Clean Water Action Council

OF NORTHEAST WISCONSIN

Celebrating 28 years of working to protect public health and the environment in Northeast Wisconsin

FALL 2013

GREEN ENERGY, WHAT'S REALLY GREEN.

Green energy. What's really green?

By Dean Hoegger

Proponents of various alternative energy production systems would have us believe that they will produce green energy: energy that uses renewable resources in a way that is safe for the environment. In light of the most recent findings that show CO_2 levels in the atmosphere to have reached upwards of 390 parts per million and rising rapidly, well over the internationally recognized critical 350 ppm, it is apparent to most scientists and ordinary citizens that we must move quickly to curb the use of fossil fuels. The oil industry's scramble for new oil reserves is now taking it to less viable unconventional sources, such as tar sands and deep water wells. It is also apparent that we have, or soon will, reach peak oil production. In light of the environmental concerns for using fossil fuels and the political ramifications of being dependent on the diminishing reserves of oil, it is clear we must move rapidly to alternative energy production systems. But which of these systems is truly green?

The incineration industry has led us to believe that various trash-to-energy systems are a form of green energy, and with their powerful lobbying efforts have succeeded in obtaining millions of tax dollars to pay their way. Locally, we have seen the effects of their efforts when the Oneida Tribe attempted to build a gasification incinerator and tried to pass off the industry's claims that it was a form of recycling and completely safe. Even local media believed those claims and referred to the project as a biomass plant and recycling facility. After months of public pressure, the Green Bay City Council was able to see through the lies and voted to rescind the permit, which was upheld by the circuit court.

While the Oneida case gained much media attention and helped inform the public, other waste-to-energy projects are quietly being ignored. One such local project is Greenwood Energy's pellet production. Using hard-to-recycle manufacturing waste material such as paper rags, film plastic and label products, Greenwood is making pellets that can be burned in boilers previously permitted for coal. The company claims this fuel is far less polluting than coal, but admittedly can be higher in the release of chlorine. Following the resulting emissions will be a daunting challenge especially since the feedstock can vary. Plastics-to-oil is another quietly-developing industry that is being promoted as green and renewable. Rational Energies from Plymouth, Minn. even has an employee on the Wisconsin Council on Recycling that will make recommendations likely to include waste-to-energy as a form of recycling. The company is reported to already have begun mining landfills for plastic.

CWAC opposes waste-to-energy projects. The industry has not been able to show these processes are free from unacceptable toxic air emissions, and its claims that this is a form of recycling are erroneous. Once the material is incinerated, it has been lost from the material stream. Even where intended feedstocks are wood or other biomass, it is very easy for plant operators to accept municipal solid waste as an economically-desirable alternative.

The use of biomass for energy sources has received mixed reviews from environmental groups like the Sierra Club. Biomass energy is the use of organic materials to be burned for heat and/or electric power, or converted to

liquid fuels or biofuels. Their position is that bioenergy is only acceptable if it produces net carbon gains in the short term as well as the long term. They provide one such example as removing highly flammable small-diameter wood from a forest, which would then protect and encourage the growth of large fire-resistant trees. This would provide immediate fuel while providing sustainable long-term carbon storage.

Many environmentalists believe that corn-based ethanol has questionable net carbon benefits. The reliance on fossil fuels in the production of corn and the environmental impacts of using an increasing amount of chemicals in its production, make it a fuel that increasingly becomes less than green. When we look at the use of all farmed biomass, we need to make sure the feedstocks are sustainable both environmentally and economically. If they require more than a startup subsidy, then we need to examine whether taxpayers are paying for political favor to a powerful lobbying interest.

Wisconsin's CAFO industry is touting anaerobic digestors, or biodigestors, that produce energy from the immense amount of animal waste they generate, as a form of green energy. Unfortunately, the use of "wet" digesters (with less than 15 percent solid organic waste) require incredible startup costs to convert methane to electricity and the benefits are minimal, resulting in little more than a zero sum to the CAFO. The greatest concern is that these digestors remove few nutrients, toxins including industrial waste, or estrogenic hormones from the left-over material, which is often spread on farm fields. It then continues to pollute our waterways and enter the groundwater.

Dry fermentation digesters, such as the one on the UW-Oshkosh campus, are similar to wet digesters but have less overhead (energy required to maintain operations) and use solid materials like grass clippings and food waste as stock for generating methane for power use. This diverted food waste would otherwise be landfilled where it would create methane gas, some of which would escape to the atmosphere. More energy-efficient than the wet digestors, dry biodigestors need only 5% of the energy it creates to sustain itself. Annually at peak performance, the 450 kW generator at the UW-Oshkosh facility processes 6,000 tons of organic material and generates 3.4 million kWh, enough to power 10% of the university's electrical needs. The left-over material is then further composted and used as a soil supplement.

The natural gas industry has launched an advertising campaign to convince us that natural gas is the clean choice. While it does burn cleaner than other fossil fuels, it too is a fossil fuel, and it has increasing environmental impacts, including air and water pollution. Recent developments in hydrofracking techniques have resulted in a growing number of complaints of ground and surface water pollution. *(To learn more about these complaints see Gasland and Gasland 2 by Josh Fox, and for a film critical of the anti-fracking movement, see Fracknation.)* It must also be recognized that liquefied natural gas has an even higher carbon footprint than natural gas due to the energy needed to compress and transport the fuel.

With the search for alternatives to fossil fuels becoming increasingly urgent, we must move quickly yet exercise sound judgment regarding the environmental effects of these alternatives. Sound judgment must also be exercised by politicians. They must turn away the lobbyists whose corporate interests may not be based on sound scientific principles, but rather on profits and the value of a company's stock. Tax dollars for research and start-up projects must be invested in technology that is truly renewable with a minimal impact on the environment.

To begin with, more must be done to promote greater gains in energy conservation and energy efficiency, lessening our need for fossil fuels as well as maximizing the benefits of renewable energy. We need energy policies that will decrease the cost for solar generation of electricity and for low-temperature solar thermal in both home application and central solar stations. Policies need to be developed that neither hinder onshore and offshore wind power nor ignore the environmental impacts of such installations. As more electricity is produced through solar and wind sources, rather than with fossil fuels, we will be able to dramatically reduce CO_2 emissions through the use of more electric passenger vehicles, truck fleets, and passenger trains.

Responsible use of our water resources can provide additional sources of electrical generation, heating and cooling. Using ocean energy can provide electrical generation through wave power, tidal power and ocean current power, and funding for research to develop these resources should be given a higher priority. Geothermal, from both groundwater and ocean water sources, can also provide us with environmentally-sound alternatives to fossil fuels.

While there are compelling environmental reasons not to build new dams for hydroelectric projects, much can be done to modernize and therefore maximize the electrical generation at existing sites, including those dams that stopped electrical generation due to availability of cheap electricity from coal. The U.S. Department of Energy also reports that most new small-scale hydropower projects are free of the environmental impacts associated with large-scale projects because they use a "run of river" design that does not require a large dam and storage reservoir. Instead, run of the river projects generate electricity by diverting only part of the stream. This produces relatively little change in the stream channel and flow, and minimizes impacts on fish migration, water quality, and wildlife habitat.

Global climate change and energy resource depletion will be the single most influencing factor on all other aspects of human activity during the 21st Century. How

will you address this concern? Will it include changes in personal behavior or by using your power as a consumer to bring about change? Will it be through taking political action and voting wisely or will it be through membership in organizations that will promote a transition to sustainable energy? We all have a choice!

