

Attn: Kim Fuller

501-682-0910

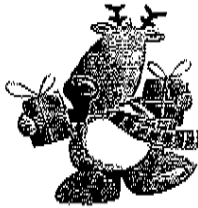


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Ms. Kim - FYI

I RECEIVED THIS OFFER  
RECENTLY. TO GOOD TO BE  
TRUE?

I ADVISED THEM TO GET THE  
BLESSING OF ADEQ AND  
THEN WE WOULD DISCUSS  
FURTHER - REGARDS  
DAN O'NEAL



**[CLIENT LETTERHEAD]**

\_\_\_\_\_, 2014

Mr. Matt Piell  
Synergy – World Energy LLC  
P. O. Box 2358  
Ridgeland, MS 39158-2358

**RE: Non-Binding Letter of Intent to Construct a  
Wastewater Treatment and Power Generation Facility in**

\_\_\_\_\_

Dear Mr. Piell:

On behalf of the City of \_\_\_\_\_ (“City”), I am pleased to present to Synergy-World Energy, LLC and Langenburg Technologies, LLC (“SWE/Langenburg”) this Non-Binding Letter of Intent (“LOI”) to work with you in attempting to reach a final agreement for the installation of a wastewater treatment and renewable energy facility in the City of \_\_\_\_\_, \_\_\_\_\_ utilizing SWE/Langenburg’s proprietary technology. The City will be permitted to visit the Langenburg facilities in Eugene, Oregon, or another mutually acceptable facility where SWE/Langenburg equipment is being utilized to see the equipment in good working condition and verify to their satisfaction that the technology will perform as represented. The LOI is also conditional on verifying the Bonding Company that will be issuing the performance bond guaranteeing the functionality of the equipment. Below is a summary of the terms and conditions under which we would consider entering into an agreement with Synergy-World Energy, LLC/Langenburg Technologies, LLC

1. **Project Description.** The proposed project consists of constructing a waste water treatment and power generation facility complete with associated pumping and electrical connections to the local power grid. The City will provide the point of connection to the wastewater and discharge of the purified water from the proprietary equipment. The City will, at no charge to the project, provide the land needed for the facility and an uninterrupted source of a minimum of \_\_\_\_\_ gallons per day of wastewater effluent for a period not less than 20 years or the term of a fully executed Power Purchase Agreement ("PPA") for this project whichever is longer. The City in turn will receive the water or wastewater back in a form of pure domestic grade water as defined under the Safe Drinking Water Act ("SDWA") or as defined and approved by state and federal agencies having jurisdiction, less the amount needed to generate electrical power which is estimated to be approximately 5% or less of the total water input.
  
2. **Feasibility Period.** The City acknowledges the complexity of developing a project using Langenburg's proprietary equipment. Upon execution of this LOI, Langenburg will begin conducting independent studies to reach a determination of the feasibility of the proposed project ("Feasibility Period"). Determination of the feasibility of the project shall be at the sole discretion of SWE/Langenburg and its financial and technical partners. It is understood that the determination of the feasibility of the project shall be based on, but not limited to, the following:
  - a. Completion by the City of the Project Feasibility Questionnaire.
  - b. Review and acceptance of current agency regulations governing the use of wastewater effluent water and power generation, etc.
  - c. Preliminary acceptance of a PPA by the local electric utility at rates and terms acceptable to SWE/Langenburg.
  - d. Review and acceptance of a report on flooding, zoning and code compliance by the City's Engineers.
  - e. An adequate reliable source of wastewater to operate the equipment.
  - f. The location and adequacy of the electrical grid to accept the power generated by the equipment.

