

BIO-PRODUCTS: GOOD FOR IOWA'S ECONOMY – GOOD FOR OUR ENVIRONMENT

Most Iowans know that ethanol can be made from corn and biodiesel from soybeans, but a lot of us probably weren't aware that a lot of other useful products can be made from plants. Those products are known as bio-products, and they can be made from a variety of plants that grow well in Iowa. In fact, Iowa may be the premier location for producing bio-products and building the bio-economy.

Iowa is home to fertile soils, abundant rainfall, warm and sunny growing seasons, and highly skilled, agricultural workers, together providing the most concentrated source of agricultural production anywhere in the world. The state is also home to 1.9 million acres of Conservation Reserve Program land that, while designated marginal for corn and soybean production, is in many cases ideal for the production of native grasses. Iowa's combination of both highly productive and idled lands presents enormous opportunity for biomass production.

GOOD FOR IOWA'S ECONOMY

A study by the Institute for Decision Making at the University of Northern Iowa estimates that bio-based industries have the potential to create 22,000 jobs and generate \$11.6 billion in economic activity in the state. Production facilities are typically located in rural areas, providing those areas new employment opportunities and economic activity. Furthermore, by creating additional demand for corn, soybeans, and other crops, bio-product

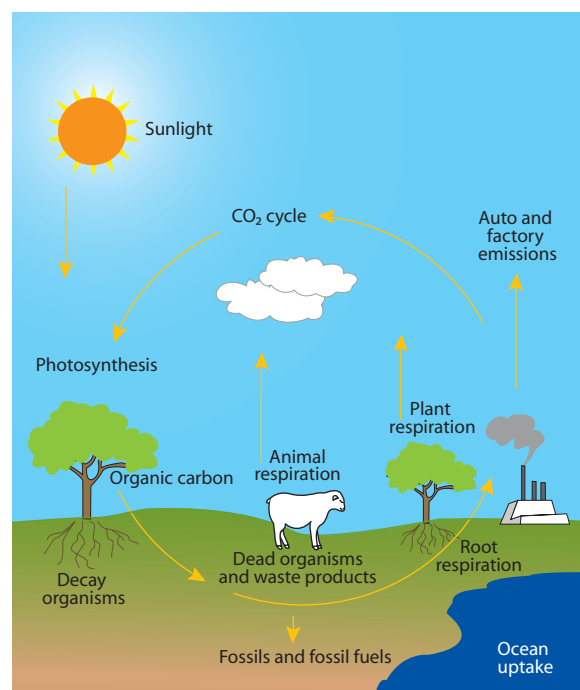
market penetration helps stabilize commodity prices, potentially reducing the need for government farm payments.

REPLACING PETROLEUM IS GOOD FOR THE ENVIRONMENT

The use of biomass crops to replace petroleum will greatly reduce emissions that are hazardous to the environment. Like petroleum, ethanol and biodiesel release carbon dioxide as they burn, but the plants used to create the fuel need CO₂ to grow – creating a closed “carbon cycle.” The CO₂ released during the combustion of biomass materials is recaptured by the growth of the next year's crop. Unlike fossil fuels, biomass combustion causes no net increase in CO₂ released into the atmosphere. Furthermore, substantial quantities of carbon can be captured in the soil through biomass root structures, creating a net carbon sink. Similarly, bio-product use eliminates the damaging fumes and vapors associated with the use of petroleum-based products. Bio-products are often biodegradable, as well.

MARKET PENETRATION – TO DATE

Technologies for converting biomass to fuels, power, and other products have progressed significantly; however, market-conditioning efforts to increase market penetration have fallen short. Market growth of bio-products has been slowed by a lack of effective communication between producers and consumers, as to bio-product availability and its benefits. Despite some early success and growth in Iowa's bio-based



Like petroleum, ethanol and biodiesel release carbon dioxide as they burn, but the plants used to create the fuel need the same CO₂ to grow – creating a closed “carbon cycle.”

industry, the DNR saw a need to ensure a stable market for these industries. The DNR proposed a project to the U.S. Department of Energy (DOE) to cultivate, promote, and advance markets for bio-based technologies to an Iowa community. The project was funded, and through a competitive process, the DNR selected Grinnell as its target community. The DNR contracted with Imagine Grinnell to present the Grinnell Area Petroleum Reduction Initiative or GAPRI.

