may differ materially from those projected in such forward-looking statements. Factors that could cause or contribute to differences include, but are not limited to, risks involved with AAEC's new and uncertain technologies, AAEC's dependence on collaborations and its ability to achieve milestones under existing and future collaboration agreements, the ability of AAEC and its collaborators to commercialize various products using AAEC's technologies, the development or availability of competitive products or technologies, and the ability of AAEC to enter into and/or maintain collaboration and joint venture agreements. Certain of these factors and others may at some point be more fully described in filings with the Securities and Exchange Commission, but at this time AAEC is making no public offerings that require SEC filings.

AAEC's Advanced New Fuels-to-Gas Technology Is Designed to Reduce Electric Power and Renewable Biofuels Shortages and Reduce Greenhouse Gas Emissions Worldwide

Advanced Alternative Energy is offering an advanced technology for utilizing a wide range of renewable biomass forms in space heating, in heating industrial processes, for electrical power generation, and production of biofuels and other valuable products to help the world achieve a higher degree of sustainability.

This approach offers multiple benefits to society, such as reduced demand for finite fossil fuels, and in turn lower market prices for such fuels as they are replaced by biofuels, as well as vastly reduced emissions of carbon dioxide, the primary greenhouse gas.

Through producing and using biomass energy we can bring additional cash crops for farmers and landowners, which in turn is a way to benefit the farm sector and assist rural areas in maintaining economic viability.

Les Blevins believes in the technological approach to addressing our long standing addiction to oil and coal, and fixing the climate. An Oak Ridge National Laboratory report recently outlined a national bioenergy strategy. Indications are that one billion dry tons of biomass, this means any organic matter that is currently available on a sustainable basis, is available for displacement of up to 30 % of our nation's petroleum consumption as transportation fuel. AAEC plans to seek funding from the government and from private investors for development, testing and validation of the AAEC patented fuels conversion system.

USE OF THE AAEC TECHNOLOGY COULD PROVIDE DISTRIBUTED ELECTRIC POWER AND RENEWABLE BIOFUELS ON ANY CONTINENT: INCLUDING FAR OFF LOCATIONS SUCH AS THE REPUBLIC OF BANGLADESH

THE FOLLOWING STORY SPEAKS OF USING GAS ENGINES WHICH CAN BE POWERED BY FOSSIL FUELS OR BY NATURAL GAS OR BY SYNGAS PRODUCED LOCALLY FROM LOCALLY AVAILABLE AND DIVERSE LOW-COST BIOMASS RESOURCES.

Both people and businesses in Bangladesh need reliable and cost-effective electricity. Business needs this to operate more efficiently and become more competitive, which in turn creates local job opportunities for people and helps improve their quality of life. This is why it is so important for Bangladesh and other developing economies to push forward in modernizing their energy infrastructure.

A growing array of textile producers, food and beverage processing companies and others in industrial operations are installing fuel-flexible units at their factories to provide a more reliable, on-site supply of power. More than 500 MW have been delivered in Bangladesh.

The Honorable Prime Minister of Peoples' Republic of Bangladesh, Her Excellency Sheik Hasina, recently inaugurated the new Fenchuganj 51-megawatt (MW) Rental Power Plant of Barakatullah Electro Dynamics Ltd., which features Jenbacher gas engines. The inauguration, of the plant was held on April 3, 2010, also was attended by cabinet members, members of Parliament, government high officials, local officials and GE (NYSE: GE) representatives.

The new facility in the town of Fenchuganj is the first of several emergency "rental" power plants that the Bangladesh government plans to install to help Bangladesh end widespread energy shortages occurring throughout the Southeast Asian nation. Bangladesh's total demand for power currently exceeds 6,000 MW, but regional power producers are only supplying 3,600 MW to 4,300 MW, creating daily shortfalls of power.

The power station was designed to help reduce electricity shortages in the country's Sylhet District, an important tea-producing area.

As part of the government's initiative for constructing "rental power plants," the Bangladesh Power Development Board arranges bids for power plants that will be built, owned and operated by independent, third-party power providers, with the energy being sold into the national grid under defined power purchase agreements.

The Fenchuganj 51-MW rental power plant at Sylhet was built by the independent power producer BEDL to overcome the chronic electricity shortages that have frequently interrupted production activities at several tea-processing plants and undermined the local economy. The plant features 19 of GE's low-emission, J620 Jenbacher gas engine generator sets. The government's Bangladesh Power Development Board (BPDB) awarded the "fast track" Fenchugoni project to BEDL and its project partner, STFE Co, Ltd. of Thailand.

The plant also represents the first IPP project in Bangladesh built with the investment from the Non Resident Bangladeshi (NRB) investor. The electricity produced by the power plant, which was commissioned in October 2009, is being sold to the national grid under a 15-year power-purchase agreement.