Please read the following articles which further develop the theme for this newsletter, "Green energy, what's really green."

Corn-Based Ethanol— The Brownest Green Fuel

By Charlie Frisk

To listen to a Midwestern politician explain it, corn-based ethanol is the greatest thing to come along since sliced bread. The industry would tell us that ethanol will free us of our dependence on Mideast oil and all of the attendant political ramifications, it will burn cleaner than regular petroleum, and it will stimulate economies in the Heartland of America.

The reality is far from the rhetoric. Corn-based ethanol has done little or nothing to reduce our dependence on Mideast oil. According to even the most optimistic studies, it requires about .8 of a gallon of petroleum to produce one gallon of ethanol. Petroleum is used to fuel the tractors, trucks, and other equipment required to raise and harvest the corn, and fertilizer and pesticide production also use huge amounts of oil. It may look like we're coming out slightly ahead until you consider that ethanol only gets about 80% of the m.p.g. that petroleum-based fuels get. So at best ethanol is merely a break even deal. Some studies put the m.p.g. for ethanol at 70% of that for conventional fuels so if that is true, ethanol actually results in increased petroleum usage.

The net impact of corn-based ethanol on the environment has been disastrous. Because of subsidies to stimulate production of ethanol, corn prices have doubled and tripled in recent years. The overall result of that has been to drive farmers to put more and more land into corn production. Intensive corn production has a larger ecological footprint on the land than almost any other crop. Corn is a row crop so the space between the rows is left baren and open to erosion. Corn production also requires huge amounts of chemical fertilizers and pesticides. In the Midwest, many farmers have converted their Conservation Reserve Program land and any pastureland they had into corn production. CRP is a federal program where farmers are paid to take highly-erodible land and wetlands out of production. With the increased prices for corn, CRP just can't compete financially. For example, in the Loess Hills of Western Iowa there are steep bluffs composed of wind-blown glacial silt that had never been plowed because they were considered too steep and erodible. With the high prices farmers are getting for corn today, the greed factor kicked in and in the last few years much of the Loess Hills have fallen to the plow.

The overall result has been uncountable tons of topsoil washing off the land. Streams in Iowa and Illinois that had run relatively clear now look like chocolate milk. The "dead zones" in the Gulf of Mexico, the Bay of Green Bay, and Lake Erie are growing by leaps and bounds due to the increased silt and fertilizer load. Grassland nesting birds such as bobolinks, meadowlarks, ring-necked pheasants and dickcissels have had their already shrinking habitat decimated in recent years.

In Central and South America, grasslands and tropical rain forests are being cleared to produce corn for ethanol and soybeans for biodiesel. Not only does this result in a tragic loss of biodiversity but also destroys one of the world's great sinks for carbon dioxide.

Another negative impact of corn-based ethanol has been increased food prices. When ethanol production first started up there were actually riots over the increased price of tortillas in Mexico. With the increased profitability of corn, some farmers switched from wheat to corn, thus driving up bread prices. Beef and pork prices have increased because the cost of feeding livestock has gone up. The more land that goes into producing crops for energy production the less land there is available for food production. Or, as in the case of the Loess Hills, marginal land that shouldn't be farmed gets pulled into production.

If the subsidies were to be cut off, corn-based ethanol production would cease instantly. What prevents this from happening is the fact that the subsidies are a financial windfall for the corn-producing areas in the Midwest. Many farmers that were struggling to get by a decade ago are now millionaires. Corn-based ethanol may be an environmental disaster, but it is unlikely you will hear a Midwestern politician speaking out against it.

Manure Digesters Do Not Solve Manure Problems

By Lynn Utesh

As modern agriculture expands, and huge numbers of animals now reside in the closed quarters of confinement, the waste created by this massive number of animals and its disposal is of great concern for residents living in the rural countryside. Millions and millions of gallons of waste that contain more than 150 different pathogens, viruses, bacteria, antibiotics, hormones, barn-cleaning chemicals, and industrial wastes are ultimately spread over the land.

With the availability of Department of Energy grant money, many farmers are building digesters to produce methane gas to generate electricity, in what would appear to be a green solution to the manure problem. However, they are also taking industrial wastes from other industries

in their area. These wastes may include whey from the cheese industry, or slaughterhouse or rendering facility wastes made up of blood, hair, paunch (contents of animals stomachs and intestines), and other parts. While basically organic in nature, many of these wastes are highly pathogenic and carry a risk of disease and contamination of groundwater with them. They can also be highly malodorous, creating air quality issues for those exposed to them.

People are under several false impressions regarding farm digesters. Digesters are created to create methane, not kill pathogens. Even if a high number of pathogens are killed in a digester, the amount of pathogens left would still make the contents "unsafe," according to Mark Borchardt of the U.S. Department of Agriculture's Agriculture Research Service. Also, it is falsely believed that digesters reduce or eliminate odors. This is not true. Some odors, like ammonia, actually increase after they have been run through a digester. Another misconception is that the volume of waste is reduced. However, the volume that goes into a digester is what comes out. There is no reduction in the amount of waste after digestion takes place.

Perhaps it is time for many of these industries to actually absorb the costs of treating these wastes, as they should, instead of externalizing the costs of business to the rural countryside and its residents. These multimillion/ billion dollar industries need to be responsible for both human health concerns and our environment. Air and water quality and human health must be taken into account when looking at the wastes that are land-spread.

These same wastes need greater scrutiny from our Wisconsin Department of Natural Resources and there must be stringent rules for an accounting of these wastes, including volumes, locations where they are spread, and assurance that land owners, farmers and the industry are following the guidelines for the spreading of these wastes in our communities. The current system puts us all at risk, as we do not fully know what is being shipped out to be spread, its true chemical make-up or the possible contaminants that we are being exposed to in both our air, water, and soils, which could include heavy metals, chlorides and other hazardous compounds.

The rural countryside should not be a hazardous waste dump for any industry.

Solar Energy Is Both Green and Affordable

By John Hippensteel

Our sun is the source of all life on this planet. It is also the source of the dwindling and polluting fossils fuels that we have heavily relied on during the last two centuries. Now we will need to rely on the sun for solar energy as we make the transition from fossils fuels to renewable energy.

Solar energy can be split up into two categories, solar thermal and solar electric, also known as photovoltaic (PV). Solar thermal utilizes the sun's power to produce useful heat. Solar electric uses the sun's power to produce electricity.

Solar Hot Water

Evacuated Heat Pipe Solar Collector

Flat plate collectors for SHW and Space Heating

The most common system to utilize solar thermal is a solar domestic hot water heating system (SHW). In Wisconsin a SHW can realistically produce about 75% of your hot water needs. In the cloudy winter months, when the sun isn't cooperating, this may be around 50%, and in the summer when we have an abundance of sun, it approaches 100%.

Typical components of a solar hot water system are a solar collector, a preheat solar storage tank, pump and controllers. These work in series with your existing hot water heater, which assures that if the sun is not available you will still have the hot water you expect.

There are two main types of SHW systems used in Wisconsin. They are pressurized closed-loop antifreeze systems and drain-back systems. The former uses a safe food grade glycol as the heat transfer fluid, while the latter, the drain-back system, can actually use water. The design and installation of a drain-back system is critical to avoid the chance of the water freezing and bursting the pipes. Drain-back systems do have a few real advantages, one is that they eliminate any potential overheating, as they do not produce heat if you don't need it.