... continued on page 8

Argument for a change, vision for the future



It's been almost twenty years since Iowa's groundbreaking solid waste and recycling laws were enacted, and it's evident that the waste management landscape has changed over that time. Iowa's waste management policies and programs have produced many accomplishments at the state and local levels, particularly in the residential sector. Protection of human health and the environment are our top objectives, and will remain so. But in terms of meeting the state's waste reduction and recycling goals, the latest data indicates we have hit a plateau – and are even slipping from the 36 percent reduction the state achieved in 2000.

Before we continue to invest in a system that, at best, is maintaining the status quo, we need to step back and assess where we are at and where we should be going as a state.

One challenge we face is how to measure "progress." By law, we use a method that compares a current year's landfilled amount to a 1988 baseline for determining landfill diversion. In some ways, it is a valid measurement. But it also limits our ability to accurately assess landfill diversion in Iowa. Over the years, we have seen the problems associated with estimating baseline numbers and the limits of using a weight-based measurement.

In addition, many other beneficial waste management practices can not be factored into the calculation. For example, it does not take into account toxicity reduction. And in some cases, it can actually be a barrier to positive policy initiatives such as reducing illegal dumping or open burning of trash, since these initiatives can increase landfilled tonnages. It's time to consider all the environmental benefits – and costs – associated with proper waste management.

We also need to investigate more sustainable funding options. It was disconcerting to learn from our 2006 waste characterization study that almost 40 percent of the solid waste Iowa is now landfilling can be recycled or managed by composting and other alternatives. Yet, most of the waste management programs on both state and local levels are funded by solid waste tonnage fees collected at Iowa landfills – so increased funding for landfill diversion programs actually requires more garbage to be landfilled.

Although this system has provided a relatively stable source of funding, it is inherently counterproductive. In the last several years, we have seen the need to manage emerging waste streams, such as electronic wastes, and to target wastes produced by the commercial, industrial and institutional sectors. It is not feasible to expect local solid waste agencies to have the resources to take on these new challenges, but they must be addressed.

While continuing to support and build upon current successful programs, I believe that it is time to start shifting our focus from waste management to one of resource management.

Waste is by definition inefficiency. Something was not fully used. Something was not added into the value of a product. Too often, we don't consider how to manage by-products from manufacturing processes or discards from consumers until they are a waste. Waste has a negative value and is thus limited to a few disposal options.

In contrast, a resource management hierarchy emphasizes materials "upstream," during the design, manufacturing, packaging and delivery of a product. Resource management is also a continuous improvement process with dynamic goals -- not pre-defined percentages or targets that become plateaus or even ceilings to environmental improvement. And resource management efforts can lead to more sustainable improvements in Iowa's environmental performance, economy and quality of life.

Our bureau recently completed "Argument for a Change, Vision for the Future," a paper that explores our current state of waste management affairs and offers options to revitalize Iowa's policies and programs. To view it online go to: www.iowadnr.com/waste/files/vision.pdf.

The document is a work in progress, a tool designed to stimulate dialogue. As a start, more than 20 representatives from the solid waste community, environmental groups, utility organizations, business and industry, and local government came together this fall to help identify areas on which we should begin to focus. The meeting was extremely productive and our bureau values the perspectives and ideas everyone shared.

I hope the dialogue continues as we build a new plan for the future.

A handwritten signature in black ink that reads "Brian Tormey". The signature is written in a cursive, slightly slanted style.

Brian Tormey
Chief, Energy and Waste Management Bureau

SWAP Success Story

ROCK HARD CONCRETE RECYCLING

As aging infrastructure and obsolete buildings are torn up and replaced, Iowa's municipalities, businesses and individuals are realizing the benefits of recycling concrete and asphalt on-site, using the mobile services of Rock Hard Concrete Recycling.

Rock Hard mobilizes state-of-the-art equipment to crush and process concrete and asphalt at demolition sites, providing valuable aggregate that can be customized for road base, general fill and other applications.

The West Branch company has been in business since June 2004. Assisted by \$309,500 in DNR Solid Waste Alternatives Program (SWAP) forgivable and low-interest loans, Rock Hard bought an ERIN PowerCrusher and XL trailer in 2005, and started using a second crusher this May. A track-mounted power screen is used to segregate material to specified grades, and Rock Hard can also provide concrete breakers, excavators, bulldozers, a loader, and dump trucks, for start-to-finish projects.