"These smaller rental power plants are faster to build than larger power stations. GE was able to quickly deliver its Jenbacher gas engines, which allowed us to meet our tight construction schedule. GE's gas engine technology also offers the high efficiency and reliability levels required for this important grid-support project," said Mr. Ghulam Rabbani Chowdhury, managing director of BEDL. Mr. Chowdhury also cited the reputation for reliability that GE's Jenbacher engines have earned for numerous grid support and industrial power projects in Bangladesh.

Orient Energy Systems, GE's official distributor for Jenbacher gas engines in Bangladesh, arranged the order for Barakatullah Electro Dynamics Ltd. and provided complete engineering support for the project. Through Orient Energy, GE also is able to provide prompt and efficient local customer service to BEDL and STFE Co, Ltd.
Jenbacher gas engines in Bangladesh

More about Using Advanced Alternative Energy Company's synthesis gas production systems to provide electric power and/or renewable biofuels in distributed installations.

AAEC or its affiliates can partner with Jenbacher or others such as the Caterpillar Company to offer modern turn-key installations for the production of electric power in both developed and in developing nations.

AAEC can also partner with firms like Standard Alcohol Company of America or others to offer a back end biofuels production system. See Standard Alcohol's brochure on the following pages.

Email Les Blevins at LBlevins@aaecorp.com or visit http://aaecorp.com for more information.

ENVIROLENE® Production

Gas-To-Liquids Technology

Standard Alcohol Company of America, Inc.
Post Office Box 126
Breckenridge, Colorado 80424-0126
Office: (970) 749-0994 or 453-9755 · eFax: (303) 484-4200

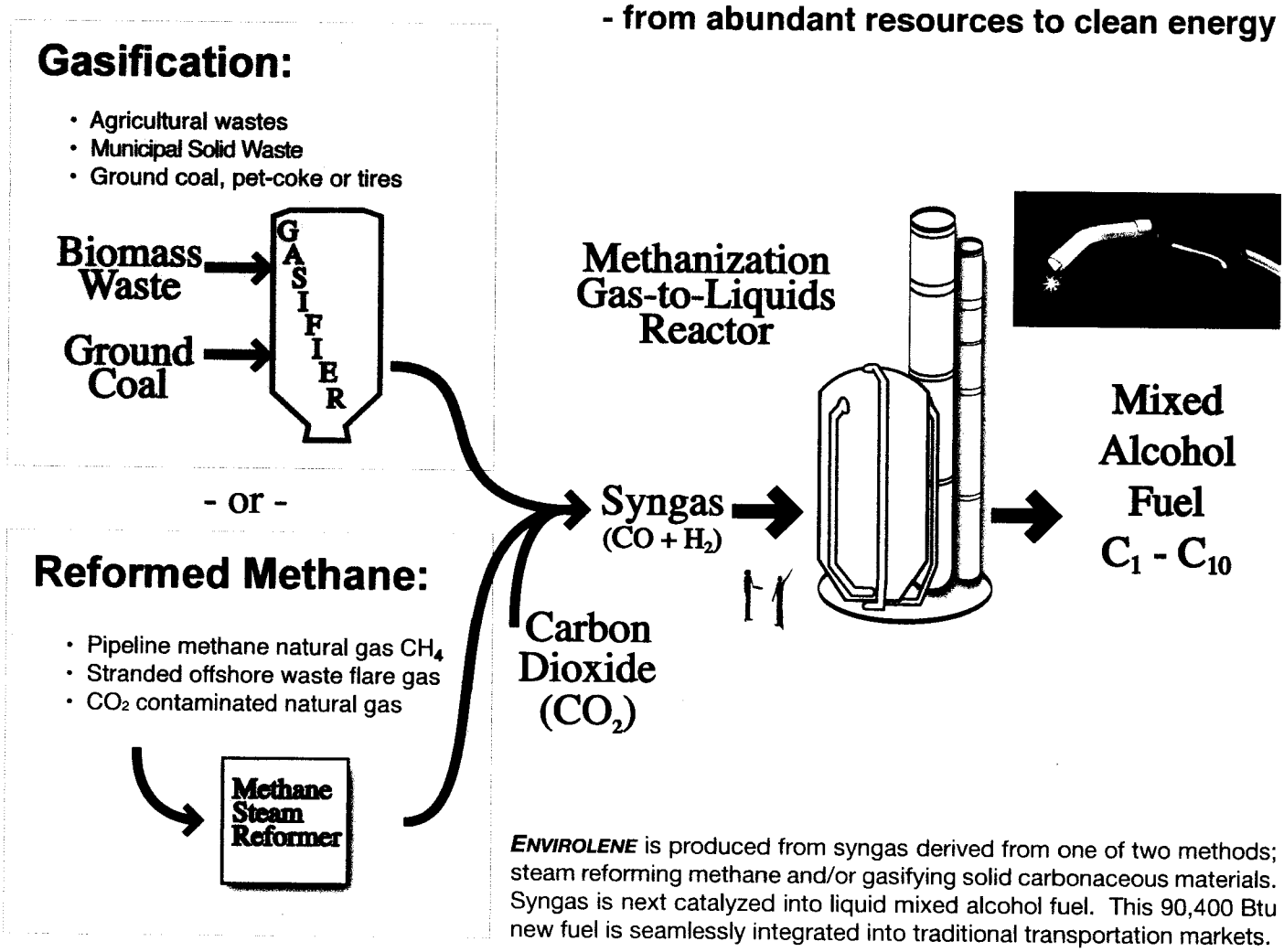
Production of Standard Alcohol Company's (SACA's) ***ENVIROLENE*** fuel is accomplished through a Gas-to-Liquids (GTL) fuel technology nearly identical to present methanol synthesis as well as other emerging GTL synthetic fuels technologies. The major differences between SACA's and other companies' GTL technologies are the types of synthetic fuels produced, the proprietary catalysts which are used and the costs involved to produce the fuels.

