

# Clear Horizons Manure Digester: Public Funds Wasted on Huge Fiasco

by Jim Eichstadt  
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The Clear Horizons project in northern Dane County, Wisconsin represents everything wrong with the flawed manure digester technology being pushed by government and industry as the “solution” to manure management problems on today’s large livestock operations.

This publicly funded project has spectacularly failed to achieve its intended environmental goal – reducing phosphorus runoff into the area watershed – from a cluster of three large dairy farms north of suburban Waunakee, Wisconsin. Since it began operations in late 2010, Clear Horizons has had three major manure spills, plus a long string of water and air quality violations. A failing private contractor constructed and now manages and operates the facility under a 15-year contract. Clear Horizons has failed to deliver on its big promises, and has repeatedly ignored state and federal regulatory requirements in the process.

**“Clear Horizons is not achieving its mission of reducing phosphorus levels in Dane County’s lakes ... Explosions, fires, and spillage of liquid manure all threaten the safety of people living near the digester ... I respectfully request that Clear Horizons withdraw from operation of the town of Vienna manure digester as soon as a new contractor can be put into place.”**

**— Dane County District 25 Supervisor  
Tim Kiefer in an Aug. 10, 2014 letter**

Clear Horizons’ precarious financial condition, meanwhile, has created problems for local units of government because the firm has not paid for public services provided to the facility. A Clear Horizons official has refused to pay the Town of Vienna claiming the firm is “bankrupt.” Two company officials at press time quickly offered “no comment” when asked about the bankruptcy question.

The manure digester project has fouled the air with toxic sulfur dioxide gas emissions and polluted area surface waters by falling far short of its 60% phosphorus reduction target. The project, also known as the Dane County Manure Handling Facility, is a case study of mismanagement, incompetence, and possibly worse.

Dane County liberals got suckered into spending millions of taxpayer dollars for this grandiose project that promised to reduce agricultural runoff pollution of area waters, while accommodating the expansion of dairy production within the county’s borders. What taxpayers got was embarrassment, frustration, and maybe a lot worse.

Clear Horizons has also stiffed local units of government where the plant is sited – in the Town of Vienna and the Waunakee public school district – for nearly \$150,000 in property taxes and road maintenance fees owed in 2014, thanks to the property tax exemption for manure digesters and other biofuel facilities included in Wisconsin Gov. Scott Walker’s 2013-15 budget.

Political pandering for the manure digester industry is a bipartisan effort in Washington, D.C. While the Obama administration has been spawning manure digesters across the land, the lame duck 113<sup>th</sup> Congress effectively deregulated these structures on its way out the door in December.

Clear Horizons began operations in late 2010, just months after Secretary of Agriculture Tom Vilsack trumpeted AgSTAR, an ambitious federal grant program encouraging the construction of potentially thousands of on-farm manure digesters. Special-interest provisions hidden in the fiscal year 2015 omnibus appropriations bill – passed at the last minute to avert another federal government shutdown – prohibit the use of federal funds to monitor methane and other greenhouse gas emissions by manure digesters.

The government is actively subsidizing manure digesters while stripping regulators of resources needed to ensure the safe operation of these temperamental devices.

## Madison liberals cry foul

The growth of large dairy farming operations outside Madison’s booming suburbs in recent decades has raised environmental concerns about agricultural runoff. Northern Dane County, with some of the finest farmland and dairy infrastructure in the U.S. (if not the world), has experienced increased air and water quality problems as 1,000+ cow dairy farms have expanded.

Dane County, with an estimated 2013 population of nearly 510,000, covers an area of 1,238 square miles. The county is home to the state capital, Madison, and the University of Wisconsin-Madison, which are located on an isthmus between Lake Mendota and Lake Monona. Clean surface water (or the lack thereof) has become an increasingly important quality of life factor for many urban and suburban Dane County residents.

Residents of Waunakee, a fast-growing village of 12,097 residents (per the 2010 census) located less than five miles north of Madison, have long complained of the strong “dairy air” odors emanating from the abundance of cow manure spread on neighboring farm fields upwind from the village. Even worse, runoff of phosphorus and other nutrients from manure have polluted tributaries of the Lake Mendota watershed, and is blamed for the frequent large algae blooms fouling Madison’s lakes with massive quantities of green scum. The increasingly green waters lapping the shores of costly lakefront properties since the 1990s have generated strong demands from Madison liberals to “do something” about the cow manure problem.

## Officials seek manure solution

Responding the mounting public concerns, local officials launched the Dane County Water Partnership, a five-year plan to help clean up county lakes. The Dane County Executive secured \$3.3 million in state funding in 2010 to purchase land and equipment for a manure digester. Contracts were awarded, construction began, and the facility opened in December that same year. The total cost of the Clear Horizons project was \$12 million, according to Wisconsin Department of Natural Resources (DNR) documents.