Since 2004, Rock Hard has diverted more than 250,000 tons of concrete and asphalt from Iowa's landfills, saving its customers millions of dollars in landfill fees, materials, and the costs of trucking concrete out of work sites and new base material back in.

Kent Stuart, co-owner and operations manager of Rock Hard Concrete Recycling, said demand for the company's services and products has exceeded expectations. "We are busy crushing

continuously and acceptance of our products has been very good and keeps growing," he said. "We are not a spin-off of another contracting company, so our only mission is to recycle concrete and asphalt. Our mobility and flexibility let us handle a wide range of jobs."

ROCK HARD PROVIDES SOLID SOLUTIONS, CONCRETE RESULTS

Rock Hard's versatility was demonstrated this year when it was hired by Cunat Contracting, LLC, of McHenry, Illinois, during its remodeling of "The Pointe," an apartment complex that occupies one square city block in Cedar Rapids.

Over the course of the project, Rock Hard removed and crushed about 12,500 tons (5,000 cubic yards) of concrete, customizing the material for use under new asphalt parking lots at the complex.

At the site, Rock Hard performed extensive air quality testing to protect equipment operators and the apartment residents, and the reduced truck traffic minimized noise.

Nils Swanson, director of asset reconstruction for Cunat, said he had not

heard of recycling concrete and customizing the aggregate on such a select scale before contacting Rock Hard, and he commended the company. "What I was proposing wasn't small but the logistics of removing and replacing select areas all while hosting more than 400 residences in the area of one city block intrigued me," he said. "Kent reassured me that he was our man and that he shared my vision. Well, actions speak louder than words, and Kent is a man of action. . . . My only disappointment is that I don't have more work for Rock Hard Recycling."

Several municipalities have also benefited from using Rock Hard's on-site services. A highly visible example is the Iowa River Landing Project, at the interchange of I-80 and 1st Ave. in Coralville, where the city is redeveloping what was known as the "old industrial park," to prepare for 50 acres of new development.

As brick and metal buildings, concrete warehouses, foundation slabs and parking lots were demolished this year, Rock Hard was sub-contracted to work on-site, crushing the materials and making a graded product that meets

...continued on page 6

A track-mounted power screen is used to segregate material to specified grades, and Rock Hard can also provide concrete breakers, excavators, bulldozers, a loader, and dump trucks, for start-to-finish projects.



POLLUTION PREVENTION: COMMON BENEFITS FOR BUSINESS, ACADEMIA AND GOVERNMENT

The Pollution Prevention Intern Program wrapped up its sixth successful year of providing businesses with some of Iowa's top intern talent. A record 37 interns were placed in Iowa companies for the summer of 2006. An international intern exchange was also piloted that brought students to Iowa to work at the University of Iowa.

Interns with the Iowa Pollution Prevention Intern Program have a unique opportunity to experience a partnership of academia, industry and government all working together toward a common goal. After one week in training where interns learn to integrate pollution prevention methodologies into core business practices, they arrive at their host company ready to make an impact. For the next eleven weeks interns become project managers identifying, evaluating and implementing environmental solutions within their discipline. "It was great getting to have a project that I could plan and manage, and have time to research for

the solution," said RaShelle Russell, an intern at Rousselot Dubuque.

Host companies of the 2006 season saved more than \$3.2 million in the twelve short weeks the interns were onsite. "I was able to prove that pollution prevention is capable of providing solutions that not only improve the environment, but improve the economic bottom line as well," said Joe Charlson, an intern at Procter and Gamble. Collectively since 2001, companies have saved more than \$39.6 million as a result of intern project implementations.

The increasing complexity of the company projects creates another opportunity in extended internship terms. A new feature will be added to the program in 2007 offering both

2007

Student Applications Due January 31, 2007

companies and interns an option to select either 12-week or 24-week internships.

The DNR is currently reviewing project proposals for the 2007 intern season. Salaries for the interns are paid by the program for the first twelve weeks. Businesses are asked to contribute \$4,000 for subsequent participation.

Interns are matched to the projects based on course work, knowledge and experience. Students wishing to apply for 2007 intern positions should submit a cover letter, resume, and an unofficial copy of their transcripts along with a program application before January 31, 2007.

Case summaries of intern projects from 2001-2006 are available for review at www.iowap2services.com along with application forms and application instructions.