Alcohols, due to their simple, straight-chain molecular structure are relatively simple and inexpensive to synthesize. The more complex chemical structures of the oil industry's synthetic white crude require greater energy and feedstock volumes, making them significantly more expensive to produce. These synthetic crudes (syn-crudes) need multiple passes through refinery operations to break down their long-chain paraffin waxes through hydrocracking into naphtha and syn-diesel, further increasing costs. Conversely, SACA's ***ENVIROLENE*** fuel moves directly through a basic Gas-to-Liquids fixed bed reactor and finishes as a pure alcohol fuel. SACA's higher mixed alcohol fuel production costs are significantly lower than the GTL industry trends.

Environmentally speaking, both ***ENVIROLENE*** higher mixed alcohol fuel and oil-based syn-crude fuel share the similar characteristic of being sulfur-free. Beyond that, the environmental differences between these fuels are numerous. The single, largest distinction is that syn-crude, like traditional crude oil, floats on water and is non-biodegradable. Syn-crude does not easily breakdown in the natural environment. ***ENVIROLENE*** is biodegradable in both land and water environments, becoming part of the biological food-chain for micro-organisms and plants when diluted into water bodies.

ENVIROLENE® Synthesis Process Options

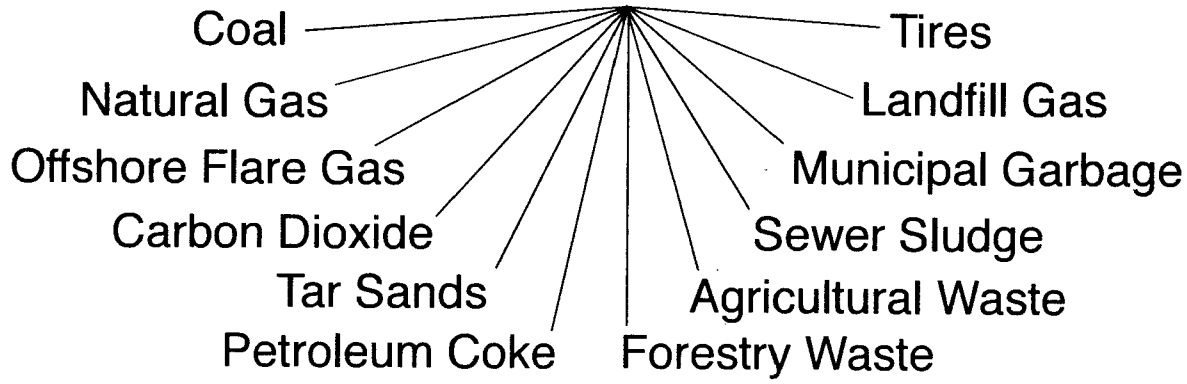
- from abundant resources to clean energy



