

It's Time to Get Juiced!

Are you interested in where Minnesota's bioenergy efforts have been, are now, and will be? Would you like to take part in educational discussions about the successes and challenges of emerging community renewable energy projects? Are you interested in viewing various bioenergy crops and discussing their potential bioenergy uses? If you can answer yes to any of these questions, this is the workshop for you.

North Central Region Sustainable Agriculture and Research Education, Institute for Agriculture and Trade Policy, University of Minnesota Extension, and Rural Advantage are proud to sponsor, "**Getting Juiced, Sustainably!**". This one-day workshop to be held **July 8, 2009**, will focus special attention on small scale bio-diesel and bioenergy crop options. A tour of the Renewable Energy Garden as well as a panel discussion on community renewable and sustainable energy projects will also be included.

There is **no charge** for agriculture and natural resource educators, resource professionals, students, or interested community members. "Getting Juiced, Sustainably!" will be held at Institute for Agriculture and Trade Policy's Minneapolis office (2104 Stevens Avenue South, Minneapolis, MN 55404) on Wednesday, July 8, 2009, from **10:00am to 3:00pm**. Refreshments will be offered beginning at 9:30am. Lunch will be on your own. **Pre-registration is required.** Please contact Amy Stratton at astratton@iatp.org to register. Write "Workshop Registration" in the subject line and be sure to include your name, title and organization, address, phone and email.

Why We Need a Comprehensive Climate Bill

By Paul Douglas

Last week I got a big dose of democratic reality during a whirlwind visit to Washington D.C. I was invited by the Union of Concerned Scientists, my trip coinciding with a new, alarming report on climate change currently underway in the U.S., released by the USGCRP, the United States Global Change Research Program. The bottom line of their report: climate change isn't some esoteric, futuristic daydream. It's happening right now. Subtle and troubling changes are already showing up in the national and international data today.

As a private citizen and Minnesota business owner who has been tracking the science of climate change for 15 years I had a chance to visit a number of Minnesota legislators, congressmen and women and senators who would be voting on HR 2454, the Waxman-Markey American Clean Energy and Security Act. I spent some time with legislators and their staffers reviewing some of the trends I've witnessed in the data since the 1980s. We talked about the need to take an important first step and set a price on carbon emissions, an economic incentive to reduce greenhouse gasses over time.

The political representatives we met with were engaged; they listened politely, but most were noncommittal about their support for the pending bill in the Congress. Minnesota is one of a handful of Midwestern "swing states"; it's unclear whether the bill will pass the House of Representatives, although most experts seem to believe that some sort of (watered down, environmentally weaker) bill will ultimately pass, setting the stage for a vote in the Senate sometime this fall. The goal: get a U.S. bill on the books in time for the United Nations Climate Change Conference in Copenhagen, scheduled for mid December, 2009. America has been all talk, no action. No effective global solution will be possible until and unless the United States sets a powerful example.

The key findings of the United States Global Research Program? Here are three of 10, [click here to see the rest](#).

1. Global warming is unequivocal and primarily human-induced. Global temperature has increased over the past 50 years. This observed increase is due primarily to human-induced emissions of heat-trapping gases.
2. Climate changes are underway in the United States and are projected to grow. Climate-related changes are already observed in the United States and its coastal waters. These include increases in heavy downpours, rising temperature and sea level, rapidly retreating glaciers, thawing permafrost, lengthening growing seasons, lengthening ice-free seasons in the ocean and on lakes and rivers, earlier snowmelt, and alterations in river flows. These changes are projected to grow.
3. Widespread climate-related impacts are occurring now and are expected to increase. Climate changes are already affecting water, energy, transportation, agriculture, ecosystems, and health. These impacts are different from region to region and will grow under projected climate change.

Last Tuesday I had a chance to meet and talk with some of the climate scientists who work with the Union of Concerned Scientists, Ph.D researchers who study global data sets and long-range climate models. They agree that even if we could magically halt all greenhouse gas emissions today, temperatures would continue to rise for decades (GHG's have a latency of a century or more). Levels of carbon dioxide, methane and other greenhouse gases have spiked 38% since the dawn of the Industrial Revolution, most of that increase in the last 50 years.