After one week in training where interns learn to integrate pollution prevention methodologies into core business practices, they arrive at their host company ready to make an impact. For the next eleven weeks interns become project managers where they identify, evaluate and implement environmental solutions within their discipline.





Pollution Prevention Services continues to seek opportunities to impact the environment both at home and beyond our conventional borders. The University of Iowa's Engineers for a Sustainable World organization, in partnership with the DNR, adapted the existing Pollution Prevention Intern Program model to create an International Intern Exchange Program. In the pilot project, two international interns, one from University of Xi-cotepec, Puebla, Mexico and one from Universidad Tecnica Federico Santa Maria, Valparaiso, Chile were placed with the University of Iowa facilities management team to assist with energy efficiency projects on campus.

Technologies shared with the interns will be used to assist their home communities to become more efficient by applying pollution prevention methodologies to existing practices. Lessons learned through this international effort will be used to advance environmental efforts both in Iowa and abroad.

For more information about Pollution Prevention Services or the Pollution Prevention Intern Program, please contact Jeff Fiagle at (515) 281-5353 or Jeff.Fiagle@dnr.state.ia.us.

2001-2006 INTERN PROGRAM RESULTS

CATEGORY	REDUCTION
Water Conservation	814,500,000 gallons
Solid Waste	98,613 tons
Special Waste	58,512 tons
Hazardous Waste	815,599 gallons
Solid Hazardous Waste	5 tons
Energy	14,757,209 kWh 564,140 therms



DNR NEW ADMINISTRATOR OF IOWA WASTE EXCHANGE

In an effort to streamline and improve customer access to all of the DNR's Energy and Waste Management Bureau's technical and financial services, the bureau resumed administration of the Iowa Waste Exchange (IWE) in September.

Since 1999, the DNR had contracted with the Recycle Iowa office of the Iowa Department of Economic Development to administer the IWE. Recycle Iowa now serves as a consulting partner of the program, along with the Iowa Waste Reduction Center at the University of Northern Iowa.

The IWE is a no-cost, nonregulatory, confidential service that matches businesses and institutions that produce waste and by-products with other groups interested in using or recycling those materials. Resource specialists work directly with clients in six (formerly eight) regional service areas managed by councils of governments, community colleges, and private entities now under contract to Region 12 Council of Governments in Carroll.

Jeff Geerts, DNR's IWE coordinator, said the DNR is working with IWE resource specialists to be "one-stop contacts," allowing clients easier access to other services offered by the bureau's Financial and Business Assistance Section.

"We're really trying to build one integrated team," said Geerts. "By

establishing one lead contact for each company, we'll see less duplication of efforts and we can give our clients more opportunities."

For example, during a customized IWE consultation or assessment, resource specialists may also assist clients with applying for a Pollution Prevention program intern, Solid Waste Alternatives Program funding, and other applicable programs.

The new approach is a result of DNR process improvement events held in January. "We saw a need to more aggressively market our programs, to seek out businesses, institutions and communities who can benefit from them, and to improve our follow-up with clients," said Geerts.

Annually, the IWE helps more than 1,500 businesses and institutions save on the costs of disposal, storage, and purchases. Since it began in 1991, it has matched more than 6,000 different types of by-products, diverted more than 900,000 tons of materials from Iowa's landfills, and saved companies more than \$25 million in disposal costs.

For more information or to find a resource specialist in your area, contact Jeff Geerts at (515) 281-8176 or Jeff.Geerts@dnr.state.ia.us. You can also visit: www.iowadnr.com/waste/iwe/index.html.

Rock Hard

... continued from page 3

specifications as modified sub-base for other city street and trail projects. Rock Hard also crushed asphalt and screened gravel from parking lots and the city will continue to use these products for months, if not years, to come.

"The city has saved a lot of money and we avoided putting additional truck traffic on our busy streets, because all the processing was done right there on-site," said Scott Larson, assistant city engineer with the City of Coralville. "The stockpile (of graded material) is there waiting for us to use and it will save us the cost of buying and hauling material from other sources."

As Rock Hard's reputation for quality and affordability grows, so does demand from farmers and other landowners, who hire the company to clean up obsolete feed lots and buildings onsite, while generating material that can be used on their properties at no extra cost.

"It's been very good for farmers, a good option to avoid dumping [concrete] in a ditch or burying it," said Roger Potratz, a Washington County farmer and owner of Jar Development LLC.