- g. Review and acceptance of satisfactory findings related to the Environmental Protection Agency ("EPA") issues, toxic waste, pending zoning or usage changes of the selected property.
  - h. Acceptance of the project by SWE/Langenburg's technical and financial partners.
  - i. The City and SWE/Langenburg reaching agreement on cost to the City for the treatment of the wastewater.
- 3. **Project Site.** This facility will be constructed on property owned or controlled by the City. The City shall provide the rights to construct and operate the equipment within the boundaries of said property by SWE/Langenburg and its financial and technical partners for the term of the Agreement at no charge. The exact location of the facility and the site shall be determined during the Feasibility Period and be mutually agreed upon by both SWE/Langenburg and the City. The City shall retain ownership of all its equipment and shall be responsible for the proper maintenance of the real property where SWE/Langenburg equipment is operated.
- 4. **Agreement.** SWE/Langenburg will form a single purpose entity for the project. The newly formed entity will enter into an agreement (the "Agreement") with the City of \_\_\_\_\_ for the treatment of wastewater at a price to be negotiated. The city acknowledges and agrees that it will have no rights to any revenue SWE/Langenburg receives from the sale of electrical power generated as a result of the treatment of the wastewater effluent provided by the City.
- 5. **Term.** To be determined during the Feasibility Period and shall be equal to the term of the PPA to be obtained by SWE/Langenburg from the electric utility serving the area. This term shall be a minimum of 20 years.
- 6. **Access to Property.** At all times during the Term of the Agreement, The City shall provide unrestricted access to the property to SWE/Langenburg and its technical partners or their assigns for inspections and maintenance of the equipment.
- 7. **Project Construction Funding.** SWE/Langenburg shall provide all construction funding for the manufacturing and installation of

the proprietary equipment, the construction of the site work and interconnection to the grid for the project, subject to the acceptance of the credit rating of the City and the purchaser of the power generated by the facility under a PPA that is acceptable to the financial partners.

8. **Ownership of the Equipment.** The City understands and affirms that the water treatment and electrical power generating equipment is proprietary to Langenburg Technologies LLC. Neither The City nor any of its affiliates shall own, sublease, work on or inspect the proprietary equipment at any time during the term of the Agreement or the PPA. All maintenance of the proprietary equipment is the responsibility of Langenburg Technologies LLC at no charge to the newly formed single purpose entity or the City.
9. **Intellectual Property Rights.** Langenburg Technologies LLC and its affiliates shall remain the sole owner of any and all rights, title and interest in all Intellectual Property pertaining to the equipment used to treat water or wastewater and generate electrical power which results directly or indirectly from this Agreement.
10. **Provision for sale of Either Company.** If for any reason Langenburg Technologies, LLC or Synergy - World Energy, LLC are sold or assigned in part or in its entirety to another entity, any Agreement between the City and the special purpose entity shall survive and remain in full force and effect.
11. **Representations and Warranties.** SWE/Langenburg and its financial and technical partners agree that they will warrant the equipment for the Term of the Agreement. If during the Term of the Agreement the equipment fails to function as agreed then SWE/Langenburg will replace or repair the equipment immediately at no charge to the City.
12. **Hold Harmless.** Neither Party shall hold the other responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, utility companies, manufacturer delays or other events beyond the control of the other or the other's employees and agents. One or more waivers of any provision, term, condition, or covenant by either Party, shall not be construed as a waiver of a subsequent breach by the Party. SWE/Langenburg or the City (individually a "Party" or collectively the "Parties") shall not be responsible for damages or be in default by reasons caused by failure

of another Party or the other Party's agents to furnish information; or due to late, slow, or faulty performance by the Party and/or regulatory agencies beyond their reasonable control. In the case of any such cause of delay, the final cost and time of completion may be renegotiated accordingly. All Parties agree to indemnify, defend and hold each other harmless from liability, settlements, losses, costs and expenses, in connection with any action, suit, or claim resulting or allegedly resulting from their own negligent acts, omissions or activities, or from their own willful misconduct.