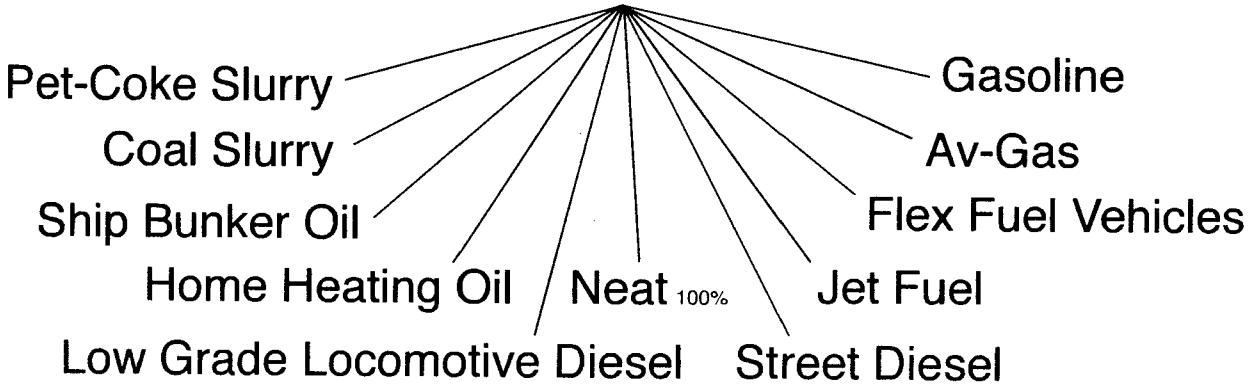
ENVIROLENE is produced from syngas derived from one of two methods; steam reforming methane and/or gasifying solid carbonaceous materials. Syngas is next catalyzed into liquid mixed alcohol fuel. This 90,400 Btu new fuel is seamlessly integrated into traditional transportation markets.

ENVIROLENE® Dynamics
higher mixed alcohol fuel

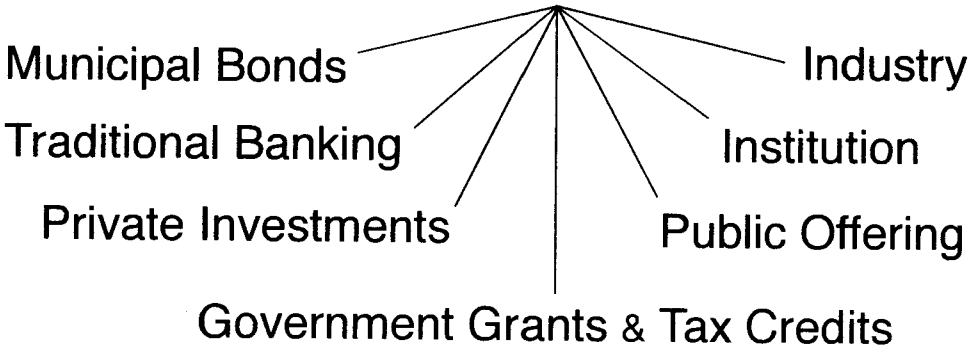
Feedstocks



Fuel Blends



Finance



STANDARD ALCOHOL COMPANY OF AMERICA, INC.

www.standardalcohol.com

One man's trash... is another man's energy-rich biomass

March 22, 2007

The idea sounds so outrageous that one is tempted to dub it Fitch's Folly.

Warrenton VA Mayor George Fitch has set a new goal for himself: To make his town "energy independent" within the near future.

Fitch wants to create ethanol and generate electricity using biomass as a feedstock and fuel. What kind of biomass? All kinds. The waste that goes into the county landfill. Tree clippings from forest maintenance. Corn husks and switchgrass. Wooden construction debris. Old tires. Sewage sludge.

Virtually any organic waste that can be rounded up from within a 20-25 mile distance from town that other people would let rot or, better, pay to get rid of.

After extensive research, Fitch has conceptualized a project that would cost about $30 million. It would generate about five megawatts of electricity for sale into the electric grid, enough to power about 5,500 households, and would yield 10 million gallons a year of ethanol.

As long as the price of ethanol stays above $1.25 a gallon (it's about $2.25 right now) and the price of crude stays above $38 per barrel (it's over $60), he says, the project will be profitable.

"I'm a fiscal conservative," says Fitch. "Government shouldn't be wasting peoples' money. We have a landfill. We're taking garbage and burying it in the ground." That just doesn't make sense, he contends, when the garbage is loaded with BTUs that can be converted into electricity and liquid fuel.

Fitch is working to "tee up" the project, ensure a reliable supply of biomass feedstock, find a private-sector operator to take ownership, and lobby for federal loan guarantees to reduce the risk for investors.

His goal is to negotiate terms that would allow him to re-sell the electricity to Warrenton residents for about half of what Dominion charges.

"If my residents are paying 5.9 per kilowatt to Dominion," he says, "let's bring that down to three cents."

The gasification technology is well understood, although the engineering probably will need tweaking to accommodate the wide range of waste products that Fitch contemplates.

As the mayor describes it, the process entails heating the waste materials to an extremely high temperature in the absence of oxygen - as high as 2,000 degrees - then cooling it to 98 degrees.

The material would not burn, it would gasify, leaving about 2 percent of the original volume as residue to dispose of.

Waste heat from the cooling would be used to generate electricity, while the organic compounds in the gases would be converted into ethanol.

If the Warrenton project pans out, Fitch sees the idea spreading nationally.

There are implications for Virginia energy policy, too. The environmental community is pushing a Renewable Portfolio Standards bill that would require Virginia electric utilities to generate 12 percent of their power from renewable energy sources by 2020.