Potratz has worked with Rock Hard and area farmers since 2004, buying and re-selling materials the farmers can't use, for base material and other applications. "Rock Hard has been open-minded and always tries to get me the product I need. They're fantastic to work with," he said.

When it is not working at on-site jobs, Rock Hard regularly processes concrete at the I-80 Sharpless Auction site, where at least five major eastern Iowa contractors and many smaller companies dump demolition waste. Since 2004, Rock Hard has processed more than 17,000 tons of concrete at the site.

For more information, contact Kent Stuart at (319) 631-1221, or view Rock Hard's Web site at www.rockhardrecycling.com.





DNR PROPOSES BLADE TESTING FACILITY IN KEOKUK

The Iowa DNR has submitted a proposal to the U.S. Department of Energy's National Renewable Energy Laboratory to locate a national wind turbine blade testing facility in Keokuk, Iowa. Current federal facilities in



Colorado are not capable of testing blades longer than 35 meters,

which is problematic for the wind industry. The wind industry is expanding to develop blades for large-scale wind farms and coastal areas. With this expansion, come designs for larger blades. In Europe, blade testing facilities can accommodate up to 100 meter blades. Each new blade design must be tested to ensure strength and durability prior to it going into mass production.

The facility will be designed to hold two test stands for up to 70 meter blades, to accommodate two types of test, fatigue and static testing with room for expansion to 100 meter blades. Europe has 6 similar test facilities that are state-of-the-art, and for American manufacturers to stay competitive with their European counterparts, a larger facility is needed.

Iowa's tax and economic incentives along with a positive political climate are attractive to blade and turbine manufactures, making Iowa a great place to do business. Iowa is within a 500 mile radius of high and consistent wind areas in the United States, including the Dakotas. With two manufacturers located in Iowa and four other wind component manufacturers looking at locating in Iowa, Keokuk is a great place to locate the test facility – close to wind capacity and closest to

the manufacturers that will use it.

Iowa proposes barging blades up the Mississippi River and transporting them two miles to the test location site in Keokuk. The site will be up to 9.1 acres in size and will accommodate two test stands, offices, and storage areas on site for the blades.

Iowa's partners include: the Iowa Department of Economic Development, Iowa Department of Transportation, Iowa Farm Bureau, John Deere Credit, Alliant Energy, Senators Harkin and Grassley, Representatives Boswell, Leach, and Latham; Lee County Economic Development Group, the City of Keokuk, Iowa State University, University of Iowa, and Battelle Institute.

For more information, contact Linda King with the DNR at (515) 281-4876 or Linda.King@dnr.state.ia.us.

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**HOW WE'RE GROWING
 THE MARKET**

GAPRI's overriding goal is to reduce reliance on foreign oil imports by decreasing dependence upon petroleum-based products and significantly increasing the use and procurement of biomass-based technologies and products in Grinnell and surrounding communities. Bio-product markets targeted by GAPRI include bio-fuels, lubricants and fluids, construction materials, bio-based furniture, and mulch and soil conditioners.

GAPRI will recruit and enlist partners within both the public and private sectors in Grinnell and

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surrounding communities, and work with those partners to encourage a high level of bio-product procurement and use. Market development and conditioning efforts will include the development of a bio-products market-conditioning working group; the development of a bio-products information packet; development and presentation of a bio-product conference; on-site consultations with public purchasing, maintenance, and fleet management staff; and on-site evaluation and inventory of bio-product use potential.

MEASURING OUR SUCCESS

To measure the project's success, quantify bio-product procurement and use, and establish the benefits realized by the community, follow-up implementation reporting, economic impact studies, and where applicable, environmental impact assessments, will be conducted. During the evaluation and inventory phase of the project, GAPRI will create a baseline inventory of all participating facilities'/fleets' petroleum-based product use and provide a list of available bio-product substitutes. Follow-up data collection of bio-product utilization and substitution will be conducted approximately six months after the baseline inventory was established to accurately measure the reduction in petroleum-based product use. Similar data will be collected from all participating partners, and the reduced reliance on foreign oil imports will be calculated as a measurement of the project's success. The goal of this project is to decrease by 15 percent the procurement of petroleum-based products by participating facilities/fleets over the life of the project.