**13. Non-Circumvention.** The City agrees that this technology and equipment is proprietary to Langenburg Technologies, LLC. The City agrees they will not own the facility, equipment or the technology nor can it inspect or repair the equipment nor negotiate or discuss any sale, lease or option of the proprietary equipment or any interest in the equipment at any time. At no time during or after the conclusion of discussions or negotiations between the City and SWE/Langenburg shall the City or its representatives: (i) pursue or consummate the proposed transaction at issue with any representative of Langenburg Technologies, LLC other than Synergy World Energy, LLC; (ii) directly or indirectly establish a business relationship with any other person or entity attempting to participate in the proposed transaction other than with Synergy World Energy; (iii) without SWE/Langenburg's written authorization, contact any lender, investor, service provider, member, partner, customer, licensee or technical and financial partners of SWE/Langenburg or their representatives; (iv) take any actions to directly or indirectly gain the benefits of any proprietary or confidential information provided to the City ("Confidential Information") without the approval of SWE/Langenburg; (v) contract directly with any other person or entity that SWE/Langenburg has identified as having access to the project's Confidential Information; (vi) hire or contract with any present or future employee, technical and financial partner or independent contractor of SWE/Langenburg, the special purpose entity or any of their affiliates.

Notwithstanding anything contained herein to the contrary, this Letter of Intent is meant to be a general outline of the business terms upon which the City of \_\_\_\_\_ and SWE/Langenburg could enter into a formal agreement to construct a wastewater treatment and power generation facility on land owned by the City. THIS LETTER OF INTENT IS NOT TO BE CONSTRUED AS AN OFFER TO PROVIDE ANY ENGINEERING SERVICES TO OR FOR THE CITY UNLESS

OR UNTIL A FINAL AGREEMENT IS CONSUMMATED. ALL SUCH SERVICES PERFORMED THEREAFTER, WILL BE PERFORMED BY LICENSED ENGINEERS FOR THE STATE IN WHICH THE PROPOSED FACILITY IS LOCATED. This Letter of Intent shall not be binding on the City or SWE/Langenburg (except for the provisions of the "Non-Circumvention" section) unless and until both parties execute a binding Agreement. If these terms are acceptable to you, then please so indicate by signing this Letter of Intent in the space provided below.

Sincerely,

City of \_\_\_\_\_

By: \_\_\_\_\_  
Mayor

Date: \_\_\_\_\_

Accepted by:

Synergy – World Energy, LLC

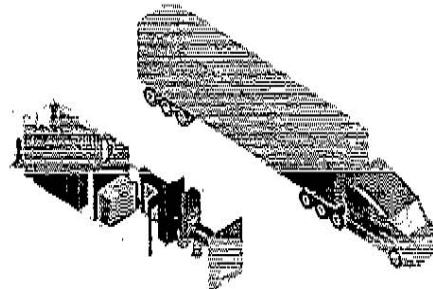
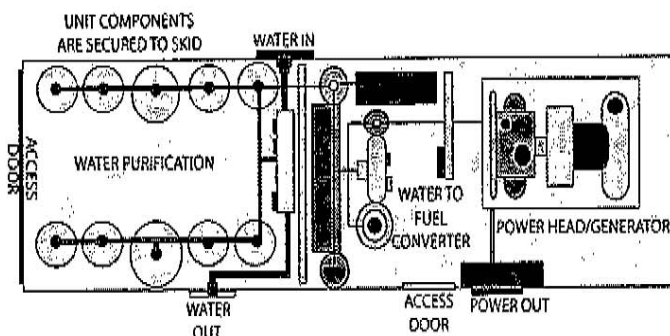


Matthew Piell, Managing Member

Date: \_\_\_\_\_

# Langenburg Technologies — The Power of Water Synergy World Energy

## HOW DOES THE LANGENBURG WATER/POWER UNIT WORK?



### SYNOPSIS

This technical brief is meant to serve those pursuing additional understanding of the Langenburg Technologies Water/Power technology using water from any source as fuel. This is the first system to market that has proven capabilities to deliver base load electrical power in either a point of use or grid ready power utilizing polluted water as the fuel stock.

### TECHNOLOGY

The Langenburg Water & Power Unit has been developed over 4 decades. Each year improvements have been made to ultimately arrive at the technology utilized today. Historically, our LT Water Systems were developed to meet the fresh water needs of the world. As a result of further research and development, the company developed a method to convert the waste stream extracted through the mechanical water purification process to fuel and ultimately convert that fuel to alternative power. This propriety process and technology was designed to be a self-sustained, self-powered system that could be remotely operated, controlled and monitored with little or no annual maintenance required. This system is capable of removing any contaminant from any water source in massive volumes, replenishing the essential bloodstream of Mother Earth. The self-powered component is what sets this system apart from any other similar or claimed to be similar system in the world.