SHW systems can cost between $6K and $12K depending on design and site conditions. They can last for 30 years or more and typically reduce your energy expenses in the $50/ month range.

Solar Space Heating

It would be great to be able produce 100% of our water and space heating needs with the sun directly, but we have to remember that we live in Wisconsin. There are some months where the sun barely shines. Some Octobers and Novembers are good examples. This brings up the point that as opposed to SHW heating, where we can produce 75% or more of our hot water needs, with solar space heating the number is smaller and you can expect 50% of your space heating needs to be met using a well-designed system. We have great summer sun when you don't need the

space heating, and the sun cooperates least when you need it most on many winter days. The moral of this story is that solar space heating makes the most sense with extremely energy efficient housing where you need little heat to begin with. Then it becomes more practical and cost effective.

Space heating is well suited for in-floor radiant heating systems where you use lower temperatures for comfort, as it is easier to obtain these lower temperatures from the sun in the winter time.

Typical space heating systems utilize liquid for heat similar to SHW systems, although air collectors can be used very successfully for many applications where there is no need to store the heat. They are used along with your existing heating system to augment your heating needs.

Solar space heating systems can run a few thousand dollars for a simple air heating system to $25K or more for larger systems. Again, the design goal for Wisconsin would be to produce 50% of your space heating needs with solar.

We can also very efficiently utilize solar thermal plants to produce electricity on a large scale. These plants are typically found in the southwestern United States where cloud cover is rare. They produce steam that run turbines, similar to power plants that use coal, natural gas or nuclear power, only without the pollution.

Solar Electric / Photovoltaics (PV)

Historically, the use of solar electric systems was almost entirely reserved for remote power systems where utility grid power was not available. This made sense from both an economic and a reliability standpoint. (Solar is simple and very reliable, with many modules having 25-year power production warranties.) These "off grid" systems utilized batteries to store the energy produced by the PV modules for use when the sun was not shining.

The use of solar electric has evolved to a market that is well over 90% utility-connected where we don't use batteries at all. The energy is used as it is produced to offset the need to burn more coal, gas, etc. "Grid Tie" systems are much more cost-effective and maintenance-free because there are no batteries to purchase or maintain. However, the draw back to a battery-less grid tie system is that when the utility grid is down, the PV system can no longer produce power. Because of the reliability of our utility grid, this is typically not an issue and the expense of backup power cannot be economically justified. As the industry evolves, new advanced electronics are able to provide some backup power without batteries for small electrical load, but these loads can only run when the sun is shining.

The simplest PV system would be roof-mounted, with a good southern exposure. Shading can dramatically reduce system output, although new technologies are maximizing energy production even with some shading.

Other mounting options that keep the solar panels off of your roof are ground and pole-mount systems. They do cost more, but are well suited for many applications, and a distinct advantage is that you don't have to worry about ever having to remove your solar panels to replace your roof shingles. Ground and pole-mount systems can usually be seasonally adjusted to increase output and make snow removal easier.

Tracking the sun with solar trackers can increase energy yield by about 25% in Wisconsin and up to 50% in the southwestern U.S. As good as this sounds, by adding the tracking mechanism you are also adding maintenance and other expenses, actually taking away one of the beauties of solar, its simplicity. With the price of solar modules being so low, in most cases it is less costly to install 25% to 50% more modules and produce this extra energy while keeping the systems as simple and reliable as possible.

The price of solar continues to drop dramatically. Only a few years ago systems were being installed at $8 to $10 per watt. They are now around $4 per watt for simple residential systems and about $2.50 per watt for larger power plant applications.

The typical U.S. household uses about 1,000 kilowatt-hours of electricity per month and would require an 8 to 10 kW PV system to produce the equivalent amount of electrical energy. A simple rooftop system of this size would cost about $30 to $45K. Your goal is not to be a typical household, but to be a household that uses considerably less energy, like our high standard of living European neighbors who use about 1/2 the energy that we do with all the same creature comforts. It is quite common for households to install systems that produce 25% to 50% of their electricity, and then they work to increase this percentage by increasing their efficiency and conservation practices. This is a fun challenge for many solar households.

Solar technologies are no longer fringe technologies, but are now mainstream in many places around the world. As we see the need for clean energy and as the prices continue to drop due to mass production and manufacturing efficiency, solar will continue to play a major role in our clean energy future. It is simple, requires very little maintenance, does not need any moving parts, and will operate for many decades very effectively.

We should not forget that as cost-effective and reliable as these technologies have become, the most sensible thing to do before investing in them is to address your energy use. Energy conservation and efficiency are key, and much more cost effective. Trends show that for every $1 invested in energy efficiency measures, you save $3 to $5 on your solar energy system because it doesn't have to be as large.

Remember, if you don't use the energy, you don't have to produce it.

The future of solar is bright even in hard economic times. Worldwide growth continues and there are many states in the U.S. where solar is now less expensive than conventional energy sources, and it is predicted to be the case nationwide by the early 2020s. Let us help to make that the case for Wisconsin in the near future. Investing in solar is investing in something that can reduce fossil fuel use, help protect the environment, and reduce your monthly energy expenses.

Author's Biography: John Hippensteel is a registered professional engineer in the State of Wisconsin, a NABCEP certified PV and solar thermal installer, NABCEP certified in PV technical sales, the owner of the 33 year old design build engineering firm Lake Michigan Wind & Sun, Ltd. and a solar energy instructor at NWTC. John has been blessed with the opportunity to work with many outstanding individuals and companies on many wonderful renewable projects both locally and worldwide. John is also the creator of the Solar Flairs™ energy producing sculptures.

BUILDING A LOW "MPG" HOME

By Beverly Watkins

When my late husband Bill Hurrle and I built our new home in 2007, the design goal was to use passive solar, solar electric and solar thermal to create a home as **far down the path to zero carbon** as possible. We also wanted to use standard construction materials and processes with special attention to green building principles. We were lucky to find a 2.5-acre agricultural remnant in New Franken, which was being used to grow corn and soybeans.

Design and Construction

We started with a high-performance shell, 2 x 6, 24" on center framing using the tricks of Optimum Value Engineering (see links below). We constructed two 40' x 40' flattened cubes, cut off the corners of the south-facing one to improve the surface-to-volume ratio, connected them at a corner and then added a bonus room above the garage. Total, we have approximately 2,800 square feet of heated living space and 1,000 square feet of garage. All of the insulation is cellulose with R-50 in the attic, R-25 in the walls and R-20 extruded poly-styrene on the slab edge and under it. The radiant slab is powered by a solar hot water system and backed by a propane boiler. It is wonderful to walk barefoot on warm floors in the middle of winter and at the same time be able to keep the house 5° to 10° cooler, maintaining the same comfort level as a forced-air system while using less energy. It is said that you can save roughly 3% for every degree cooler you keep your house in the winter. Fin-tube baseboard radiators deliver heat to the bonus room and a wood stove in the center of the living space provides great comfort and ambiance, especially on a bitterly cold Wisconsin winter night. There is no basement.

Air sealing is the most significant factor when building a high-performance home. A blower-door test showed our home to have 0.06 air changes per hour in 2008. Because it is so tight, we installed a heat recovery ventilator to circulate fresh outside air during the winter months when the windows are closed. Moisture is removed with bath fans and a range hood with an outside fan. An operable skylight in the bonus room's north roof provides passive ventilation.

