

2G**CENERGY®**
Advanced Clean Energy Technologies**COGEN FOCUS**

June Issue

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Monthly News Letter**Latest News****Headlines:**

- The 2G® Group published its 2010 Financial Results.
- After having doubled its Sales in the previous Year, 2G® achieved further Group-wide Revenue Growth of almost 80% in 2010.
- The current Order Book Position, as per May 1st comprises 251 CHP Systems equal to an Order Value of around 86 Million US\$, a Level well ahead of last Year.

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Biogas CHP Power Plant for Dairy Farm in Aumsville, Oregon, producing clean Energy**2G - CENERGY® was selected to supply a High Efficiency Biogas Power Plant to be installed in Aumsville, Oregon, powering 300 Homes and significantly reducing CO₂ Emissions**

The cows at Oaklea Farms in Aumsville, Oregon, are producing more than just milk. Their manure is now being used to create electricity. The project generates revenue by selling the electricity, and through carbon offset credits which are bought by businesses or agencies to offset greenhouse gases they produce. Revolution Energy Solutions who owns and operates the anaerobic digester decided on its newest biogas power plant to be manufactured by 2G CENERGY®. The CHP cogeneration system will generate enough electricity to power about 300 homes in Oregon.

2G-CENERGY® is installing this 100% connection-ready modular power station in Aug. 2011.

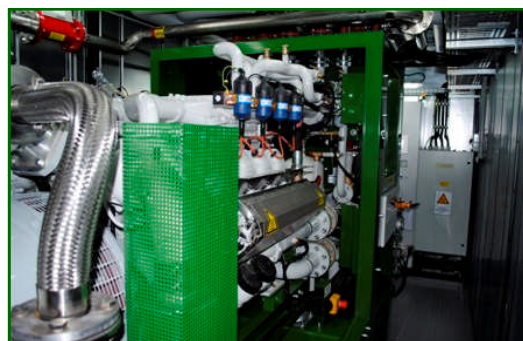
**Dairy Farms can produce clean Energy****The 2G® Plug & Play CHP Solution**

The scope of supply includes utility grid inter-connection switchgear, and the gas treatment technology. A 2G® biogas optimized MAN® prime mover is fully integrated in this modular "plug & play" power station. The biogas dehumidification system, a H₂S (hydrogen sulfide) removal technology package, and the emergency flare are all integral parts of the power plant. RES decided to purchase a modern and advanced modular plant, instead of the conventional custom design-build gas genset configuration they experienced for other projects in the past. The plant is an integrated package,

fully containerized and will be supplied as a unique "all-in-one" and "connection-ready" module. Benefits over conventional gas engine gensets include much higher overall system efficiency, reliability, durability, extended life, fast installation, and less maintenance cost.

"2G continues to lead the market in providing quality biogas CHP technology that is more advanced, and proven in more than 1500 installations,"... says Michael Turwitt, President & CEO of 2G-CENERGY®.

The power generation system, comes fully factory tested and does not require any civil construction (buildings, etc.). The installation will be completed within a few days, just connecting gas and power cables. 2G® will also supply some other components to improve a plant at Lochmead Farms, OR, another biogas facility operated by Revolution Energy Solutions.

**The 2G® "All-In-One" CHP Module**

Biogas CHP for Wastewater Plant

ADI® purchased a 2G® CHP System for a Wastewater Treatment Plant in Pennsylvania

Furmano Foods Inc. in Northumberland, Pennsylvania, is expanding the company's wastewater treatment plant to use methane gas through the processing of organic waste to generate electricity and supply a portion of the facilities energy needs. ADI® Systems Inc., a leader in biological treatment systems for industrial wastewater plants, was selected to implement their advanced anaerobic treatment technology. ADI® decided to purchase a fully containerized 2G-CENERGY® biogas CHP cogeneration module, including gas treatment, interconnection switchgear, and emissions control technology. This plant will generate 2,075 MW/h electricity, and 9,800 MMBTU of thermal energy per year. ADI® is one of the worlds leading industrial wastewater treatment



2G® CHP Container Module

technology suppliers. Deciding to purchase a 2G® biogas CHP solution was a natural consequence of matching the best available biogas cogeneration system solution with their advanced WWTP technologies.