### HOW DOES IT WORK?

The original function of this machine was to convert contaminated water into highly clean potable water at a rapid pace. The LT Water/Power Unit accomplishes this task through mechanical purification. The LT Water/Power Unit does not use membranes through this process - eliminating costly maintenance. The system takes the waste stream separated from the purification process and treats that waste stream through a proprietary plasma system that breaks the molecular covalent bonds converting solids and gases into their elemental forms. The technology allows us to separate the respective elements which are utilized as fuel, with non-desired elements (which are inert) being safely disposed of. The fuel for the separation is a syn-gas which the *LT Water/Power Unit* utilizes as clean fuel to power its turbine, which turns a generator that in turn creates power for the *LT Water/Power Unit* and additional surplus energy for the grid.

### FOOTPRINT

With a maximum equipment footprint of approximately 36' wide by 60' long the LT Water/Power Portable Unit is the most compact portable water treatment system

# Langenburg Technologies – The Power of Water



# Synergy World Energy

and base load energy solution available. The majority of our fixed systems occupy less than 10,000sf.

## EXISTING TECHNOLOGY

The Langenburg Technologies Water/Power technology revolves around centuries old, long proven technology that is used today. Consider this: some of the most promising, alternative energies are not revolutionary ideas. We all know about centuries old windmills and waterwheels that today, with a variety of improvements, including innovative turbine designs, are transforming these ancient innovations into technologies that now help nations satisfy their growing energy needs. This also holds true for gasification from water, but most people do not know a lot about this process. *Gasification is gaining in popularity and is set to join or surpass wind and hydropower in the pantheon of clean, renewable energies.* Gasification is simply a set of chemical reactions that use limited oxygen to convert a carbon-containing feedstock into a synthetic gas, or syngas, that is the root of gasification. Langenburg Technologies has harnessed this concept breaking the molecular covalent bonds through plasma allowing us to generate a significant amount of fuel.

Unlike chemical separation, gasification by plasma uses only a minute amount of oxygen under extreme temperatures in a small controlled environment thereby providing a gas composed primarily of hydrogen.

Such gasification technology has been around for decades: Scottish engineer William Murdoch developed the basic process in the late 1790s. Using coal as a feedstock, he produced syngas in sufficient quantity to light his home. Historically, cities in Europe and America used syngas to light city streets and homes. Eventually, natural gas and electricity generated from coal-burning power plants replaced syngas as the preferred source of heat and light, as they were then cheaply available.

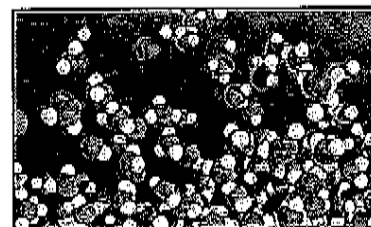
Today, with a global climate crisis being recognized as a reality, gasification is making a comeback and is expected to grow by more than 70 percent by 2015. The Langenburg Gasification Process is a proprietary method that has been developed over 40 years to effectively produce the syngas required for this technology breakthrough.



In 1792 William Murdoch was the first person in the world to light his house and office by piped coal gas. This laid the foundation for the gas industry of today.

The Langenburg Water/Power Unit consumes the syngas produced in a closed loop internal combustion modified engine or turbine. Cooling modifications are made to accommodate the temperature at which hydrogen is consumed. Combustion modifications are made to the factory supplied fuel nozzles to meet the requirements of the BTU content of the Syngas. Every engine's fuel consumption rate is adjusted based on the fuel composition and the rate of supply needed to deliver the horsepower necessary for the engine to handle its design load.

During combustion, the exhaust which is normally H<sub>2</sub>O is recaptured and fed back into the feed stock or first stage of water treatment because it is simply a vapor, thus forming a complete closed loop system.