What about Minnesota's cool spring and early June frost up north? They agreed it was a classic example of confusion caused over "weather," not "climate," and they pointed out the obvious: you can't just take a snapshot of any one location over a span of days or even weeks and reach global conclusions. The arctic regions continue to warm over time, along with the world's oceans, which are becoming increasingly acidic, threatening a wide range of aquatic life. The melting of Greenland's ice pack has accelerated in recent years, vast chunks of Antarctic ice have broken off into the sea, and the vast majority of the world's glaciers continue to shrink at an alarming rate.

Like to ski, snowmobile or ice-fish? It may be a lot tougher to participate in winter sports in the years ahead. In a worst-case emissions scenario the average number of days with snow every year might fall from 35 (1961-1990) to 23 by the end of the century. More precipitation would fall as rain, rather than snow. Flash flooding would become even more common, and Minnesota winters and springs, when the flood risk is already elevated, would become as much as 30% wetter. This year's catastrophic flooding on the Red River in Fargo and Moorhead may become commonplace every spring, within our lifetime.

Farming may become even tougher in the decades ahead unless greenhouse gas emissions are held in check. Yes, the growing season will almost certainly be longer, but crops and livestock would face more heat stress, decreasing crop yields and livestock productivity. Pests like corn rootworms and European corn borers would be able to expand their range and subsequent damage. Crop production might be inhibited by changing rainfall patterns such as wetter springs (which delay planting and increase flood risk), with 15% less rain falling during the increasingly hot summers. Corn and wheat crops can fail at 95 degrees Fahrenheit, with the risk increasing the longer the heat lasts. 1988 was a devastating year for Minnesota farmers; nationwide losses were estimated at \$40 BILLION dollars, mostly due to crop losses. Yields here in Minnesota dropped dramatically; corn and wheat fell by nearly two-thirds and soybeans saw a three-quarter drop in yields.

Over the next few decades more than half of Minnesota's summers are projected to be hotter than 1988; by mid-century, under a worst-case "high emissions scenario" almost all of Minnesota's summers are projected to be hotter than that scorching summer.

The bottom line: reducing greenhouse gas emissions will save all of us money over the long haul, although in the short term we'll have to invest in new renewable and hybrid technologies to help clean up the air, new technologies and industries that will employ hundreds of thousands of Americans. Going green should green up our wallets as new businesses invent new ways to power our cars, homes and industries, without the harmful carbon-based by-products.

Like it or not we are conducting a massive, global experiment on the Earth's atmosphere; in the span of a few decades we've released carbon which had been trapped in the earth's crust in the form of oil, coal and natural gas for hundreds of millions of years. To pretend this isn't impacting our climate, to continue with business as usual, is morally indefensible and economically dangerous for the security of future generations. Actions have consequences, and all of us are accountable.

In the Bible there's a passage in the book of Luke: "Man has been appointed as a steward for the management of God's property, and ultimately he will give account for his stewardship."

Native Americans have a similar saying which sums up our challenge and our ethical responsibility to future generations of Minnesotans:

"We do not inherit the earth from our ancestors. We borrow it from our children."

-- Paul Douglas

Conservation Minnesota Spotlights sponsored by:

DNR's Water Trails Program

DNR's Water Trails program manages over 30 water trails that flow through 4,000 miles of rivers in Minnesota. These water trails are managed for canoeing and kayaking. The Lake Superior Water Trail, located on the north shore of the world's largest freshwater lake, runs 155 miles and provides excellent scenery for kayakers.

Learn more in the first issue of the Minnesota Water Trails newsletter:

http://mavdisk.mnsu.edu/kudels/watertrails_issue1.pdf

Or go to the web site: <http://www.dnr.state.mn.us/watertrails/index.html>

EXPERIENCE GREEN AT THE MINNESOTA STATE FAIR

2009 Eco Experience will feature a Countryside Market, Eco House, climate education and more. St. Paul, Minn. -- For each of the past three years, more than one million people attended the largest environmental event of its kind in the nation, and it was right here in Minnesota: the Eco Experience, a 25,000-square-foot interactive exhibit that returns for its fourth year at the Minnesota State Fair.