2G® *agenitor* for a Brewery in Utica NY

2G® Cogeneration System to produce Energy at the Matt Brewing Company in New York

EMG (Environmental Management Group Intl. Inc.), selected 2G-CENERGY® to supply a high efficiency biogas CHP for the Matt Brewing Company wastewater treatment project in Utica, New York. This leading edge 400ekW/h biogas CHP module provides the brewery with an electrical efficiency of 39.10% and 1,934,684 BTU/h thermal energy. The prime mover is a 2G® *agenitor*® 212, the



The 2G *agenitor*® 212 for The Matt Brewing Company

most reliable "best in class" biogas engine available on the market. In addition to the CHP cogeneration unit, 2G® will also supply the complete gas treatment, including cooler, dryer / dehumidification, and the H₂S removal system. The controls and switchgear, including utility interconnection are also part of 2G's scope of supply. The highly advanced *agenitor*® is a thermodynamically output-optimized CHP (combined

heat and power) module, increasing the degree of electrical and thermal efficiency, leading to higher revenues for the plant operator. 2G® biogas CHP systems are specifically designed for this type of energy conversion.



"Our overarching goal is to give our customers a strategic and competitive advantage with the most advanced technologies available.

Most of our competitors offer clones of the past,... we on the other hand always strive to provide real advanced solutions."

The *agenitor*® is built like nothing else. Unmatched in quality, durability, and provides long-term reliability.



2G[®] Biogas CHP Plant at the Van Dyk Farm, WA

The latest Installation of 2G[®]'s CHP Plants is now On-Line, providing Energy for more than 400 Homes in Washington

The 400 kW/h CHP system in Lynden, WA, about 95 miles north of Seattle has been installed and commissioned. Lynden-based DARITECH Inc. built the high yield anaerobic digester, and the Van Dyk Dairy Farm owns and operates the biogas plant. This modern power generation facility will produce 4706 MW of thermal energy and 3320 MW/h of electricity per year, feeding the entire electrical production into the PSE grid. The combined heat and power plant uses the 2G[®] *agenitor*[®] 212, a thermodynamically optimized biogas engine with MAN[®] core, coupled with the patented 2G-Drive[®] technology, especially developed for high efficiency biogas operations. Benefits over conventional MAN[®], or any other gas engine in this size, include much higher efficiencies, extended life, and less maintenance cost. At the end of the day, every additional percent of increased efficiency, and less operating cost, make a huge contribution to the overall project bottom line, resulting in more profitability and a much better economy for the system operator. The dairy farm improves its energy efficiency, cuts down on greenhouse gas emissions, and keeps manure out of the waste stream. Residues are utilized as fertilizer.



A good Example of smart, clean and modern Design



The 2G Start-Up Team and the Van Dyk Plant Owners



Waldemar Hamann 2G	Phillip Turwitt 2G	Grant Van Dyk VD Farm	Landon Van Dyk VD Farm	Frank Grewe 2G
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Going for a cheap low Quality Option wasn't a Solution for the Van Dyk Farm. They quickly discovered that Functionality, Long-Term Reliability, Quality, Added Value, and a Performance Guarantee are much more important to the Bottom Line.

This project demonstrates the challenge in planning for capital equipment investment in an industry characterized by challenging and creative funding options. It illustrates the conflicts involving the risk of applying outdated technology from existing product lines used previously (e.g. gas gensets and home-made biogas CHP's, traditionally offered and sold in the U.S. in the past), versus the opportunity to select the most advanced, reliable and "Best-In-Class" technology that has been proven thousands of times in markets where biogas plants are installed in large quantities, operating successfully for many years. When DARITECH and VanDyk performed their ini-

tial due diligence, including visiting various German biogas plants, they quickly discovered that the majority of biogas plants operating in the U.S., in the size range <1000ekW, are underperforming. Especially in reference to biogas CHP's they realized that not only the engine makes a difference, but that most importantly the overall CHP cogeneration plant design determines success or failure. Using fractional factorial designs, as they can be found at many of the roughly 150 agricultural biogas plants in the U.S., wasn't the solution for this project. Consequently they decided to select a technology that is proven, highly efficient, reliable, and truly "Best-In-Class".