The digester, located at 6307 Cuba Valley Road, in Section 31 of the Town of Vienna, processes manure produced by a cluster of three large dairy farms located about two miles north of Waunakee. The digester is managed and operated by the contractor, Clear Horizons Dane LLC, which in turn is owned by PPC Partners of Milwaukee. Clear Horizon boasts of its expertise in providing “turnkey” solutions to manure management problems.

**When contacted Jan. 12 about the Town of Vienna’s bankruptcy reference, Clear Horizons LLC Branch Manager Leo Maney and COO Norman Doll both replied, “No comment.”**

On paper, the Clear Horizons project is designed to process manure from the three dairy farms’ combined 4,000 animal units, with the possibility of doubling that number in the future. (EPA defines an “animal unit” as the equivalent of a 1,000-pound cow.) The Lake Mendota drainage area includes “approximately 45,000 animal units on about 250 livestock operations,” according to the Wisconsin DNR.

The Waunakee project consists of three 1.25 million gallon digesters with associated equipment and pipelines connected to the three dairy farms. There is expansion room for an additional 1.25 million gallon unit. The three units are designed to process 82,000 gallons of manure per day pumped from the three farms. Clear Horizons uses centrifuge technology to separate liquids from the solid waste. “The remaining liquid, containing 40% of the phosphorus, will be returned to the participating farms for land spreading,” according to the DNR analysis.

One industry expert dismisses as Clear Horizon’s centrifugal setup as “old” technology incapable

of meeting the project’s phosphorus removal targets.

When operating, methane gas produced during the anaerobic (oxygen-free) manure treatment process is used to fuel two 1,000 kilowatt engine generators to produce enough clean electricity to power 2,500 homes, according to the Wisconsin DNR.

“Clear Horizons provides the complete solution to design, build, operate and maintain the system,” the company’s Web site says, despite the string of fiascos at the Dane County site. “The goal of Clear Horizons is to provide the customer with one source of responsibility and accountability for the entire project and minimize the time commitment typically required for these types of projects.”

Instead of a “complete solution,” one local official described the Clear Horizons project as a “complete disaster” for Dane County residents and taxpayers.

## County invests more than \$3.3 million

The Dane County Executive’s office confirmed public funding for the project. “In 2010, Dane County received \$6.6 million from the State of Wisconsin to aid in the construction of two manure digesters to be located in Dane County within the Yahara Lakes Watershed for the purpose of improving the water quality of area lakes. Dane County granted digester-owner Clear Horizons \$3.3 million towards the construction of the state’s first multi-farm community digester in the Town of Vienna,” Dane County Director of Policy & Program Development Dave Merritt said in response to *The Milkweed’s* questions.

“Per Dane County’s agreements with the State of Wisconsin and lease agreements with Clear Horizons, Dane County owns \$3.3 million of land and equipment associated with the digester,” Merritt said.

According to the Wisconsin DNR, taxpayers’ contributions to Clear Horizons extend beyond the county’s stated \$3.3 million investment. “Dane County has provided in-kind services since the project’s inception, such as outreach to participating farms and urban communities as well as hiring Strand Associates, Inc. (\$180,000.00) to complete a Community Manure Management Facilities Plan.”

Two years later, Dane County funded a second manure digester using different technology and a different contractor, outside Middleton, Wisconsin, about ten miles from the Clear Horizons facility. “In 2012, Dane County granted Gundersen Health System the remaining \$3.3 million of the state grant to aid in the construction of their three-farm community digester in the Town of Springfield,” Merritt said.

## Project fails to meet goals

From the outset, Dane County’s goal for the Clear Horizons project was to remove 60% of phosphorus from manure processed from the three participating farms. Failure to meet that goal has angered local officials, including Dane County District 25 Supervisor Tim Kiefer of Waunakee. Kiefer’s district in northern Dane County includes the Town of Vienna – where the Clear Horizons facility is located.

Kiefer supports the manure digester as environmentally necessary, but is highly critical of Clear Horizons’ management and poor performance. “In 2013, just 44 percent of the phosphorus was removed. Through early June of 2014, just 33 percent was removed. By failing to remove the phosphorus at the level required by the DNR permit, Clear Horizons is not achieving its mission of reducing phosphorus levels in Dane County’s lakes,” Kiefer said in an August 10, 2014 letter to Clear Horizons CEO Jim Ditter. “Explosions, fires, and spillage of liquid manure all threaten the safety of people living near

**Town of Vienna Clerk Shawn Haney stands by his report in the December 15, 2014 board minutes. “Clear Horizons has been saying for months that it doesn’t have money to pay the Town of Vienna. The only question is which bankruptcy chapter they would be filing,” Haney said at press time.**

the digester, including the more than 12,000 residents of the village of Waunakee ... I respectfully request that Clear Horizons withdraw from operation of the town of Vienna manure digester as soon as a new contractor can be put into place.”