Passive solar

Oak, maple, ash…this is where sunshine is reliably stored in our Wisconsin winter's short, often cloudy days, and an EPA-approved wood stove is our home's main source of heat. By orienting the house 10° east of south, it warms faster on winter mornings and avoids some summer afternoon sun. South-facing windows provide constant daylight, maximum radiant energy throughout the day, cross ventilation, and are 2' and 4' wide to fit the framing. The garage buffers the north winds. A conifer windbreak and deciduous shade trees are growing on the north edge of the property.

Solar thermal

A solar thermal collector aimed due south harvests 400 Btu/sf-d as a yearly average and maximizes winter gain. This solar loop pre-heats 85 gallons for domestic hot water, then heats a 200-gallon storage tank. A shunt loop around the foundation footing soaks up extra summer heat. A modulating, condensing boiler connected to a remote-fired water heater is used for backup. At present, our propane usage is higher than expected and we are working on the control interface to increase its efficiency. The light-colored metal roof reflects/emits most of the solar radiation, and insulation, air sealing and deep overhangs keep heat out during the day. Interior thermal mass stores the cool night air, pulled in by opening the windows and skylight. We have no air conditioning as the house rarely gets above 78° in the summer.

Solar electric

Electrical generation is by 2.7 kW of amorphous silicon laminates applied between the raised seams of our south-facing metal roof. It is grid tied—the meter goes both ways at retail prices—and generates approximately 3,600 kWh per year. Rather than pay a monthly electric bill, we bought our electricity in bulk, up front, at a fixed rate. This system is warranted at 80% of power for 20 years and by Bill's calculations will result in a net cost of $0.13/kWh over its lifetime.

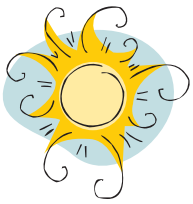
Greenness

Local white cedar siding adorns the outside of our home, adding additional insulation and saving lots of transportation energy. The bonus room flooring is made of re-cut hardwood barn beams…quite beautiful. Low VOC paints and stains, refurbished kitchen cabinets from our previous home as well as recycled light fixtures add to our low carbon footprint. The gravel driveway and sidewalks allow rain to soak in rather than run off. "No mow" grass has been planted around the house to lessen the need for extensive mowing. A prairie restoration is in the works and a future hay meadow and organic garden will help restore soils from industrial chemical agriculture. Our household chicken flock roams free and some of the land is left wild. We offset about 7.6 metric tons of CO_2 annually with our renewable energy and passive systems.

Living in this home is a delight. The sun fills the house with light and warmth throughout all the seasons, even in Wisconsin. Its low "mpg" saves us money and supports our family in a healthy and sustainable way. It is a wonderful feeling to be part of the planet's ongoing transition from fossil fuels to using the sun and renewable energy resources, helping to make the world a better place for everyone.

For more detailed information on our home, as well as a ($5?) copy of Bill Hurrle's "Path to Zero Tool Kit" on how to build a high performance home, please e-mail me at bevjwatkins@gmail.com.

Websites that may be of interest are:
http://buildipedia.com/aec-pros/from-the-job-site/optimum-value-engineering or http://www.wbdg.org/resources/value_engineering.php
http://www.patternlanguage.com
http://www.passivehouse.us/passiveHouse/PassiveHouseInfo.html



As Wind Energy Industry Grows, Green Solutions Sought

The wind energy industry continues to make great gains in both affordability and by an increased understanding of how to reduce potential environmental impacts. As a widely available source of energy, wind power can be a clean, consistent, reliable, and safe energy source, especially at the regional level.

For a look at the energy for local use, see "Wind Energy Primer—Is Wind Energy for You?" by John Hippensteel in the CWAC Spring 2012 Newsletter.

The Action in CWAC

By Dean Hoegger

Clean Water Action Council board members took a variety of actions on behalf of the membership and the community of northeast Wisconsin since the Summer 2013 newsletter. Please know that membership dues make up a significant part of our budget and volunteers help us reach our goals. This is why your participation is so important. **If you have not already done so, please renew your 2013 membership and consider volunteering your time.** The office is a great place to work on issue research and communication projects and we are often looking for someone to staff our display at events.

Also, **please call or email us when issues arise that are of special concern for you.** Listing your e-mail address in the Action Alerts box on the membership form will keep you informed of environmental issues, actions we have planned, and ways you can participate.

Read below about actions we have taken in the last three months. Be sure to contact us if environmental issues arise in your community. CWAC is here to support citizen action. The following are our most significant activities since June. At the end of each article, you will find in italics suggestions for ways you can participate.

Legal Actions

CWAC vs. EPA

In February, several of our members signed on to the case Clean Water Action Council et al. v. EPA (our Seventh Circuit Court appeal of EPA's denial of our petition to have EPA object to the air permit for Georgia Pacific). Our attorney, Jamie Saul, reports that oral argument has just been scheduled in the case before a panel of three judges with the U.S. Circuit Court of Appeals for the Seventh Circuit, which is based in Chicago. This hearing is open to the public and will be held on the campus of UW-Madison Law School on Monday, Sept. 23. It will take place sometime between 9 a.m. and noon.

CWAC members, especially those who signed on to the case, may want to attend. Contact us for a ride, if you would like to attend. Mr. Saul recommends arriving at the hearing room no later than 8:45, and the dress is semi-formal (coat and tie or suit).

CWAC to Appeal Ruling in Challenge to Appleton Coated LLC's Pollutant Discharge Permit

Last year, we filed a petition for judicial review challenging a permit issued to Appleton Coated LLC that authorized the paper producer to discharge pollutants into the Lower Fox River. Midwest Environmental Advocates filed the lawsuit for us against the Wisconsin Department of Natural Resources alleging the permit allows the facility to discharge more phosphorus and total suspended solids

than allowed by the EPA-approved Lower Fox River Total Maximum Daily Load and that the WDNR failed to take certain legally required steps before granting the facility a seven-year compliance schedule to meet its phosphorus and total suspended solids limit.

As anticipated, Appleton Coated intervened in the case and asked the Court to dismiss the case based on procedural arguments, which the circuit court did. In this case, Judge Atkinson's finding conflicts with other Wisconsin circuit court decisions and the Wisconsin Attorney General's opinion regarding the procedures for citizens and organizations to challenge DNR permits. MEA recommended we appeal the decision and the CWAC board agreed.

Because an appeal could take several years, it is unlikely that it would result in changing the limits in this permit. However, there could be significant outcomes beyond this permit. In the event that we are successful on appeal and the Court of Appeals publishes its decision, MEA believes we will likely have a clear ruling that individuals and organizations have the right to independently seek review of the WDNR's permitting decisions in court. MEA also believes that even a loss at the appellate level could in a way be a win. A loss might spur the EPA to action because the Clean Water Act clearly requires state delegated programs to provide an opportunity for individuals to challenge Wisconsin Pollutant Discharge Elimination System permits. Moreover, based on recent discussions between MEA staff and EPA attorneys, it seems as though this issue is among the EPA's priorities.

We are grateful that MEA wishes to represent us on this appeal as CWAC has long been an advocate for citizens' rights to have a voice in protecting the environment.