FOLLOW-UP ACTIVITIES

Marketing activities and materials developed for this project, as well as those lessons learned, will be used as models for the promotion of bio-based

FROM THE NATIONAL RENEWABLE ENERGY LABS

The petrochemical industry makes a myriad of products from fossil fuels. These plastics, chemicals, and other products are integral to modern life. The same or similar products can, for the most part, be made from biomass. Sources of biomass include food crops, grassy and woody plants, residues from agriculture or forestry, and the organic components of municipal and industrial wastes.

The processes are similar. The petrochemical industry breaks oil and natural gas down to base chemicals and then builds desired products from them. Biofuel technology breaks biomass down to component sugars, and biopower technology breaks biomass down to carbon monoxide and hydrogen. Fermentation, chemical catalysis, and other processes can then be used to create new products.

Bio-products that can be made from sugars include antifreeze, plastics, glues, solvents, artificial sweeteners, and gel for toothpaste. Bio-products that can be made from carbon monoxide and hydrogen of syngas include photographic films, textiles, and synthetic fabrics. Bio-products that can be made from phenol, one possible extraction from pyrolysis oil, include wood adhesives, molded plastic, and foam insulation."

products in other communities. The DNR will develop a project case study document that chronicles the development and presentation of the market-conditioning activities of this project.

For more information, contact Jim Bodensteiner with the DNR at (515) 281-8416 or Jim.Bodensteiner@dnr.state.ia.us.

CONVERTING WASTE STREAMS TO VALUABLE COMMODITIES

Iowa's livestock and food processing industries provide tremendous economic benefits to the state. However, managing the waste streams from these industries economically, while mitigating environmental risks and negative societal perceptions, is a growing challenge. Through anaerobic digestion processes, manure, industrial organics, separated landfill organics, and food service wastes can be converted to renewable energy and valuable fertilizers.

DNR ASSISTANCE

In 2005, the Iowa DNR's Energy and Waste Management Bureau began outreach efforts to present the concept of large-scale, multiple feedstock, community-based anaerobic digester systems to communities having large concentrations of livestock production and/or large volumes of industrial and urban organic wastes.

Initial DNR outreach begins with the communities' economic development offices. The DNR works with economic development at the city, county, and regional levels to identify critical stakeholders and to enlist those stakeholders in the project planning process. The DNR also assists communities with the:

- Development and presentation of community meetings;
- Assembly of and participation in advisory committees;
- Identification of technology providers;
- Identification of funding and incentive opportunities;
- Development and issuance of RFPs to enlist firms to conduct project economic and technical feasibility studies;
- Contractor selection and contract

development; and

- Identification of project permitting requirements and guidance for meeting those requirements.

PROJECT VIABILITY

The DNR and our partnering organizations recognize the importance of the environmental and societal benefits to communities; however, all believe that project implementation should be based first and foremost on sound economics – a return of investment of 10 to 15 percent has been projected. Projects should also be built around proven technologies and delivered by reputable firms. Given that, the DNR works with a number of U.S. firms that represent



proven European technologies. Project construction – materials and labor – is to be locally based when possible.

For more information, contact Jim Bodensteiner with the DNR at (515) 281-8416 or Jim.Bodensteiner@dnr.state.ia.us.

BENEFITS

SOCIETAL

- Reduction of odors associated with livestock production and land application of manure by 90% or more
- Promotion of good environmental stewardship and corporate responsibility.
- Improved community perception of industry, making those industries more welcome in the community.

ECONOMIC

- Conversion of problematic waste streams to valuable commodities;
- Recovery of a renewable energy resource in the form of biogas that can be used directly or converted to electricity and thermal energy;
- Capture of high-value crop fertilizers that are nutrient measurable, more economically transportable, and more environmentally benign;
- Production of compost, fiber, and/or animal bedding, and
- Elimination or reduction of fees and other costs associated with livestock mortality disposal and food processing waste management.

ENVIRONMENTAL

- Improved air quality through the recovery of methane, a greenhouse gas 20 times more damaging to the atmosphere than carbon dioxide;
- Improved water quality, as captured organic nutrients are converted to inorganic fertilizers that are taken up by plants more quickly, reducing the risk of stream and groundwater contamination; and
- Reduced dependence on fossil fuels and associated greenhouse gases.

SCRAP TIRE PROGRAM UPDATE

TIRE PSA CONTEST WINNERS

College and university students from across Iowa recently answered a call for public service announcement (PSA) entries as part of the DNR's "Retire Your Tires: Leave the Old When Buying New" statewide public awareness campaign.