Although the legislation has been sidetracked while the General Assembly takes up re-regulation of the electric power industry, the issue is not likely to go away. Municipal projects built around local landfills across the state could make a significant contribution to that 12-percent goal.

Small-scale projects like the one Fitch proposes, are consistent with a "distributed generation" approach to organizing the electric power grid.

In theory, an electric grid consisting of many small producers located close to their consumers is more stable and less vulnerable to disruptive blackouts than a system depending upon massive power plants linked by equally giant transmission lines.

"If you drop in a five-megawatt plant and flow the power into the distribution grid, there's a range of benefits," says Brad Schneider, founder of Recovered Energy Resources, a Rappahannock County company that designs biomass-to-energy plants, who has advised Fitch.

Balancing the grid with locally generated electricity affects the harmonics and stability of the system.

For Warrenton and the northern Piedmont, grid harmonics are no small thing.

Dominion wants to run a transmission line through the region in order to wheel more electricity from the Midwest into Northern Virginia. Not only would a Warrenton power plant increase the supply of locally generated electricity, a better load balance in the region might enable the power company to increase the capacity of existing transmission lines.

Fitch has had conversations with oil giant Chevron, which wants to get into the field.

The next phase of the project is finding $300,000 for design and engineering. That's more than Warrenton can afford, but Uncle Sam is handing out renewable-energy grants like bingo cards in an old folks' home.

Fitch thinks he has a shot at getting support. His argument: A successful demonstration of the technology in Warrenton could open up opportunities for municipalities across the country.

Fitch insists that his project would stand on its own merits. But as gravy for investors, there is a host of credits and incentives. There's a 51 cents per gallon credit for ethanol, plus an extra ten cents a gallon for small producers.

There's a credit of 1.5 cents per kilowatt hour for producers of "green" electricity, and $20 per ton for using agricultural/forest residue to produce energy. A loan guarantee from the federal government would eliminate any remaining risk for private investors.

Also working in Fitch's favor: The Kaine administration is eager to support renewable fuels in Virginia.

Although the Commonwealth has limited resources to devote to the sector, it can function as an intermediary between entrepreneurs like Fitch, academic resources and market opportunities.

Dr. Y.H. Percival Zhang at Virginia Tech has developed a promising biochemical process to convert cellulosic material (wood waste, corn stalks, and switchgrass) into ethanol in small-scale biorefineries.

Meanwhile, the Department of Mines, Minerals and Energy has spotted some potentially large-scale ethanol customers in the state - the oil refinery in Yorktown is one, military bases are another - to which local vendors could sell.

Fitch is bursting with enthusiasm at the potential for his project. He thinks he's got all the angles covered, although he's wise enough to temper his comments with a note of caution: "There's a huge caveat. Like most things new, you go through a trial-and-error process. You go up the learning curve."

Jim Bacon, of Richmond, publishes the Bacon's Rebellion Web site and authors the column of the same name.

City of Lawrence
PUBLIC WORKS
WASTE REDUCTION & RECYCLING

Waste Reduction and Recycling Division Report for the Sustainability Advisory Board (4/14/10)

RECYCLING PROGRAM REPORT

OLD CORRUGATED CONTAINERS (OCC)

Cardboard	Tons	Revenue
Current YTD	**335.00**	**$47,725.60**
Prior YTD	318.30	$10,361.10

Avg. Price/ton thru March 2010**:** **$142.46** Avg. price/ton thru March 2009: $32.55

OLD NEWSPAPERS (ONP)

Newspaper	Tons	Revenue
Current YTD	**115.34**	**$10,626.00**
Prior YTD	144.20	$3,325.96

Avg. Price/ton thru March 2010: **$91.20** Avg. Price/ton thru March 2009: $23.06

OFFICE WASTE PAPER (SOP)

Sorted Office Paper	Tons	Revenue
Current YTD	**1.09**	**$174.40**
Prior YTD	21.91	$1,971.90

Avg. Price/ton thru March 2010: **$160.00** Avg. Price/ton thru March 2009: $90.00

MIXED WASTE PAPER (MIX)

Mixed Paper	Tons	Revenue
Current YTD	**85.48**	**$5,677.28**
Prior YTD	78.45	$210.76

Avg. Price/ton thru March 2010**:** **$66.42** Avg. Price/ton thru March 2009: $2.69