Please consider making a donation to Midwest Environmental Advocates to help pay for the cost of this appeal. Send your check to Midwest Environmental Advocates, 612 W. Main Street, Suite 302, Madison, WI 53703 and memo it CWAC Appeal or make your donation on line at: *http://midwestadvocates.org/support-mea* and complete the comment box. Your financial support for this important legal challenge will be much appreciated.

Legal Research

Much of the legal research this quarter was completed by Kewaunee C.A.R.E.S. members and was related to CAFO issues and nutrient management permits. Last fall, attorney Jamie Saul conducted a workshop for us on monitoring pollution permits. We will be hosting a second workshop this fall and have hired an NWTC Paralegal Program student for a fall internship to focus on permit monitoring.

Contact us if you would like to attend the permit monitoring workshop and help us to monitor compliance with air and water pollution permits.

CWAC Follows Council on Recycling Plastic Subcommittee Meetings

CWAC and the Waukesha Environmental Action League have been closely monitoring Wisconsin's Council on Recycling, Plastic Subcommittee's and its workgroups by participating as committee members. Between CWAC and WEAL, we have attended most of the full committee meetings either in person or by telephone conferencing, or reviewed the recommendations of the various workgroups.

What originally brought CWAC to the table was a rumor that waste-to-energy would be included in a final recommendation from the film/ bag workgroup. At the Plastic Subcommittee meeting in May, we spoke against the use of plastic as fuel, since it was not a form of recycling. Most of the committee members on the film/ bag workgroup represented government or industry and one of the members who drafted the recommendation was from Greenwood Fuels, a waste-to-energy facility. The draft presented at the September 4 meeting largely focused on using what the committee deemed hard to recycle plastic for waste-to-energy. CWAC objected to a number of items in the recommendations, most notably a waiver of pyrolysis permits.

One difficulty with opposing the use of plastics as a fuel in the recommendation is the state statutes for a recycling hierarchy which includes waste-to-energy:

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287.05 State solid waste reduction, reuse, recycling, and resource recovery policy. The following are declared to be policies of the state concerning the reduction of the amount of solid waste generated, the reuse, recycling and composting of solid waste and resource recovery from solid waste:

12) That in the management of solid waste, whenever possible and practical, the state encourages the following priorities:

(a) The reduction of the amount of solid waste generated.
(b) The reuse of solid waste.
(c) The recycling of solid waste.
(d) The composting of solid waste.
(e) The recovery of energy from solid waste.
(f) The land disposal of solid waste.
(g) The burning of solid waste without energy recovery

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Because the draft recommendation was not made available prior the September 4 meeting, and at the meeting internet resources were not available, we were unable to be fully informed in order to oppose parts of the recommendation. Our follow-up letter to the workgroup emphasized that the recommendation fails to address the first item on the hierarchy, which is reduction. When one looks at the vast amount of pre-consumer plastic waste that Greenwood Energies receives on a daily basis, it is apparent that industry must be held for accountable for making the changes needed to reduce waste.

CWAC in the Community

Part of CWAC's mission is to provide education on environmental issues to our members and the community. Since the last newsletter, we have actively pursued that mission. Here is an update.

Working with Kewaunee C.A.R.E.S and Trout Unlimited, we co-hosted a forum on the effects of CAFO's and other agricultural operations on surface and groundwater in both Kewaunee and Brown County. Thank you to the presenters including Dave Vetrano—SW Chapter Trout Unlimited, Gordon Stevenson—Wisconsin DNR retired, and Jim Olson and Lynn Utesch—Kewaunee C.A.R.E.S. who spoke to the 30 people in attendance.

CWAC co-hosted a health presentation with Kewaunee C.A.R.E.S. and Door County Environmental Council on July 17 in Algoma. Angela Bauer, Professor of Human Biology at UWGB, talked about her concerns regarding the presence of endocrine disrupting chemicals in area drinking water in Brown and Kewaunee Counties. Bauer explained that endocrine disrupting chemicals can either mimic human hormones or block them, both disrupting normal hormonal activity. Sources of EDCs in drinking water can include pesticides applied to crops, excessive land application of manure containing both natural and synthetic hormones and industrial wastes, and sewage from septic systems containing synthetic hormones from contraceptives.

The Tall Ships Festival provided an opportunity for us to introduce CWAC and our current issue focus to the public. (See intern Jim Wagner's full article.) We also sought that same opportunity at the Festival Foods Brat Barn on August 30 with an all-day brat and hamburger fry fundraiser. We thank Festival Foods for this opportunity and our volunteers including Jim Wagner, his sons Dylan and Jadin, member Sally Sieber, and board members John Hermanson and Dean Hoegger.

Additional community education was provided by CWAC board members. President Dean Hoegger provided a slide presentation to the Allouez Kiwanis Club about the PCB clean-up of the Fox River and current concerns for the river and Lower Green Bay. Both Hoegger and John Hermanson commented on Fox-11 TV regarding the capping of Kidney Island without using an impermeable layer of clay, and Hoegger commented on the WDNR relaxing the white bass consumption advisory in the Fox River and CWAC's ongoing concern for insufficient advisory notices to those people most dependent on the fish as a source of food.

We sent board members and/or interns to represent us at events and hearings including Door County Environmental Council's presentation of *Gasland* and a discussion on hydrofracking, the Deer Run Dairy Digester hearing in the Town of Franklin, the Dominion Nuclear Power Plant shutdown hearing in the Town of Carlton, and a meeting with Ananda Lee Tan, the U.S. and Canada Program Coordinator for Global Alliance for Incinerator Alliance.

CWAC continued to work with the N.E.W. Zero Waste Coalition as coalition member and membership on the food waste/compost committee. The Board would like to see an end to all organics going into area landfills as a way of reducing the unnecessary release of methane gas, the most harmful of the greenhouse gases released by human activity. We are a co-sponsor of Dr. Paul Connett's presentations in northeast Wisconsin, and we will be his host for the visit to Door County where he will speak on a morning radio talk show and give an evening presentation on September 25. (See Calendar of Events…for complete list of his speaking engagements.) We are grateful for the generous sponsorship of Dr. Connett's visit by Door Property Owners, Inc.

Please save the CWAC newsletter events listing and read the weekly update for volunteer opportunities and events to attend. Please contact us if you have an event in your area that you would CWAC to have an exhibit, or you would like to schedule a speaker from our organization. We are a northeast Wisconsin organization and the Board would like to provide services to all of those counties.

CWAC Field Trips

CWAC sponsored an educational field trip to the UW-Oshkosh Anaerobic Digester and to Growing Power, Inc. Several Board members and guests saw first-hand the operation of the first commercial dry digester in the Americas, which uses primarily food waste with some additional yard waste to create methane gas, which is used to fuel electrical generators. The left-over food waste is then further composted and sold as a soil supplement. After the trip, the CWAC Board voted to support the use of food waste in dry anaerobic digesters that do not use animal or industrial waste in the feed stock. Growing Power also demonstrated sustainable uses of food waste with their composting to create soil amendments for their food growing operations, compost sales, and worm sales.

At the request of Wisconsin and Michigan environmental groups, CWAC organized a bus trip to

the Oil and Water Don't Mix Rally for the Great Lakes at the Mackinac Bridge. We were able to send nine CWAC members out of the group of 30 to the rally where they heard 350.org founder, Bill McKibben, and others speak about the danger of sending tar-sands oil through aging oil pipelines both under and around the Great Lakes.

Please see the weekly CWAC Update for information and field trips scheduled between newsletters. Contact us if you have an idea for a field trip and/or would like to be a field trip leader.