The "Retire Your Tires: Leave the Old When Buying New" campaign encourages Iowans to leave their old tires at the dealership when buying new ones, helping to decrease the number of illegally dumped tires in Iowa.

The winning submissions were honored at an awards luncheon in June at the Des Moines Botanical Center as part of the First Impressions Symposium sponsored by Keep Iowa Beautiful.

TIRE ABATEMENT ACTIVITIES

The DNR has contracted with Greenman Technologies of Iowa to conduct tire pile abatement work at approximately 15 locations across Iowa totaling more than 200,000 tires. Work began the week of November 6, 2006 and will continue until late winter or early spring 2007.

TIRE EDUCATION ACTIVITIES

In September, the DNR issued a request for qualifications (RFQ) from qualified service providers to research and develop social marketing based approaches to bring about social change regarding the management of scrap tires as well as possibly other environmental-related arenas. The scope of work may include, but is not limited to, program research, message/approach development,

message/approach testing, focus groups, message placement, and campaign effectiveness. The DNR is currently reviewing and considering the qualifications received from eight firms in response to the RFQ.

TIRE MARKET DEVELOPMENT

The DNR's Scrap Tire Market Development program signed financial assistance contracts this summer for three scrap tire market development projects including the following:

Fisher Track in Boone was awarded \$55,000 in zero and low-interest funding to purchase an additional set of polyurethane and rubber installation equipment for athletic tracks. The additional equipment will allow the estimated use of an additional 1.8 million pounds of ground rubber per year produced in Iowa.

Energis LLC received a \$20,000 forgivable loan to perform detailed engineering to install a whole tire injection system at the Holcim cement plant in Mason City. The completed mid-kiln injection system will allow Holcim to use an estimated 20,000 tons or 2 million tires per year. The project will provide thermal relief on the burning zone brick and extend the kiln refractory life. In similar operations at other locations, this thermal shift has proven to lower burning zone temperatures and lower sulfur dioxide emissions. The total cost of equipment and installation of the whole tire injection system is estimated at \$3.5-\$4 million.

Quway LLC received a \$20,000 forgivable loan combined with a \$220,000 low-interest loan to set up a

TELEVISION PSA WINNERS

1st PLACE
Joe Boyle
Scott Community College

2nd PLACE
Maurita Gholston and Joe Kuefler
Buena Vista University

3rd PLACE
Joe Boyle
Scott Community College

RADIO PSA WINNERS

1st PLACE
Adam Christensen, Iowa Western
Community College

2nd PLACE
Nick Archer,
Iowa Western Community College

3rd PLACE
Mawonedalo Mawussi
Iowa Western Community College

HONORABLE MENTION
Shawn Rodgers
Drake University

devulcanized tire rubber manufacturing operation that uses rubber recovered from used tires as feed stock. The devulcanization process allows rubber previously vulcanized in the tire manufacturing processing to be used again in making new rubber products.

For more information, contact Jeff Geerts with the DNR at (515) 281-8176 or Jeff.Geerts@dnr.state.ia.us.



RULE UPDATES

The following Notice of Intended Action was approved by the Environmental Protection Commission in November, 2006. The public may make written or oral comments on or before January 26, 2007:

Rescinds IAC 567-Chapter 113, "Sanitary Landfills: Municipal Solid Waste" and adopts new IAC 567-Chapter 113, "Sanitary Landfills for Municipal Solid Waste: Groundwater Protection Systems for the Disposal of Non-Hazardous Wastes." This rulemaking is intended to implement all parts of the U.S. Environmental Protection Agency's (EPA) RCRA Subtitle D standards, in order to prevent groundwater contamination from municipal solid waste (MSW) landfills to the maximum extent possible. Significant changes include:

- Improving contaminant detection by decreasing spacing in between downgradient monitoring wells from 600 feet to 300 feet and determining monitoring well placement through groundwater flow modeling;
- Implementing the minimum federal requirements for groundwater monitoring;
- Modeling of alternative clay liners to determine their ability to prohibit groundwater contamination;
- Implementing new EPA's rules that allow states to issue research, development and demonstration permits for the addition of liquids into a MSW unit which was previously prohibited and allowing flexibility in final cover requirements;
- Adding a compliance date of October 1, 2007 for all MSW landfills to meet the minimum federal requirements for operating over a RCRA Subtitle D compliant liner with a leachate collection system;
- Extending the length of permit issuance from 3 years to 5 years.