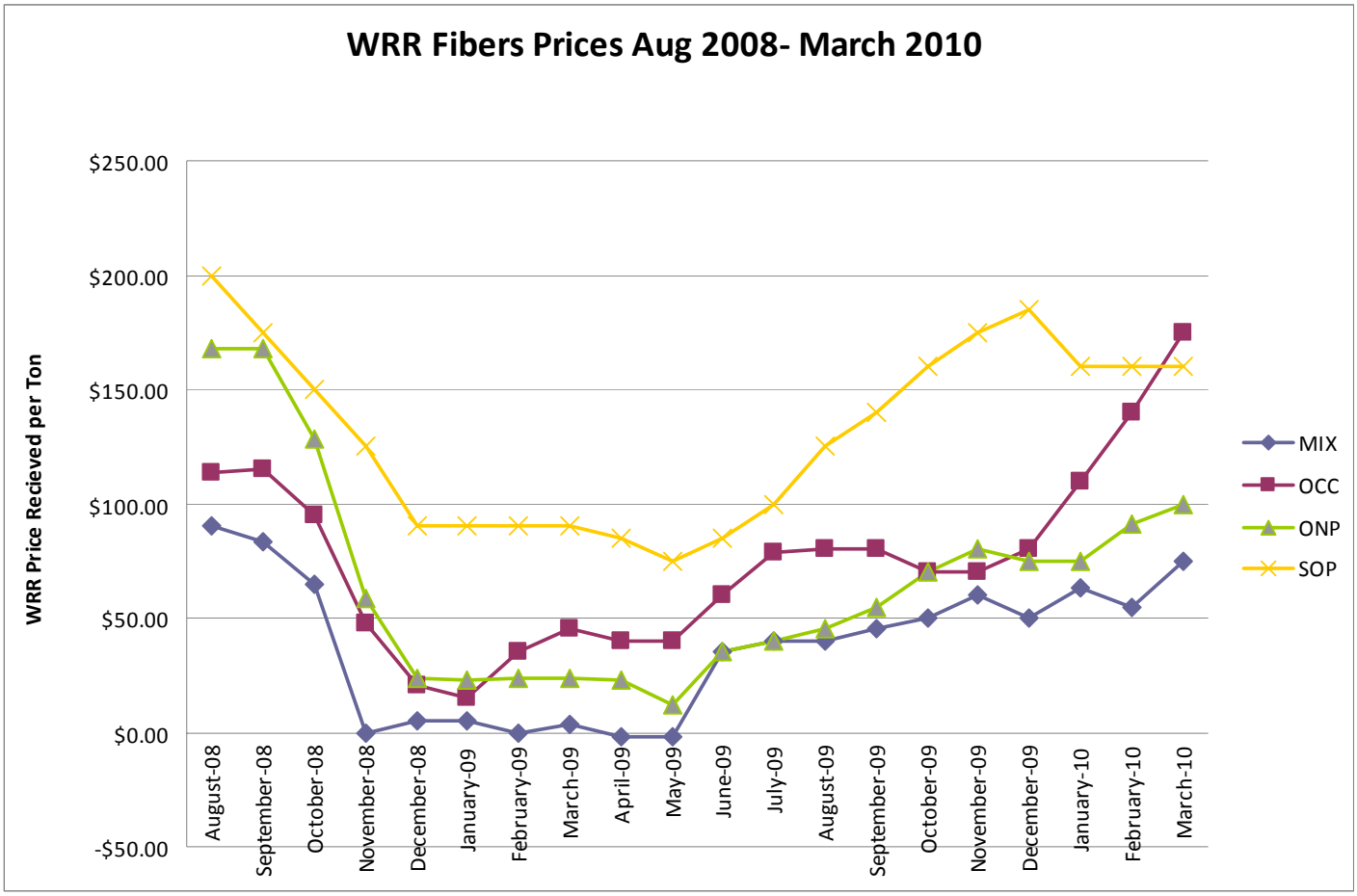
TOTAL **YTD**	**TONS**	**REVENUE**
	536.91	**$64,203.28**
Prior YTD	562.85	$15,869.73

Market Update: Cardboard index dropped $30/ton for April (our price $145/ton). Newspaper ($100/t Mill direct or $70/t to plant) and Mixed Paper ($70/t to plant) pricing remained same.

Market for recyclable materials improved significantly

A sharp economic downturn at the end of 2008 affected the paper recycling market well into 2009. The Waste Reduction and Recycling (WRR) Division reported that the price per ton of recyclables collected by the City was at a historical low. Over the past few months, the pricing for recyclables has improved significantly. For example, the Division received $115/ton in September 2008 for Corrugated Cardboard. By January of 2009 the price for cardboard had dropped to $20/ton and it is currently (March 2010) selling for $175/ ton.

The graph below shows the price that the WRR Division received per ton of Mixed Paper (MIX), Corrugated Cardboard (OCC), Newspaper (ONP) and Sorted Office Paper (SOP) from August 2008 through March 2010.