With hands-on activities and educational presentations, attendees can learn about water and air pollution, recycling, saving energy, climate change, green jobs, alternative energy sources, vehicles and transportation, and more. The Eco Experience also has a healthy local foods area featuring samples and demonstrations, a full-size Eco House and fun activities for the whole family.

What's new this year at the Eco Experience?

NEW: A Countryside Market selling fresh, local and organic food from Minnesota, including Caprese salad on a stick, apples, maple syrup soda, and watermelon slices.

UPDATED: The Eco House is designed as a "net-zero" house that has a solar façade, green roof, and large, south-facing windows. "Net-zero" means using only as much energy as is produced on site on a yearly basis. Learn about net-zero and see some of the interesting features of the Eco House, including a dual-flush toilet that works with a hand-washing sink which reuses sink water with every flush, countertops made of reclaimed walnut shells, eco-friendly paint, energy-efficient LED lights, appliances and finishes.

NEW: The Interactive Climate Change Exhibit encourages Minnesotans to conserve energy and reduce greenhouse gas emissions. Learn about the causes of climate change, how it impacts Minnesota, and what you can do in your own home and life.

UPDATED: Paper or plastic? Neither! Share why you'll use reusable shopping bags, get your picture taken, and take home a free bag.

Each day, fair-goers will see cooking demonstrations, sample and purchase local and organic food, get answers to their questions at the Green Jobs booth, and learn all about Minnesota waterways, and much more.

WHAT: Fourth annual Eco Experience at the Minnesota State Fair

WHEN: Thursday, Aug. 27 through Monday, Sept. 7, 2009 9 a.m. to 9 p.m. daily

WHERE: The Progress Center
The corner of Randall and Cosgrove
Look for the 123-foot-high wind turbine blade

LEARN MORE: <http://www.pca.state.mn.us/ecoexperience/>

About the Eco Experience: A partnership between the Minnesota State Fair, the Minnesota Pollution Control Agency, and dozens of organizations and businesses across the state, the Eco Experience has become the second most popular exhibit at the fair. The Eco Experience is the largest environmental event of its kind in the country in the last two decades. Since 2006 over one million visitors have attended the 25,000-square-foot exhibit each year to learn more about clean water, saving energy, climate change, healthy local food, transportation, green building and remodeling, and other ways to lead more eco-friendly lives.

Discover easy and uniquely Minnesota ways to go greener in your daily routine by exploring cutting-edge green technologies and having fun with interactive displays, kids activities, performances and more. Look for more information and schedules in July at <http://www.pca.state.mn.us/ecoexperience/>

A Sustainable Small Farm Experience

Rural Advantage, Seven Story Farm, and University of Minnesota Extension would like to invite you to "A Sustainable Small Farm Experience." Seven Story Farm owner and operator, Heidi Morlock, will open her farm to persons interested in sustainable agriculture, the small farm, small-scale renewable energy, and so much more. This event will be held on Wednesday, July 15th from 6:00pm to 8:00pm at Seven Story Farm near Belle Plaine, Minnesota. There is no cost and pre-registration is not necessary.

Seven Story Farm is a small-scale, diversified enterprise specializing in woody florals, small fruits, and nuts. The property also provides an excellent example of an on-site, restored wetland.

Grower, Heidi Morlock, is very concerned about biodiversity on her farm and works to integrate native plants into her marketing and farm plans.

During this informative event, Morlock will share her experiences with establishing, managing, and marketing the many diverse features of the farm. Also to be discussed are Morlock's experiences with beginning sheep production and on farm renewable energy via wind generator. "A Sustainable Small Farm Experience" will be held outside. Please dress accordingly for the tour of the farm and restored wetland.