For public comment guidelines, a schedule of public hearings or other information, contact:

Alex Moon at (515) 281-6807 or Alex.Moon@dnr.state.ia.us.

The following Notice of Intended Action was approved by the Environmental Protection Commission in December, 2006. The public may make written or oral comments on or before 4:30 p.m. on March 28, 2006.

Fully implements the financial assurance requirements for all sanitary disposal projects as required by Iowa Code sections 455B.304(8) and 455B.306(8). Financial assurance requirements are already in place for MSW landfills, composting facilities, and transfer stations. The proposed rules apply to the remaining categories of sanitary disposal projects: coal combustion residue landfills, solid waste processing facilities, solid waste composting facilities, solid waste transfer stations, biosolids monofill sanitary landfills, construction and demolition waste landfills, appliance demanufacturing facilities, persons engaged in the permitted land application of solid wastes and petroleum contaminated soils, cathode ray tube collection facilities, and household hazardous waste regional collection centers. **For public comment guidelines, a schedule of public hearings or other information, contact:** Alex Moon at (515) 281-6807 or Alex.Moon@dnr.state.ia.us.

The following rule is scheduled to become effective on January 24, 2007:

ARC5386B: Adopts new IAC Chapter 215, "Mercury-Added Switch Recovery from End-of-Life Vehicles," to implement 2006 Iowa Acts, House File 2362. The legislation and rules reduce the quantity of mercury in the environment by removing mercury-added switches from end-of-life vehicles in Iowa and by creating a collection, recovery, and incentive program for removed mercury-added switches.

Contact: Theresa Stiner at (515) 281-8646 or Theresa.Stiner@dnr.state.ia.us.

The following rules are scheduled to become effective on February 7, 2007:

ARC 5387B: Rescinds Iowa Administrative Code (IAC) Chapter 118, "Discarded Appliance Demanufacturing" and adopts a new Chapter 118. The new chapter will improve the DNR's ability to ensure that hazardous materials from appliances are handled in an environmentally sound manner by revising the record-keeping and annual reporting requirements, easing storage time limits on PCB-containing articles that are disposed of through a regional collection center, and incorporating federal requirements. **Contact:** Theresa Stiner at (515) 281-8646 or Theresa.Stiner@dnr.state.ia.us

ARC5450B: Amends IAC Chapter 11, "Tax Certification of Pollution Control or Recycling Property." The amendments expand the property tax exemption to include property used to process waste glass products. The amendments include examples of recycling property considered to be eligible for the exemption.

Contact: Jeff Geerts at (515) 281-8176 or Jeff.Geerts@dnr.state.ia.us.

CALENDAR OF EVENTS

January 22, 2007: Public Hearing - Chapter 113: "Sanitary Landfills for Municipal Solid Waste: Groundwater Protection Systems for the Disposal of Non-Hazardous Wastes."

Held in Manchester, Iowa.

For more information, contact Alex Moon at (515) 281-6807 or Alex.Moon@dnr.state.ia.us

January 24, 2007 : Public Hearing - Chapter 113: "Sanitary Landfills for Municipal Solid Waste: Groundwater Protection Systems for the Disposal of Non-Hazardous Wastes"

Held in Atlantic, Iowa.

For more information, contact Alex Moon at (515) 281-6807 or Alex.Moon@dnr.state.ia.us

January 26, 2007: Public Hearing - Chapter 113: "Sanitary Landfills for Municipal Solid Waste: Groundwater Protection Systems for the Disposal of Non-Hazardous Wastes."

Held in Des Moines, Iowa.

For more information, contact Alex Moon at (515) 281-6807 or Alex.Moon@dnr.state.ia.us

January 31, 2006 : Pollution Prevention Intern Applications Due

For more information, contact Danielle Dilks at (515) 281-8063 or Danielle.Dilks@dnr.state.ia.us or visit www.iowadnr.com/waste/p2/intern.html

February 14, 2007: Annual Energy Bank Analyst Workshop

Held in Ankeny, Iowa.

For more information, contact Lee Vannoy at (515) 281-6559 or Lee.Vannoy@dnr.state.ia.us or Mike Adams at 515-281-4262 or Michael.Adams@dnr.state.ia.us.

IOWA ENERGY & WASTE NEWS

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