### A string of disasters

Since the Clear Horizons began operations in late 2010, the manure digester has seen a string of environmental disasters and regulatory violations that (so far) have included:

- Three separate liquid manure spills totaling 435,000 gallons between November 2013 and March 2014. A pipe ruptured on November 24, 2013, spilling some 380,000 gallons of manure into a dry ravine and Six-Mile Creek, a tributary of Lake Mendota on the outskirts of Waunakee. Two more pipe ruptures in early 2014 released an additional 20,000 gallons of liquid manure on January 21 and 35,000 gallons on March 12.

- An August 6, 2014 fire and explosion that blew the outer membrane cover off one of the digesters, leaving it inoperative since then. (See photo at right.)

- Numerous air quality violations, including emissions of hydrogen sulfide gas.

- Pending fines and prosecution by the Wisconsin Department of Justice.

### A trail of violations

The Wisconsin DNR has charged Clear Horizons with many violations of state air and water quality rules and on November 10, 2014 referred the matter to the Wisconsin Department of Justice for enforcement action. The DNR referral letter cited five major categories of violations for water and air pollution, and regulatory noncompliance. **Clear Horizons faces penalties of up to \$25,000 per day per violation and is also subject to enforcement action by the U.S. Environmental Protection Agency.**

DNR cited further violations in a November 26, 2014 letter to Clear Horizons:

- “During 2013, Clear Horizons exceeded the limit 43 times” for hydrogen sulfide gas concentration greater than 300 parts per million by volume for two generators at the site.

- “Failure by Clear Horizons to submit construction and operation permit applications” for the site’s rotary fiber dryer and ammonia condensing equipment.

- “Failure by Clear Horizons to comply with annual emissions and reporting fee for years 2011, 2012, and 2013.”

The DNR letter invited Clear Horizons COO Norman Doll to a December 16, 2014 enforcement conference to discuss the plant’s violations, including failure to notify state regulators.

### Local town, school district stiffed

Shawn Haney, Clerk of the Town of Vienna, said Clear Horizons has dodged payment of nearly \$93,000 in property taxes owed to the town, the local fire/emergency medical services district, and the Waunakee public school district in 2014. Republican state lawmakers included a property tax exemption for manure digesters in Gov. Scott Walker’s 2013-15 budget as a political favor to big campaign contributors. The new law caused the Town of Vienna to lose \$7.2 million in assessed property valuation at the Clear Horizon site, Haney said. The manure digester property tax exemption comes at a time when Wisconsin’s counties, municipalities, and school districts are already heavily stressed to pay for public services due to property tax caps and new mandates imposed by the State Legislature.

Haney said Clear Horizons in December 2014 cited bankruptcy in refusing to make payments in lieu of taxes (PILOT) for even some of the services provided by local government. In addition to the property taxes in question, Clear Horizons owes \$54,894 for road improvements and maintenance, according to the town’s November 3, 2014 board minutes.

### Clear Horizons: “no comment” on bankruptcy

Haney’s comments are amplified in his clerk’s report, included in the minutes of the Dec. 15, 2014 Town of Vienna board meeting, which states:



## Manure Digester Blows Its Top and Taxpayers’ Investments

**A methane fire and explosion the morning of August 6, 2014 literally blew the top off a 1.25 million gallon methane digester (above left) near Waunakee, in northern Dane County, Wisconsin. The explosion is just one of many mechanical, operating, and likely financial failures that leave Dane County residents wondering about the wisdom of spending more than \$3.3 million in tax revenues on the facility. The damaged unit has been inoperative since the blast. The troubled digester has failed to meet required phosphorus reduction goals set to protect Dane County’s lakes.**

Photo by Jim Eichstadt

*“Clear Horizons Update – Norm Doll from Clear Horizons called on Friday December 12th. He stated that Clear Horizons was bankrupt and would not be signing the PILOT agreement. When questioned about payment for Cuba Valley Road he said they are only paying contractual obligations and that we should speak to their lawyer in Milwaukee. That information was given to Atty. Mitby for follow up.”*

**When contacted about the bankruptcy reference Monday, January 12, Clear Horizons LLC Branch Manager Leo Maney and COO Norman Doll both replied, “No comment.”**

There are no formal records or reports of Clear Horizon filing for bankruptcy protection at press time. When asked about Clear Horizon’s financial status, Dave Merritt of the Dane County Executive’s office said he was aware of the bankruptcy reference in the Town of Vienna board minutes. “It is the county’s understanding that Clear Horizons is not bankrupt and bankruptcy poses no imminent threat to the continued safe and reliable operation of the digester,” he said in a carefully worded email reply.