For more information or directions, please contact Jill Sackett, UM Extension Educator – Conservation Agronomist at the Rural Advantage office ~ 507-238-5449 ~ sacke032@umn.edu

COMMENTS SOUGHT ON PROPOSED SWINE PROJECT IN BLUE EARTH COUNTY

Mankato, Minn. -- The Minnesota Pollution Control Agency (MPCA) is seeking comments on an Environmental Assessment Worksheet prepared for Strobel Farms' proposed swine-finishing project in Blue Earth County. Comments will be accepted June 29 to July 29, 2009.

Strobel Farms, as operated by Greg Strobel, proposes to build two swine-finishing facilities, one in Section 34 and the other in Section 36 of McPherson Township. Each site will have two identical barns that hold up to 2,400 finishing hogs, or 720 animal units, each. The maximum capacity of the four barns (two at each site) will be 9,600 finishing swine, or 2,880 animal units. Animal units are a measurement used to compare differences in the amount of manure produced by livestock species. This measurement is standardized to the amount of manure produced on a regular basis by a slaughter steer or heifer. Government entities use the animal unit measurement for permitting and record-keeping purposes.

The proposed barns will be total-confinement, power-ventilated buildings, with manure stored in reinforced concrete pits under each barn. Strobel estimates that swine in the four barns will generate a total of 2.6 million gallons of manure per year. The four barns together have a storage capacity of about 4.2 million gallons (one year and seven months worth of manure) to accommodate any delay in manure removal and application.

Strobel plans to remove the manure once a year in the fall, over three days, from the pits under the barns. A licensed commercial applicator will apply the manure at rates recommended by the University of Minnesota Extension Service to farm fields and immediately incorporate it. The manure-application sites are within 11 miles of the barns, in Beauford, Mankato and McPherson townships.

About 24 homes are within one mile of the barns and about 12 homes are within one mile of the fields where the manure would be applied. The manure-application sites are also near a residential subdivision and mobile home court as well as the city of Mankato.

Most of the surrounding land is agricultural and rural in nature. The project sites are in the Le Sueur River watershed of the Minnesota River Basin. Nearby resources include a Waterfowl Production Area, Little Cobb River, Le Sueur River, public water supply wells, and one endangered species, the Eastern Spotted Skunk. To minimize any risk of manure running off application sites into the rivers, a commercial applicator will immediately incorporate the manure into the soil. Also, no manure will be applied within the protection area around the public drinking water wells. In addition, the Minnesota Dept. of Natural Resources expects no negative affect to the endangered species.

The MPCA estimates that odor emissions from the barns will range from 11 to 26 odor units, which is well below the state's faint odor threshold of 72 odor units.

The Environmental Assessment Worksheet (EAW) provides basic information about how a proposed project could potentially affect the environment and helps determine whether an

Environmental Impact Statement, a more comprehensive environmental review, is needed. Interested parties may comment on the EAW during the public notice period from June 29 to July 29, 2009. Written comments must be received at the MPCA St. Paul office by 4:30 p.m. on July 29.

Copies of the Strobel EAW are available at the MPCA St. Paul office, 520 Lafayette Road N.; the MPCA Mankato office, 12 Civic Center Plaza, Suite 2165; and on the MPCA Web site at <http://www.pca.state.mn.us/news/eaw/index.html>.

Send questions and comments on the Strobel EAW to Charles Peterson, Project Manager, MPCA, 520 Lafayette Road N., Saint Paul MN 55155-4194. Peterson can also be reached by phone at 651-757-2856, by fax at 651-757-2343, or by e-mail at charles.peterson@pca.state.mn.us.

Grant Opportunities

JULY 15 IS DEADLINE FOR APPLYING FOR CLEAN WATER ACT RESOURCE AND RESTORATION GRANTS

St. Paul, Minn. -- The Minnesota Pollution Control Agency (MPCA) is seeking grant proposals from local government units and other entities interested in leading a nonpoint-source, pollution-control project. Eligible applicants may apply to the MPCA through a competitive application process until July 15, 2009.