The 2G *agenitor*[®] 212 at the Van Dyk Farm

2G[®] Biogas CHP at the University of Wisconsin

The latest Addition to 2G[®]'s Biogas CHP Cogeneration Plants in the U.S. is now installed at UW O in Oshkosh, Wisconsin

The dedication of the very first high solids dry fermentation anaerobic digester (HSAD) took place on May 18, 2011 at the University of Wisconsin Oshkosh. It will be the first biogas plant using this technology to go on-line, not only in the United States, but in all of the Americas. The facility, owned by the University, is designed and constructed by BIO-Ferm™ Energy Systems, a member of the German Viessmann Group, an international leader in renewable energy. Commercial-scale dry fermentation technology is capable of using numerous waste streams and eliminates the need for additional liquid or movement of input. A dry fermentation anaerobic biodigester harnesses and enhances the natural decomposition process and creates valuable biogas for energy production.



2G[®] Biogas CHP Module at the University of Wisconsin, Oshkosh

A significant Cornerstone and great Example

The Opportunity for utilizing Biogas in the United States to generate Energy is tremendous



Ribbon Cutting Ceremony during the Grand Opening on May 18th 2011

This advanced biogas plant will be a significant cornerstone of the University's ambitious plan to achieve carbon neutrality on its campus. The plant will take high-solids organic material – food waste, yard waste and crop residue – and turn it into heat and electricity. The biogas plant utilizes a 2G - CENERGY[®] combined heat and power (CHP) module (fully containerized). The annual generating capacity is 3,071,000 kWh, providing a significant amount of the University's electricity needs on its campus. Additionally, the plant can generate 14,273 MMBTU of thermal energy p.a. to heat adjacent buildings on campus.

Biogas CHP Key Data:

370ekW/h
Electrical

504kW/h
Thermal
Continuous

MAN 2G[®]
Biogas optimized
Engine

The smart Choice for all Biogas Applications

2G[®] Containerized "All-in-One" and "Plug & Play" CHP Cogeneration Modules are designed for optimum Performance

Making technology selection decisions are certainly the most important tasks of a project manager, and often very difficult. Using various decision criteria, different types of information, analysis of alternatives and choices, as well as considering long-term objectives all guide purchase decision-making. For the University of Wisconsin, Oshkosh, and BIOFerm™ the decision to select a 2G-CENERGY[®] system was obvious. It's the most cost-effective quality solution, truly "Best In Class", and by far the most economical CHP cogeneration technology available in the U.S. No other supplier comes close to 2G[®]'s experience, know-how, quality, and with more than 1500 plants installed, 2G[®] has an unmatched track-record to prove it like nobody else in the market.



Inside View, complete and "connection-ready"
The 2G[®] CHP Cogeneration Module

What attracts Investors to Energy Projects?

BBC recently broadcast a Program about Energy Investments focusing on the global renewable Energy Market. A Group of Investors from North America and Europe participated in a Panel Discussion. Here is an Extract of some interesting Comments regarding Biogas and CHP Cogeneration.

Moderator Question: How would you summarize the biggest obstacles for investors interested in the U.S. renewable energy market?

Investor Answer: Often developers are finding it hard to raise money and they generally blame the lack of U.S. Government incentives. While such incentives are nice to have, most projects could be successfully implemented with currently existing programs. There are good examples of many projects that proceed without lot's of additional subsidies and grants. Naturally, project developers that don't have a clearly defined technology strategy are having a harder time. It's taking longer to secure funding for project developers that can't convince investors that the most adequate technologies have been selected. It's not easy to write a check without knowing whether you invest in a project applying only the best and most proven technologies, or systems that can be described as "experimental".

Moderator Question: What would you say to investors that want to get involved in the U.S. biogas market?

Investor Answer: People wanting to get into this segment of the renewable energy market should do some research and try to identify projects that have good chances to succeed. There's a lot of focus on anaerobic digesters, but we found clear indications that many project developers neglecting the fact that even with the best digester technology in place, you can't be successful if the actual energy conversion portion of the project isn't the most efficient and reliable technology. It doesn't matter whether a project is generating electricity or biomethane to be fed into the natural gas grid,... if the equipment isn't performing you will lose revenue. Do your homework. For the novice investor, make sure you go in with enough know-how so you can influence the decision making process. If you just put enough money in to purchase low quality and cheap equipment, that's not a good investment. It's less risky to invest in projects that are not technology plays with experimental systems, or equipment that's not really proven or adequately designed to do the job. You probably won't make a good return with outdated technologies.

Moderator Question: How do you make sure project developers are spending your money wisely regarding technology?