**Town of Vienna Clerk Shawn Haney stands by his report in the December 15, 2014 board minutes. “Clear Horizons has been saying for months that it doesn’t have money to pay the Town of Vienna. The only question is which bankruptcy chapter they would be filing,” Haney said at press time.**

While Clear Horizons may not yet have filed for bankruptcy in the strictly legal, technical sense of the word, critics agree that the firm is morally bankrupt in the full sense of the word.

Clear Horizon’s tax avoidance is consistent with news stories and state capitol sources reporting that Wisconsin’s Republican-controlled State Legislature and Republican Gov. Scott Walker have gone out of their way to reward large campaign contributors, including big dairy operations, roadbuilders and other large users of concrete. Clear Horizons involves the interests of large dairy operations and concrete users.

### Flawed technology

According to a Wisconsin Department of Natural Resources (DNR) 2010 environmental analysis report, “Each digester consists of an above ground bolted steel tank secured to a concrete foundation ... The digester has a double membrane roof ... The inner bladder captures the biogas created during the digestion process and can raise and lower depending on the rate of biogas production ... Based on full-scale testing, the centrifuge will capture approximately 60% of the phosphorus in the solids without the addition of polymers.”

Aicardo Roa-Espinosa, PhD, president of Soil Net LLC of Belleville, Wisconsin, is an expert on manure nutrient separation and related industrial processes. Roa-Espinosa said the Clear Horizons process uses a centrifuge that tends to concentrate small phosphorus particles in the liquids removed from the waste solids during the separation process. Use of this old technology results in high phosphorus levels in the discharged water, causing the Clear Horizons digester to miss its reduction targets, he said.

### USDA pushes manure digesters ...

Agriculture Secretary Tom Vilsack has been pushing hard since 2009 to spread on-farm manure

digesters to potentially **thousands** of livestock operations across the nation. AgSTAR, the joint USDA-Environmental Protection Agency program, provides \$3.9 million in technical assistance and other encourage to farmers to recover and use greenhouse gas emissions from livestock. “Due in large part to AgStar’s efforts, about 150 on-farm manure digesters are now operating at livestock facilities across the U.S.,” Vilsack and EPA Administrator Lisa P. Jackson said in a May 3, 2010 joint news release.

“In addition, EPA estimates there are about 8,000 farms across the United States that are good candidates for capturing and using biogas. If all 8,000 farms implemented biogas systems, methane emissions would be reduced by more than 34 million metric tons of carbon dioxide equivalent a year, roughly equal to the annual emissions from 6.5 million passenger vehicles. In addition, these projects could generate more than 1,500 megawatts of renewable energy,” the joint news release said.

### ... while Congress deregulates them

Even as the Wisconsin Legislature last year created property tax exemptions for Clear Horizons, the lame duck Congress did an even bigger favor for industry lobbyists in December 2014 by exempting manure digesters from many federal regulations. Section 419 of the Consolidated and Further Continuing Appropriations Act of 2015, buried on page 790 of the 1,603-page piece of legislation, denies the use of federal funds to enforce Clean Air Act regulations “for carbon dioxide, nitrous oxide, water vapor, or methane emissions resulting from biological processes associated with livestock production.” It’s amazing what political campaign contributions can buy these days in Washington D.C. and Madison ... both!

### A personal encounter

This reporter entered the Clear Horizons site the afternoon of August 7, one day after the fire and explosion, to photograph and gather information on the damaged digester. The entrance gate at Cuba Valley Road was wide open and the site appeared to be unattended. As I photographed the damaged digester from a safe distance, an unidentified man emerged from a mobile office on the site, and angrily demanded to know what I was doing. When I explained that I was a member of the dairy news media taking photographs of the publicly-funded facility, he became extremely irate and began walking toward me, making threatening gestures and demanding that I leave immediately.

Concerned for my personal safety, I clutched my camera and quickly returned to my car and drove away. The man chased me in a vehicle, following my car down the facility’s long driveway to Cuba Valley Road, where he broke off the chase. It was a scary and unsettling experience. Following extensive local TV news coverage of the fire and explosion the previous evening, Clear Horizons apparently was prepared to use force if necessary to prevent further publicity of that embarrassing event.

*Jim Eichstadt, a dairy consultant from DeForest, Wis., served 18+ years in communications and senior management positions at a large Midwest dairy bargaining co-op. He also represented U.S. dairy farmers at World Trade Organization negotiations in Singapore, Geneva, and Seattle.*