The MPCA anticipates there will be more than \$6 million available this year, pending congressional appropriation. The funding comes from the Federal Clean Water Act Section 319 Nonpoint Source Grant Program (Section 319) and provides federal grant money for nonpoint-pollution abatement and water-resource restoration.

This year, the MPCA will offer these funds for developmental, education or applied research (DER) projects and for Total Maximum Daily Load (TMDL) restoration projects. DER proposals must offer a statewide or regional applicability that

- demonstrates new or innovative technology,
- demonstrates new best management practices (BMPs),
- develops educational programs related to reducing nonpoint-source pollution, and
- answers a research question related to the goal of reducing nonpoint-source pollution.

In addition to DER proposals, Section 319 funds are available for implementation projects for TMDL restoration activities. Proposals should focus on the estimated effect and prioritization of BMPs identified in the TMDL implementation plan. Eligible applicants must have implementation plans approved by the MPCA by July 15, 2009.

The complete request for proposal and proposal form are available at <http://www.pca.state.mn.us/water/cwp-319.html>. Questions should be e-mailed to CWP-319.grant.program@pca.state.mn.us.

There is no maximum or minimum limit on the amount that may be requested for each project. Projects must be funded with at least a 45 percent local cash or in-kind match. The federal share can be no more than 55 percent of the total project cost.

The deadline for proposals is 4:30 p.m. on July 15, 2009. Proposals must be sent electronically to CWP-319.grant.program@pca.state.mn.us.

Section 319 Grants will be administered via standard four-year grant agreements. Successful applicants will be required to submit a detailed work plan and budget by Aug. 25, 2009.

Events:

July 15th (Wednesday) is a presentation on the "**Effects of Climate Change on the Antarctic Peninsula**" by Dr. Christopher Rhuland at the Elks Nature Center in Mankato. The event will start at 7pm, followed by a discussion afterwards.

July 21st (Tuesday) is the **Minnesota River Watershed Alliance Quarterly Meeting** at the Hutchinson Event Center. It starts at 6 p.m. with food and a chance to network. The formal meeting begins at 7 p.m. For more information contact Scott Kudelka at scott.kudelka@mnsu.edu

July 27th (Monday) is the **Minnesota River Board Annual Meeting** at Redwood Falls Community Center. The formal business meeting starts at 9 a.m. with guest speakers in the afternoon. More information will be forth coming.

Check out additional upcoming events and workshops on the Minnesota River Calendar at: <http://mrbdc.mnsu.edu/calendar/index.html>

Water Quality Articles:

[Firm seeks wind project near Morgan](#) (New Ulm Journal). Brown County Commissioners learned Tuesday that a Minneapolis-based firm wants to build a 21-turbine, 31.5 megawatt Large Wind Energy Conversion System (LWECS) southeast of Morgan in Brown and Redwood counties.

[Farm-state compromise opens way for passage of global warming bill](#) (Minneapolis Star Tribune). Key Democrats reached a deal Tuesday that its supporters hope will lead to House passage of the biggest environmental bill in decades, one aimed at slowing the destructive heating of the planet.

[Letter of the day: Quick action needed now to address global warming](#) (Minneapolis Star Tribune). Last week the National Oceanic and Atmospheric Administration (NOAA) released the first report in more than 10 years highlighting the impacts of global warming on the United States.

[Ash borer pesticide has birders concerned](#) (Minnesota Public Radio). The discovery of the emerald ash borer in St. Paul has not only gotten tree lovers concerned about their trees, it's also prompting bird lovers to worry about what the chemicals used to treat the trees might do to their favorite animals.

[To save the prairie, they start it on fire](#) (MinnPost). David Gillette's illustrated Essays provides a step-by-step guide to conducting a controlled burn. Through the use of photos and illustrations, Gillette describes how a natural-resource-management team from the Three Rivers Park District in the west metro preserves prairie ecosystems by starting them on fire.

[Farm in the City](#) (Mankato Free Press). South Central College hopes a new summer program for kids can teach them early the importance of being green.