## FAQ WASTEWATER TREATMENT

1. How much does the Langenburg system cost the customer?

There are no capital costs to the customer for the Langenburg system. There will be a charge to the customer for the treatment of wastewater which will be determined during the Feasibility Period through negotiations and discussion with the customer and their engineers. Typically the treatment cost will not exceed the customer's current or anticipated treatment costs.

2. How can Langenburg provide the system at no cost to the customer?

The Langenburg equipment is constructed of medical grade stainless steel, has a redundant ceramic filtration system and the highest quality turbines and generators available. Because the company is guaranteeing the equipment for the life of the contract and provides a 24/7 service level agreement, the equipment has to be built to last. Since longevity and dependability are so important for the project, the costs of construction and fabrication are very high. It would be impossible to charge enough for the treatment of wastewater alone to be able to satisfy the debt service involved. It literally takes tens of millions of dollars to build a Langenburg treatment system. Langenburg realized this early on and has developed a method to generate tremendous amounts of electricity as a by-product of the purification or treatment process. That electricity is sold to the local electric power grid by Langenburg which then generates revenue to cover the debt service and overhead costs for this very expensive system.

3. How does the waster water treatment equipment work?

The Langenburg waste water treatment system is a mechanical treatment process which separates the suspended solids in the wastewater, which are incinerated using well known and established plasma arc technology. What is left is a bio gas composed primarily of hydrogen which is used to run the turbines on the power generation side. There is little to no carbon at all.

4. How does the electric power generation system work?

Most systems use gas fired turbines which leave a carbon footprint (one part carbon to 4 parts hydrogen). Langenburg uses a bio-gas fired system to power the electricity generating system. The bio gas is created as a result of the wastewater separation and

treatment. The electric power is owned by Langenburg and is sold back to the local electrical power grid.

5. What are the benefits to the customer for using the Langenburg system?

There are no costs to the customer for capital expenses or maintenance of the wastewater treatment system. The customer gets the benefit of utilizing a proven system that is capable of high pressure, large volume treatment which is guaranteed to operate for a minimum of 20 years. Langenburg will have a performance bond in place at the time of deployment guaranteeing the performance of the equipment to the customer. Avoiding upfront capital expenditures allows the customer to reallocate important tax dollars to other necessary projects, thus facilitating growth in the community.

6. How does Langenburg plan for natural disasters like hurricanes and tornados? If the flow of water/wastewater stops, does the equipment shut down?

In situations where there is no existing treatment system with holding ponds, Langenburg will provide storage tank(s) to accommodate continuous water/wastewater flow for providing power if the Power Purchase Agreement states Langenburg needs to supply continuous power. Langenburg will keep recycling the water to generate continuous power. If there were a loss of water for treatment, the treatment side would shut down. However, there will be contingencies in place to keep the power running and storage tanks for water/wastewater in the event of a flow stoppage.

7. Is it necessary to pre-treat the wastewater?

Each new wastewater treatment plant will need to have one or more storage/equalization tanks or a holding pond. All treatment plants need this infrastructure to handle the pre-treatment and the equalization of the peak flows. These can be above or below ground. At an existing treatment plant, this may not be an issue because the pre-treatment component is already in existence. Langenburg will design the system to perform the necessary steps in accordance with the state, local and federal (if applicable) standards and specifications, utilizing the customer's current pre-treatment facilities.

8. What is the capacity and lead time for construction of the Langenburg systems?

Langenburg has an agreement with Lockheed Martin to construct the water to energy systems to Langenburg's specifications. It is currently estimated that they can build approximately 20 units per month. Langenburg is capable of constructing a limited number of systems at its manufacturing facilities in Eugene, OR. Lead time will depend largely on governmental approvals like discharge permitting, design approval, finalization of a power purchase agreement, etc., but it is projected that construction will take between 6-9 months after the power purchase agreement has been approved and obtained..

9. What is the wastewater treatment capacity of each system?

Capacities for the Langenburg systems vary based on the customer's needs. Generally the range is from a treatment capacity of 250,000 gallons per day up to as much as 10 million gallons per day for a single system.