HOUSEHOLD HAZARDOUS WASTE (HHW) AND SMALL QUANTITY GENERATOR (SQG) PROGRAM REPORT

Month	HHW Drop-Offs	Battery Bags in Mail	Appt No Show	Home-bound	Saturday Collection	Abandoned Waste	Orphan Waste	SQG Inventory	SQG Drop-off	Product Reuse Appt
January	112	2	4	0	0	2	0	11	9	4
February	112	2	4	0	0	1	0	3	4	9
March	**245**	**1**	**10**	**0**	**0**	**2**	**0**	**11**	**10**	**37**
April										
May										
June										
July										
August										
September										
October										
November										
December										
TOTAL	**469**	**5**	**18**	**0**	**0**	**5**	**0**	**25**	**23**	**50**

YARD TRIMMINGS COLLECTION AND COMPOST PROGRAM REPORT

Based on 2009's high usage volume of lawn care companies, staff time involved in monitoring usage and reporting and processing the material dropped off, and the cost of gate and fobs, the division will charge a $100 annual sign up fee per business in 2010 which includes one fob and $25 per additional fob. Forty nine (49) landscaping companies have signed up for 2010.

The start of yard trimmings curbside residential collection was delayed by 1 week due to the weather, so the March numbers include 4 weeks, starting on March 8th.

Yard Trimmings Collection: Year To Date		Residential Tons Collected Curbside	Commercial Tons Received	Other Tons Received (Christmas Trees)	Total Tons This Month	Average Preferred Container Compliance
	2009 TOTAL	**11,096.63**	**2,011.9**	**30.41**	**13,138.94**	**99.5%**
2010	January	NA	7.9	26.65 (2,132 trees)	34.55	NA
	February	NA	18	NA	18	NA
	March	528.06	241.1	NA	769.16	99.5%
	April					
	May					
	June					
	July					
	August					
	September					
	October					
	November					
	December					
	2010 TOTAL	**528.06**	**267.00**	**26.65**	**821.71**	**99.5%**

*Total tonnage may change. The Solid Waste Division is in the process of evaluating the estimated weight of containers by weighing samples curbside once a month throughout the year.

Community Compost Sale: Spring 2010
RESULTS

The City's Spring Compost Sale was held on Thursday and Friday, March 18th and 19th from 8:00 am to 3:00 pm and scheduled for Saturday, March 20th from 8:00 am to 4:00 pm. Due to the bad weather and low volume of remaining compost, the event was cancelled on Saturday. The weather on Thursday and Friday was sunny, with a temperature around 65 degrees, while Saturday saw snow on the ground and high winds. The compost sold was a mix of 2009's May/June, July/August and September composted yard trimmings. The compost was sold for $10 per scoop, which is approximately 3 cubic yards, or it was free for self-loaders.

A total of 1,446 vehicles entered our facility over the two-day period (Table 1). The Compost Sale started with approximately 2,480 cubic yards of compost from May-September yard trimmings that was screened, tested, and ready for distribution. At the close of the event on Friday, there was approximately 260 cubic yards of compost left. A total of 2,220 cubic yards of compost (1,443 tons) was distributed over the course of the 2 day event. A total of $11,240 was generated during the compost sale.

Table 1: Number of new and repeat customers each day and the total over the three-day period.

	Thurs., March 18th	Fri., March 19th	Sat., March. 20th	**Total (all three days)**
New Customers	484	502	NA	**986**
Repeat Customers	249	211	NA	**460**
Total (each day)	**733**	**713**	**NA**	**1446**

Well organized traffic queuing ensured safe access, egress, and loading for a variety of vehicle types. There were no accidents inside the gate at this sale. There was a small fender bender outside of the gate on the street.

Due to the increase in self-loaders, a large pile of compost on the west side of the pad was created to accommodate self-loaders.

The majority of vehicles through our facility were trucks, which were loaded with either of two front end loaders.

EARTH DAY PARADE AND CELEBRATION – SATURDAY, APRIL 17TH

The 10th annual Earth Day Celebration in South Park, hosted by the Waste Reduction and Recycling Division, will be held at 11:30 a.m. Saturday, April 17, in South Park. The day starts with a parade, hosted by KU Environs, at 11 a.m. on Massachusetts Street from Seventh Street to South Park.

The celebration in the park features live music, children's activities and food vendors. Attendees are invited to learn from exhibits about waste reduction, recycling, composting, alternative fuels and vehicles, energy conservation, land preservation, wildlife and habitat preservation, and more.

The Douglas County Water Festival will also be held offering interactive, educational activities emphasizing the importance of clean water to families, the community and environment. The Lawrence Parks and Recreation Department will host garden and tree identification tours. Also on display in the park will be the city's GEM (Global Electric Motorcar) vehicle.

All activities are free and open to the public.

The Lawrence Transit System will offer free rides on the T all day Saturday, April 17, providing the experience and benefits of public transportation on all fixed routes.