[Legacy Act funds for outdoors and arts will help deliver treated waste water to ethanol plant](#) (MinnPost). Funds totaling \$1 million from the Legacy Act – the new constitutional amendment designed to use sales tax money for the outdoors and arts – will pay to divert treated municipal waste water from the city of Winnebago to a nearby ethanol plant.

[Legacy Amendment tax increase takes effect this week](#) (Minnesota Public Radio). This week marks the beginning of sales tax collections for the Legacy Amendment, which dedicates a steady stream of funding from a sales tax increase for the environment and the arts.

[Zebra mussels stake another claim in state](#) (Minneapolis Star Tribune). Lake Le Homme Dieu in Alexandria is the most recent Minnesota body of water found to be infested with zebra mussels.

[Hobo Trail extension approved](#) (Fairmont Sentinel). Fairmont City Council instructed staff to help the trail committee extend Hobo Trail up to the power plant, despite concerns expressed by the city administrator and the park board.

[Farm runoff blamed for town's contaminated water](#) (Minnesota Public Radio). The water supply in the city of Park Rapids is contaminated with nitrates, and many suspect the source is the fertilizer used on local farm fields.

[Minneapolis taking the lead in the green revolution](#) (Minneapolis Star Tribune). One City Council member says it's important for government to lead by example when urging others to go green.

[Metro cities turn up water rates in name of conservation](#) (Minneapolis Star Tribune). Minnetonka wants to study the effectiveness before again raising fees on heaviest users.

[Farmers worry as once-booming organic industry expects 1st sales drop in years; some want out](#) (Minneapolis Star Tribune). The organic dairy industry was thriving when Allen and Jean Moody bought a 200-acre Wisconsin dairy farm in 2006 and joined the ranks of farmers churning out milk raised without growth hormones, pesticides or other chemicals.

[Beef recalled in Midwest over possible E. coli](#) (Minnesota Public Radio). JBS Swift Beef Co. has recalled about 41,000 pounds of beef products because of possible E. coli contamination.

[Business fizzles but a garden grows](#) (Minneapolis Star Tribune). You might sum up Farmington builder Stephen Ayers' philosophy this way: When life gives you a downturn - just get out and turn over some earth.

[Heritage Council approves DNR plan for Partners Grant Program](#) (Outdoor News). If all goes according to plan, local sportsmen's clubs and other groups will access their share of dedicated funding by the end of the year.

[Grantmakers pessimistic; grant-getters sad](#) (MinnPost). A survey released by the Minnesota Council on Foundations says grantmakers in Minnesota have become less optimistic about maintaining their giving levels through the remainder of 2009.

[Algae blooms prompt alert](#) (Mankato Free Press). When it comes to algae, ugly is ugly. Recent rains may have removed much of the greenish tint from the thick, matted algae bloom that blankets the water just offshore from Bob Sutter's East Lake Jefferson home. But the brownish-hued goop left behind is no better for aesthetics.

[Long-term solution sought for Christina](#) (Outdoor News). Following a rotenone treatment in 2003 that paid short-term dividends for water clarity and plant growth, west-central Minnesota's Lake Christina appears to be taking a turn for the worse.

[This boat don't float](#) (Minneapolis Star Tribune). Dreaming of a Huck Finn-style adventure on the Mississippi, a young couple are instead afoul of the law.

We have modified our environment so radically that we must now modify ourselves to exist in this new environment. – Norbert Wiener

The Minnesota River Watershed Alliance (Watershed Alliance) is an organized network of citizens, public agencies, and private organizations dedicated to communicating the benefits of an ecology healthy Minnesota River Watershed to others and are actively working towards its improvement and protection. We meet four times a year and

encourage landowners and recreational users of the river to be part of the effort. For more information on the Watershed Alliance: <http://www.watershedalliance.blogspot.com>

Please register at the Minnesota River Watershed Alliance's bulletin board at <http://mail.mnsu.edu/mailman/listinfo/mrwa> to receive regular updates on what is happening in the Minnesota River Watershed.

Thanks,

Scott

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