Tall Ships Festival Booth a Success

By Jim Wagner - Summer Intern

CWAC took the opportunity to sponsor a booth at the Tall Ships Festival in Green Bay, held Aug. 16-18 at Leicht Memorial Park. The organization's display was on-hand throughout the weekend and volunteers and board members talked to people with questions about environmental issues impacting Wisconsin.

Green Bay is the only Wisconsin city to host the historic ships on their tour of the Great Lakes, and officials expected to bring in 60,000 people during the three days. The venue, which appeals to the love of open water and nature, was the perfect place for CWAC to spread awareness of our mission and activities to promote clean air and water.

For many people who visited the booth, it was the first time they had heard of our organization and they walked away with a newsletter, membership application, T-shirt or pamphlet in hand. A front-page story in the Green Bay Press-Gazette about the "dead zone" found in the bay also drove up interest in CWAC's work so people were much more receptive to our work and praised us for being an advocate for the environment.

The success wouldn't have been possible without the enthusiastic and friendly volunteers who talked about our organization to booth visitors. They braved the heat of the packed vendor tent to answer questions, sell T-shirts or Fave bags, hand out newsletters and answer questions. A big thank you to these volunteers who gave up some of their weekend time to help: Nick Lom, Patricia Finder-Stone, Fred Cradler, Dean Hoegger, Drew Hoegger, Jim Wagner, and John Hermanson

Frac Sand Mining Environmental Concerns Grow

By Jane Blameuser

Silica sand mining, also known as frac sand mining, has been a thriving industry for more than 100 years. Within the past five years, the demand for silica sand used in the oil and gas fracking process has skyrocketed. The silica quartz sand used for fracking is of a specific size and shape. The sand is suspended in fluid and injected into new and existing oil and gas wells under pressure. The new horizontal drilling technology using hydraulic fracturing has made it possible to recover previously unattainable sources of natural gas and crude oil in what has become a controversial process, rejected by the Sierra Club and other national environmental groups.

Frac sand operations include the mining sites, the processing plants for washing, sorting, and drying the sand, and the loading stations for transporting the processed sand. Transportation is by rail or truck, generally in uncovered beds. Presently, there are more than 131 mining and processing plants located in Wisconsin, with the majority of frac sand operations located in the central-western part of the state. In northeast Wisconsin, there are mining and/or processing plants located near Appleton and Fond du Lac.

Frac sand mining operations are licensed and regulated at the local level. The Wisconsin Department of Natural Resources also issues water and air permits for non-metallic mining operations. Environmental concerns over air quality are being directed to the WDNR as the number of sand mines, processing plants, and loading stations increases in the state. The WDNR issued a document in January 2012 stating that existing non-metallic regulations were sufficient to cover the frac sand mining industry. The WDNR determined that their agency would do no further testing on the mining process regarding public health and safety issues. In the past five years the WDNR has sent letters of non-compliance to more than 80% of the frac sand mining operations. Nearly one-fifth of the state's mining-related industry sites were cited for environmental violations in 2012. Penalties for violations committed are minimal in light of the environmental damage being done.

Earlier this year, the Minnesota legislature and governor approved a bill calling for a statewide moratorium on new mine development, and to conduct a study of the impact of frac sand mining on their state. Taking the lead in Wisconsin, the Trempleau County Board unanimously placed a one-year moratorium beginning Aug. 31, 2013, on any applications for new or existing mine industry expansion. The county will establish a committee to collect and analyze information on mining operations and make recommendations to the county board on the public health and safety of frac sand mining. CWAC urges other

counties to also consider a moratorium until the industry develops systems to operate in compliance of state and local regulations.

For more information and photos of the frac sand mining process, please check out these websites:

www.wisconsinwatch.org
www.dnr.wi.org
www.wisconsingeologicalsurvey.org

CITIZENS CLIMATE LOBBY: Where Civility, Science and Action Meet

By John Hermanson

We can all use some good news when it comes to our environment. That good news is that there is a pathway to addressing climate change in these politically catatonic times. Citizens Climate Lobby along with other groups are delivering this message. CCL (non-partisan) is arguably the most effective.

CCL's purpose in their own words is: "1) to create the political will for a stable climate and 2) to empower individuals to have breakthroughs in exercising their personal and political power." The leverage used to move the U. S. Congress to enact carbon-curbing legislation is inspired, educated and organized citizens.

The CCL strategy is *science-based* while appealing to the better part of human nature. Central to its proposal is a consensus-based *market-driven* and *revenue-neutral* carbon tax. This fee would be returned to taxpayers as a dividend thereby encouraging fossil-fuel users to seek less polluting energy sources, conservation, and making clean energy renewable fuels more competitive. The dividend offsets elevated prices as the fee is passed on to consumers while encouraging us to buy products made with less fuel. With a low carbon footprint, we gain further by avoiding the carbon fee while still receiving the dividend.

This carbon *fee-and-dividend* plan would be gradually enacted over a 10-year period giving the economy a more stable transition.

Three former Republican-appointed U.S. Environmental Protection Agency administrators have recently come out in favor of such a general plan. *(A Republican Case for Climate Action, Aug. 1, 2013, the NY Times)* The Wall Street Journal comments, "A conservative, cost-efficient response to climate change involves sending price signals to people and businesses now so that they take steps to reduce emissions. A carbon tax is the simplest way to send these signals." (March 28, 2013) A CCL press release shows that most major oil companies express concern about the risks of climate change, which they link to greenhouse gas emissions and they find the best solution to the problem is "a focus on a carbon price that is predictable, market driven, and transparent," according to ExxonMobil. (June 18, 2013)

While all this support is brewing it is far from being adopted, especially by certain entrenched enterprises and individuals that feel they stand to lose out financially or otherwise in such a transition. This proposal is market-driven and does not increase the size of government so it should appeal to a broader base.

Green Bay is moving to establish a CCL chapter with a kickoff on Monday, September 16th, 6 - 9 p.m., at the Brown County Extension Office, 1150 Bellevue St.

Contact them: greenbayccl@gmail.com

More Threats to One of the Largest Freshwater Estuaries

By Dean Hoegger

The bay of Green Bay, one of the world's largest freshwater estuaries, has been a disposal site for human waste dating back to the 1800s when the lumber industry used its tributaries to move logs and carry sawdust waste away from the sawmills. By 1870, so much waste was sent down those rivers that floating masses of sawdust, miles long, threatened navigation and the fisheries. The turn of the century brought the development of the paper industry, canning factories, and other industries that used the rivers as a place to dump their raw sewage. In 1927, the Wisconsin State Board of Health first reported these wastes were a threat to human health.

While improvements were made in treating industrial and municipal sewage, a new and more insidious threat was identified in the 1970s. Unseen and unknown to the public, paper mills were sending PCB contaminated waste water into the Fox River, a major tributary of the bay. The fisheries were again threatened, this time with a carcinogen that would make regular fish consumption a threat to human health for many decades, maybe centuries.