Schedule for Earth Day Activities

6 a.m. to 8 p.m. Free ridership on the Lawrence Transit System

11 a.m. Parade begins, traveling south on Massachusetts Street from Seventh Street to South Park

11:30 a.m. to 4 p.m. The City of Lawrence Earth Day Celebration in South Park

11:30 a.m. to 4 p.m. April Showers to Water Towers: A Water Festival for Douglas County in South Park

11:30a.m. Tree identification walk in South Park by Lawrence Parks and Recreation forestry staff

12:30 p.m. Tour of South Park butterfly garden and rose garden and Downtown Japanese Friendship Garden by Lawrence Parks and Recreation horticulture staff

2 p.m. Tree identification walk in South Park by Lawrence Parks and Recreation forestry staff

3 p.m. Tour of South Park butterfly garden and rose garden and Downtown Japanese Friendship Garden by Lawrence Parks and Recreation horticulture staff

Confirmed for 2010 Earth Day Celebration

Food Vendors

1. PJ's Concessions
2. Just Chillin Concessions
3. Animal Outreach of Kansas – serving FREE vegetarian food
4. Vitaminwater

Music/Entertainment

1. LAZER remote
2. Big Stack Daddy (Beatles, misc rock)
3. Random Rain (folk/rock)
4. Jumps 4 Kids (inflatable children's entertainment)
5. Richard Renner & the Recycle Cycle
6. John Rasmussen (caricatures)

Exhibitors

1. 90.1 FM KKFI Kansas City Community Radio
2. 940 Dance Company
3. All N 1 Landscape
4. AMSOIL/AGGRAND (cleaners/fertilizers)
5. Animal Outreach of Kansas
6. Audio Reader Network
7. Black Jack Battlefield and Nature Park
8. Blue Sky Green Earth Magazine
9. Cans for the Community
10. Central Plains Center for BioAssessment (Water Festival)
11. City of Lawrence-Waste Reduction and Recycling
12. City of Lawrence – Central Maintenance Garage
13. City of Lawrence – Parks & Recreation (tree id tours)
14. Community Living Opportunities
15. Cromwell Environmental
16. Deffenbaugh Industries
17. Delaware Street Commons
18. Eagles' Rest Natural Home
19. EarthSongHealth (healing and meditation)
20. Engineers Without Borders - KU
21. Extreme Recycling (electronics recycler)
22. Falun Dafa (exercise and meditation)
23. First Weavers
24. Friends of the Kaw
25. Good Energy Solutions, Inc.
26. Grassland Heritage Foundation
27. Harvest of Peace (crafts)
28. J & B Foam, Inc.
29. Jayhawk Audubon Society

30. Kansas Solar Electric Cooperative
31. Kansas Soybean Commission
32. Kat and Mouse (children's clothing-crafts)
33. Kaw Valley Seeds Project
34. Kids Toy Library
35. KU Environs
36. Larsen & Associates (geothermal drilling)
37. Lawrence Coalition for Peace & Justice
38. Lawrence Community Radio
39. Lawrence Habitat ReStore & Habitat for Humanity
40. Lawrence Sustainability Network
41. LilyPad EV (electric vehicle charging stations)
42. Lou & Co (eco-salon)
43. Minuteman Press
44. Miss Lawrence – Cassi Reimer
45. Outside for a Better Inside
46. Prairie Moon Waldorf School
47. Oread Friends Meeting (Read Out, Speak Out…)
48. Reiki Light
49. Rolling Prairie Farmer's Alliance/Chestnut Charlie's
50. Save the Wakarusa Wetlands, Inc.
51. School of Metaphysics
52. Shaklee Corporation (green cleaners)
53. Sierra Club, Wakarusa Group
54. Solidarity Radical Library
55. SOKA GAKAI
56. South Mass Art Guild
57. State Energy Office
58. Sunflower Curbside Recycling
59. Sustainability Action Network
60. Sustainability Advisory Board
61. Tenants to Homeowners, Inc.
62. The World Company
63. Vinland Valley Nursery
64. Westar Energy-Energy Efficiency Department
65. Western Kansas Vegetarian Society

COME CELEBRATE EARTH DAY IN DOWNTOWN LAWRENCE!

Saturday, April 17th

(weather permitting, no rain date)

PARADE & CELEBRATION

11:00 am: Parade down Massachusetts St. (7th St. to 11th St.)
(Parade hosted by the KU Environs)

11:30 am - 4:00 pm: Celebration in South Park (Gazebo area)

South Park activities include:

- live music;
- informational booths;
- children's activities;
- food vendors;
- South Park tree ID tour;
- a Water Festival for Douglas County;
- and much, much more!

Ride Free on the 17th!

LAWRENCE TRANSIT SYSTEM

For more information, please visit
www.LawrenceRecycles.org

City of Lawrence
WASTE REDUCTION & RECYCLING