10. Does Langenburg have independent third party certifications for its units?

Each unit is designed specifically for a customer based on their unique needs and local specifications and guidelines. Therefore, each unit is uniquely different. Independent certification, such as NSF 61, etc., will be obtained for each individual system from independent third party laboratories prior to installation.

11. How does Langenburg guarantee its system will operate as promised?

All systems are guaranteed for the life of the contract (typically 20 years). All systems are designed with redundancy for continuous operation. Additionally, for each system Langenburg will obtain an insurance performance bond issued by Zurich Insurance or a comparable company, guaranteeing the performance of the equipment for the life of the contract.

12. How is BOD handled in the Langenburg System?

BOD is removed thru the filtering system. The influent water is pressurized to a high level then passed thru the filters for treatment. The filters are designed to lower the dissolved oxygen to the desired limits.

13. What factors are taken into consideration during the Feasibility Period to determine if the project is viable?

- PPA – Since Langenburg is absorbing all capital costs and all costs of continued maintenance, insurance, performance bond, etc., a power purchase agreement in an amount appropriate to fund the debt service and ongoing maintenance, as well as other cost factors, is absolutely critical to the determination.
- Power Substations location – Langenburg must be able to sell electricity to cover the costs of the equipment and its maintenance. The further away the high voltage transmission lines are from the project, the more difficult it becomes to justify cost. Getting to a substation costs Langenburg roughly a million dollars a mile.
- Questionnaire – Important to a decision of feasibility is the completion of the Project Questionnaire, which gives the Project Manager insight into what the customer wishes to do with its discharge and what special needs they may have.
- Permitting – The various permitting needs may impact a feasibility determination and/or delay the project due to the time required to obtain various approvals.
- Project Manager Checklist – Additional and specific items may be needed for the Project Manager to make a final determination of feasibility.
- Customer Credit Review – If the customer is purchasing only water/wastewater treatment, credit worthiness is a factor. With a PPA, the strength of the electric utility serving the area is more critical.

14. Once a project is considered feasible, what steps are involved from that point to final installation?

- Binding Term Sheet from Funding Source
- Newco Established
- Final Service Agreements(WPA,PPA, Maintenance Agreements)
- Project Implementation
- Governmental approvals as needed

15. Will local engineers be utilized by Langenburg on these projects?

Langenburg is not interested in eliminating local jobs, so everything that can be reasonably done to protect those will be. There will be situations where local professionals will be called upon to help with the project.

16. Who will install and maintain the system?

Langenburg's engineers and contractors under their direct supervision will be responsible for installing and maintaining the system for the life of the contract.

17. Is Langenburg currently treating wastewater anywhere using its system?

Langenburg is not currently treating human wastewater, but it has been treating industrial wastewater and converting it to bottled drinking water for approximately many years, utilizing the same system it will use for cleaning of wastewater. The process is the same.

18. Can Langenburg's process remove ammonia, phosphates, nitrates and metals?

Yes, along with many other contaminants and VOC's .

## **Key Points**

### **Langenburg Water Purification System**

#### **Offered by Synergy World Energy (SWE)**

- **No Capital Expense**
  - SWE will pay all costs of construction and installation of the system.
- **Performance Bond - Written by Zurich Insurance**
  - A performance bond will be secured by SWE to guarantee the system operates as detailed in the Letter of Intent and Final Contract.
- **Maintenance and Liability of Waste Water Purification Unit**
  - SWE will provide the maintenance and upkeep of the system for the life of the contract (minimum 20 years).
  - SWE will assure full compliance with governmental regulations.
- **System is Scalable for Economic Growth**
  - Stay ahead of your growth curve by upgrading capacity as needed.
  - The system is manufactured by Lockheed Martin.
- **Next Steps**
  - Sign Non-Binding Letter of Intent
  - Complete Feasibility Questionnaire
  - Mutual Feasibility Study
  - Power Purchase Agreement - Utility Company
  - Agreement
  - Installation
  - Begin Saving

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