The recent news about an expanding "dead zone" in the bay is not surprising, especially when we look at the greater intensity of agriculture in the watershed and the increase of animal factories, also known as concentrated animal feeding operations (CAFOs). These factories place thousands of animals on land that once supported an average size herd of around 100 cows. The manure from these factories is then land-spread, sometimes many miles from the factory, delivering far more phosphorus than the land can absorb and crops can utilize. CWAC's own data, collected by its working committee Kewaunee C.A.R.E.S., clearly shows migration of manure nutrients including phosphorus into surface water near CAFOs and fields receiving the waste. The agricultural nutrient connection is clear to those monitoring the industry. Most estimates recognize that agriculture accounts for 45% to as much as 70% of the phosphorus entering the bay. Phosphorus is recognized as a major contributor of hypertrophication and

the resulting loss of life sustaining oxygen in the water.

It is true farmers have made many improvements in managing nutrients. However, it is clear that more must be done by agriculture, and the practice of concentrating large numbers of animals in these factories needs greater regulation if we are to make gains in water quality.

Both municipal and industrial sewage treatment plants are also releasing significant amounts of phosphorus into the bay's tributaries. Operators of these facilities claim that it is no longer cost-effective for their facilities to reduce phosphorus. Therefore, they have proposed a plan called adaptive management in which no improvements need to be made in their facilities. Rather, they would spend an undetermined amount of money to seek reduction of phosphorus by other polluters, including both nonpoint and point source pollution, generally from agricultural sources.

The *Green Bay Press Gazette* reported on one such adaptive management plan on Sept.1, 2013. They said the Green Bay Metropolitan Sewage District is part of a partnership that will launch a study of Duck Creek to identify ways of controlling phosphorus discharges. In that the study will take four to five years, it raises serious questions regarding how effectively adaptive management will provide the urgent action needed to reduce a dead zone that was a record 43 days in 2012.

Legislators and state regulators must do more to reduce phosphorus emissions by the 50% that is needed to effectively reverse the conditions of nutrient overload in the bay. Enforcement of pollution permits and nutrient management plans must be given high priority. It may also be necessary to require wastewater treatment plants to further reduce phosphorus rather than rely on adaptive management strategies.

Agriculture, municipal, and industrial operations are also sources of many new chemicals with concerns just beginning to emerge. Some of the chemicals are thought to be endocrine disrupters, which are pollutants that interfere with normal hormone signaling, especially sex hormones. Many of these chemicals can mimic estrogen. Sources include industrial chemicals including PCBs, pesticides and some pharmaceuticals. Some enter as source point pollution, passing through waste treatment facilities. Pesticides often enter as runoff from farm fields or even as groundwater incursion that enters the bay through underwater springs. While these chemicals are known to cause health problems, it is not yet known what impact they will have on the Green Bay ecosystem or Lake Michigan drinking water sources.

Another recent finding by scientists shows that plastic particles are present in all of the Great Lakes. They may pose a threat to drinking water obtained from the lakes and may pose an additional threat to Green Bay's fishery. The tiny particles are thought to come from scrubbing beads in household cleaners and health and beauty products such as facial scrubs and toothpaste. The particles apparently are slipping through screens at wastewater treatment plants and entering the waterways. One threat to fish could come from confusing the particles with food. If ingested, besides being indigestible, the plastic may also contain persistent toxic chemicals including endocrine disrupters absorbed from the water.

It is apparent that environmental groups, and the citizens they represent, will need to do more to both monitor threats to our waters and demand that the protections and rights guaranteed by the federal Clean Water Act be upheld by our state agencies. It is apparent we cannot leave the work of protecting our waters solely to those agencies.

To learn more about the effects of hormone-mimicking chemicals on human health and the environment, read Our Stolen Future, which is available for checkout at the CWAC office. Join us for the November 16 Health Forum to learn more about the effects on modern agriculture on human health and the environment including water quality.

Latest Water Test Results Show High E. Coli Bacteria Count

By James Olson

Nearly one year ago, Kewaunee C.A.R.E.S. began its own water sampling program. Funded by the Clean Water Action Council of Northeast Wisconsin and with a grant from the Lakeshore Natural Resource Partnership (LNRP), each sampling looks at four criteria: Total Coliform Bacteria, E. coli bacteria, Nitrates and Phosphorus. The sampling sites were chosen to reveal water quality at source and exit points for the Kewaunee River, Ahnapee River and the East Twin River.

A summary table of the Kewaunee County results are shown here: *http://kewauneecares.files.wordpress.com/2013/09/water-sampling-results28aug13-sheet1.pdf*

One item that stands out among all the data collected to date is the particularly high count of E. coli bacteria in the sample taken on Sept. 28, 2013 at the intersection of County S and Maple Road. The laboratory indicated the count was so high it needed to dilute the sample 10:1 to make an accurate analysis. During the sampling period levels at this location have been at a low of less than 10 colony forming units (CFU)/100 ml to a high of 198,630 CFU/100 ml. Finding high levels of E. coli in water samples is an indicator that animal fecal bacteria are present. It doesn't identify the particular strains of E. coli found in the sample. However, when such high counts of E. coli are revealed, further analysis would be appropriate and recommended.

As a reference for comparison, if the E. Coli count is greater than 1,000 MPN/100 ml, a beach would have to be closed. If the E. Coli count is greater than 235 MPN/100

ml, an advisory is issued. If the E. Coli count is less than 235 MPN/100 ml, no advisory is issued. (MPN refers to the most probable number of CFU (colony forming units) per 100 mL sample) Nitrate levels <10 mg/L is safe to consume.

CWAC member Jim Olson is a founding member of Kewaunee C.A.R.E.S., and along with his many other activities to protect the environment in Kewaunee county, he also takes monthly water samples to monitor the effects of concentrated animal feeding operations.

Water Testing for Roundup in Well Water Offered

By Kevin Bartel, Summer Intern

Roundup, which contains glyphosate, may be a contaminant in shallow Door County wells. The county is an area of the state that is extremely susceptible to ground water contamination due to the lack of top soil and the karsted bedrock directly underneath. These conditions can provide a pathway for water and contaminants to move quickly into the groundwater, increasing the chance that glyphosate is present in shallow wells.

The use of Roundup is becoming more prevalent as the number of farmers who are using it continues to rise due to the availability of Roundup ready crops from supplies like Monsanto. Once the crops are planted the farmer can then spray the entire field with glyphosate to eliminate any other vegetation. But what happens when the rain causes runoff in the fields? The glyphosate may escape the field and make it into the shallow aquifer system. If you have a shallow well, glyphosate may contaminate your drinking water.

Glyphosate in drinking water can have serious health effects. This chemical can cause cancers, neurological disorders, birth defects, and disrupt the endocrine (hormone) system. Studies have already been completed in which glyphosate has been detected in air, groundwater and even in human urine and blood. For pregnant women this can be exceptionally dangerous because glyphosate can cross the placental barrier and the unborn baby could be exposed. Perhaps the most disturbing fact is that our government has not passed any regulations on a maximum amount of glyphosate that can be present in drinking water.

Clean Water Action Council of Northeast Wisconsin is determined to protect our local community from this hazard. We are offering free confidential water testing to the residents of Door County who are located near a commercial farm where glyphosate has been spread. If you have a shallow well less than 125' deep and you believe Roundup has been applied to a nearby field, contact us to be part of the study. The test is free and individual test results will only be shared with the homeowner.

For additional information contact CWAC Executive Director Dean Hoegger at contact@cleanwateractioncouncil.org or by phone 920-495-5127.