Investor Answer: I'm not an expert in these technologies - I talk to experts. For example, when a developer says, "I've got a biogas CHP solution" I talk with a biogas CHP expert right here in Europe where thousands of these systems are in operation. The product has to be accepted by them. A technology has to be radically better, not just a little better. It costs so much money to build a biogas plant, and it would be irresponsible from an investors point of view to accept a technology



that's not the best and most proven available. There is no room for compromise, and that's why I don't spend much time on, and walk away from project developers that don't consider the consequences of implementing inappropriate technologies.

Moderator Question: How do you define appropriateness, especially in the fast growing CHP cogeneration segment?

Investor Answer: CHP technology is not new, but what sets one product apart from the other is the overall design and functionality, the gross use of sophisticated software and packaged system technology to control the cogeneration and most efficient energy conversion process. Most people believe that simple gas gensets combined with heat extraction can be utilized as biogas CHP's. Nothing could be further from the truth. The entire cogeneration process requires systems that are especially developed, and a control software that precisely manages the entire process. Applying the right technology allows the plant operator to be more successful, dramatically reducing cost and technical risks involved. That's exactly what I am most interested in as investor.

Moderator Question: Let's talk about cost control. How do you assure that budgets are maintained and things don't go hay-wire?

Investor Answer: I certainly think many project developers tend to make things overly complicated. I have seen numerous projects involving an army of engineers, and most tried to re-invent the wheel. The essence of project engineering is not to make simple things complicated, but to make complicated things simpler. Every investor likes to see pre-fabricated modular technologies applied. That reduces risk and increase the return using a combination of proven leading-edge technology and true functionality. Those technologies are readily available, and there is no need to re-invent the wheel over and over again. Sometimes I think engineers make things complicated just because they can, last but not least because that's the way they generate revenue. This unnecessarily increases investment cost, and that's the last thing any project developer or investor needs.

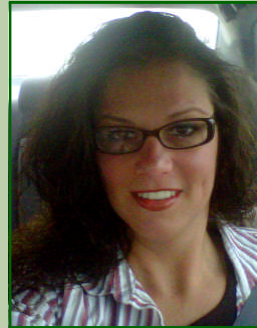
University of North Florida visits 2G[®]

A Delegation of Students from the University of North Florida visits the 2G[®] Factory in Germany



On May 4th a delegation of 20 engineering & business management students from the University of North Florida in Jacksonville, lead by Professor Chris W. Baynard Ph.D. and his colleague Professor Pieter de Jong Ph.D visited 2G[®]'s headquarter and factory in Heek, Germany. The purpose was to learn more about modern CHP (combined heat & power), biogas, WWTP sewage gas, LFG landfill gas, and natural gas co-generation energy conversion technologies, as well as advanced energy efficiency solutions. This visit was part of the UNF Study Abroad program, enabling students to gain more insight into the world of renewable energy technologies, and to gain more knowledge about the advancements made in Europe.

After a presentation and factory tour, the group also visited a biogas power plant to see how 2G[®]'s CHP systems are installed and in operation. A special thanks to Mark Holtmann, 2G[®] Project Manager who welcomed the group and offered his valuable time to assist our US visitors during the entire day.



Amanda A. Ring
Executive Assistant &
Office Manager
2G - CENERGY[®]



Rosemarie de Raadt
Adm. Assistant &
Accounting Specialist
2G - CENERGY[®]

Personnel Notes 2G[®] Team News

Amanda A. Ring, was appointed Executive Assistant & Office Manager. In her last position with the aviation technology group Augusta Westland Bell in Maryland, Amanda was part of the U.S. Presidential Helicopter Program. Previously she also worked for the German Thyssen Krupp Corporation. Welcome onboard Amanda.

Rosemarie de Raadt joined the 2G - CENERGY[®] team as Administrative Assistant & Accounting Specialist. Previously she worked for AOL, Century, BMW, and Europcar. She lived in Chile, Denmark, and Germany, speaks four languages, and we welcome Rosemarie to our team.



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2G - CENERGY[®] is a manufacturer dedicated to the production of decentralized power generation systems, providing customers with advanced and highly efficient CHP (combined heat & power) cogeneration technologies driven by natural gas, biogas and other special gases (syngas). CENERGY Power Systems Technologies Inc. is the US and South American headquarter of 2G Bio-Energy Technology Corporation (2G Bio-Energietechnik AG), a leading German manufacturer of decentralized CHP power generation equipment and modular cogeneration power plants. All plants are designed and manufactured "connection-ready"