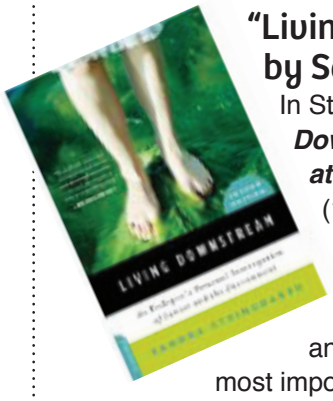
Book Reviews:

"Raising Elijah" by Sandra Steingraber

By Nancy Utesch

Sandra Steingraber, a biologist, writer, Mom and cancer survivor, is also a strong advocate and activist for the environment. In her book ***Raising Elijah: Protecting Our Children in an Age of Environmental Crisis*** (2011), Steingraber, the mother of two children, addresses her concerns for raising children in the "toxic, ecologically unstable world that they inhabit." She points out that "environmental policies pretend that children, who make up 40% of the world's population—do not exist" and "entire regulating systems are premised on the assumption that all members of the population basically act biologically like middle-aged men" (pg. 28). It stands to reason that this book strikes a cord with parents—relating how the "intimate world of parenting connects to the public world of policymaking and how the ongoing environmental crisis is, fundamentally, a crisis of family life." Further resources of valuable information and websites related to the book and environmental concerns are found in the back of the book and are worthy of noting and looking up (pp. 288-290).

"Living Downstream" by Sandra Steingraber



In Steingrabers book ***Living Downstream: An Ecologist Looks at Cancer and the Environment*** (1997), the author relates "the entire web of connections between our bodies and the ecological world in which we eat, drink, breathe and work." This book focuses on "the most important health and human rights issue of our time: the growing body of evidence linking cancer to environmental contamination." Steingraber recognizes that while there is little we can do about our genetic inheritance, "we can do a great deal to eliminate the environmental contributions to cancer" and she shows us where to begin. In the movie *Living Downstream* readers get a more intimate insight to the authors own struggle with cancer, and the environmental factors that may be contributing to cancers in our society.

MARK YOUR CALENDAR! Meetings, Events and Happenings

✺ **Monday, Sept. 23, 9 a.m. – 2 p.m.**
CWAC v. EPA Public Hearing at UW-Madison Law School.
Oral arguments before the U.S. Circuit Court of Appeals for the Seventh Circuit start at 9 a.m. See more details in this newsletter. *Contact us at (920) 421-8885 or contact@cleanwateractioncouncil.org if you would like to join the car pool to the event.*

✺ **Monday, Sept. 23 – Thursday, Sept. 26**
Zero Waste Speaker in NE Wisconsin at a number of locations.
Dr. Paul Connett, an internationally recognized expert on sustainability and zero waste principles, will outline steps communities can take to minimize the need for landfills and explain why waste-to-energy facilities are an unnecessary hazard to human health. He will share the progress other communities have made with developing a zero waste timeline and how local citizens can move northeast Wisconsin on the path to zero waste.

The schedule includes the following presentations:
Sept. 23, 6:30 - 8:00 p.m., UWGB, Christie Theatre
Sept. 24, 1:00 -2:30 p.m., Botanical Garden, 2600 Larsen Rd., Green Bay
Sept. 24, 6:30 - 8:00 p.m., Central Library Auditorium, 515 South Pine St., Green Bay
Sept. 25 11:00-11:15 a.m. Eddy Allen Radio Talk Show on WDOR, 93.9 FM
Sept. 25, 6:30 - 8:00 p.m. Crossroads at Big Creek, 2041 Michigan St., Sturgeon Bay
Sept. 26, 12:00 - 1:30 p.m., UW-Fox Valley, 1478 Midway Road, Menasha
Sept. 26, 6:30 - 8:00 p.m., Fox Valley Unitarian Universalist Fellowship, 2600 Philip Ln., Appleton
Additional information can be found by contacting N.E.W. Zero Waste Coalition President Linda Patzke at 920-822-7047, or e-mail at Patzke-L@peoplepc.com or going to the N.E.W. Zero Waste Facebook page.

✺ **Friday, Oct. 4 - Sunday, Oct. 13**
Fermentation Fest in Reedsburg, WI
This event is part of the worldwide transition movement to learn skills from the past that haven't been taught much recently. Go to the website for a complete description and list of classes and activities: *www.fermentationfest.com*
Contact Tina Mercier at 920-819-0625 if you are interested in carpooling or lodging. Her daughter has a beautiful cabin on Goose Lake near Oxford that could be used for lodging.

✺ **Friday, Oct. 11 – Sunday, Oct. 13**
Sierra Club Autumn Assembly
Green Lake Conference Center, Green Lake, Wis. The public event will feature panels on organizing to reduce impacts of frac sand mining, increased oversight of factory farms, and expanding clean energy in Wisconsin, along with several field trips in the local area. For more information, go to their web site: *http://wisconsin.sierraclub.org/Events/aa.asp*. CWAC is setting up a car pool and a stipend may be available for members to defray the cost of the three-day assembly. *Please contact us at (920) 421-8885 or contact@cleanwateractioncouncil.org for more information.*

✺ **Tuesday, Oct. 15- Thurs. Oct. 17**
8th Biennial State of Lake Michigan and the 13th annual Great Lakes Beach Association Conference
Sheboygan, Wis. at the Blue Harbor convention center. 18 sessions on Lake Michigan and Great Lakes beach issues and field trips to restoration project sites, workshops, an evening poster reception, and beach bonfire. The joint conference typically draws several hundred resource managers, scientists, planners, elected officials, and interested citizens—all working to improve and protect Lake Michigan and Great Lakes beaches. Registration will be limited to 350 people on any one day, so register now to reserve your place. *Register by Sept. 13 to save money for reduced rate and reserve your lodging by Sept. 14 to receive reduced rates! More info at: http://aqua.wisc.edu/solm/*

✺ **Tuesday. Oct. 15-Thursday, October 17**
Transitions Movement co-founder Rob Hopkins to visit Milwaukee.
Go to *http://transitionmilwaukee.org/forum/topics/rob-hopkins-is-coming-to-mke-oct-15-17-mark-your-calendars* for the latest events being planned by Transitions Milwaukee. *Contact Tina Mercier at 920-819-0625 for carpooling and staying at an "intentional community."*

✺ **Saturday, Nov. 16, 9:00 a.m. – 4:00 p.m.**
Health Forum
Stone Harbor in Sturgeon Bay, Wis., hosted by Kewaunee C.A.R.E.S and CWAC. Featured speakers are:
- **Gordon Stevenson** - Former WDNR supervisor
- **Jeanne Hewitt, PhD RN** - UW-Milwaukee
- **Dr. Keeve Nachman** - Center for a Livable Future, Johns Hopkins University
- **John Ikerd** - Prof. emeritus in Ag Economics, Univ. of Missouri
- **Steve Roach** - Food Animal Concerns Trust (FACT)

For information on registration, e-mail us at contact@cleanwateractioncouncil.org

Join or Renew Your Membership to Clean Water Action Council!

☐ Renewal ☐ New Member Date_____

( ) $20 Individual ( ) $30 Family **(this amount would really help)**

( ) $50 Sustaining ( ) $100 Donor ( ) $500 Benefactor

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(BE SURE TO NOTE PHONE NUMBER ABOVE)

☐ the newsletter ☐ events ☐ work at office ☐ mailings

☐ joining or leading one of the committees ☐ other

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Phone numbers are listed under Board Members

Find us on Facebook for updates on hearings and current or upcoming events.

www.cleanwateractioncouncil.org

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