

# GWECC SOLUTIONS

GWECC 2013

GWECC is a solutions based company focusing on the reduction and/or the elimination of varying waste-streams.



## A Solutions Based Company Summary

Global Waste Energy Conversion Company (GWECC) is an alternative energy, solutions based company. The company creates green energy projects worldwide, for the advancement of worldwide sustainability and is becoming the benchmark for waste disposal and alternative energy production.

The GWECC Team has put together a group of talented and passionate individuals that are experts in the waste-to-energy arena. GWECC is a matured company with over 13 years of operating experience in the industry. The Team comprises professionals from all parts of the

world, with offices and projects worldwide.

GWECC focuses on the reduction and/or elimination of waste streams, including but not limited to Municipal Solid Waste (MSW), Biomass, Waste Water (sewer sludge), Wood Waste, and Waste Tires. Using GWECC technology, these processes will effectively and efficiently convert waste-stream materials into varying marketable commodities; feed-stock pending.

GWECC continues to attract new projects, by implementing its "start-to-finish" approach for the commissioning of each facility. Through this, GWECC performs

first an initial implementation study, to insure project success and participates in all regulatory process standards needed for implementation. The company also offers a GWECC Municipal Financial Package that allows qualified municipal projects the ability to finance an entire project for the commissioning of a GWECC Waste-to-Energy facility. Another value add is the System Performance Guaranty/Warranty insuring against financial loss and the performance curve standards set forth in the final implementation study. For more information, visit:

[www.gwecc.com](http://www.gwecc.com)

# Truth About Alternative Energy

## The GWECC Difference

The alternative energy sector has had a growing amount of interest and popularity through recent years; and for good reason. Climate change, dependence on fossil fuels, increasing consumerism worldwide; the world is in dire need for an answer, amidst what some experts are calling an “energy crisis”. The team at GWECC understands that ending voracious consumerism and increasing recycling practices is simply not enough to offset the rising energy costs and the worldwide carbon footprint.

Due to the inherent risks of rising energy costs and climate change, governments have recognized the importance to decentralize energy production and have handsomely subsidized the industry, to expedite such technology and processes. GWECC processes and technologies offer an alternative for countries, states, cities and municipalities seeking assistance in achieving energy independence.

The question becomes: What is the best method for producing alternative energy? Geographic variables alone create arguments for one technology over another, offering no precise answer. However GWECC poses this; can you efficiently and effectively create energy, at a cost the market will bear, with the sustainability for long term investment, without causing undue stress to the incumbent environment?

Efficiency plays a key role in the success of a “green” project. Existing methods of waste disposal

**“Can you efficiently and effectively create energy at a cost the market will bear, with the sustainability for long term investment, with out causing undue stress to the incumbent environment?”**

often lack efficiencies in either feed-stock conversion and/or output recover. GWECC technology provides efficient processes that account for feed-stock conversion in the 90 percentile, while also producing an output energy that recovers as much as 90% of the feed-stock processed.

From an investment perspective, sustainability is key. High cost, low energy production projects, demanding high amounts of feed-stock with a low return on energy recovery, reflect low success given their lack of sustainability.

Too often, alternative energy projects lack the characteristics of a stand-alone operation; profitable without subsidies/government incentives and a long term operating life cycle. The GWECC Difference is the ability take advantage of its tacit knowledge, technology, and processes to achieve comprehensive solutions for each project. GWECC offers the best available technology for waste reduction, air quality, and implementation. GWECC has the ability to take a project from infancy to implementation, offering the worlds finest sustainable and efficient green solution.

**Did you know?**  
GWECC offers a performance guaranty/warranty for projects insuring the project from financial loss.



# Global Waste Energy Conversion Company

## FAQS

### Q: What is Pyrolysis?

Pyrolysis is a process that takes organic material that is combustible, often times garbage, biosolids, tires & wood, and thermally converts the carbon based organic materials into its “gas” form. Because the process converts material in an atmosphere that is oxygen-absent, there is no flame and no material is actually burned. The GWECC process is referred to as pyrolysis (not gasification). because of the lower energy heat breakdown. The oxygen starved system also enables the toxins of a given feed-stock to be cleaned and sequestered before process conversion, to significantly if not completely reduce green house gases and harmful emissions. The feed-stock material is heated to a low temperature, by which the product breaks down into subsequent gases, and can be easily transformed into power generation, liquid fuels, and/or hydrogen. The advantage to pyrolysis as opposed to other conversion systems, is the amount of energy used in conversion is significantly less than opposing methods of disposal. In addition, we are dealing with a conversion rate in “Real-Time” vs. more traditional methods using “Fermentation Time” or accelerated fermentation time (i.e Landfills and digesters). Moreover, the ability to control such pollutants and the commodities recovered from the process, makes pyrolysis a highly recognized and preferred method of disposal.

### Q: What sets GWECC apart?

GWECC’s core competency is its ability to implement comprehensive solutions; from start to finish. The GWECC difference is outlined by 3 core competitive advantages including, Efficiency, Environmental Impact, and Versatility. Because GWECC technology is a self-sustained operation, ancillary operating costs are minimized for low maintenance operation. In addition, GWECC processes recover nearly 90% of the energy stored in certain feed-stocks, making GWECC highly efficient in the industry sector.

The environmental impact of GWECC processes are positive, reducing and/or eliminating otherwise hazardous materials while recovering the energy stored in those materials and converting them into commodities. The technology itself records little to no emissions, producing very low NO<sub>x</sub> & SO<sub>x</sub> emissions, down to 7 ppm and can be reduced to 3-4 ppm if necessary.

The versatility of the technology has enabled projects of all sizes the ability to utilize waste-to-energy processes. Because GWECC technology is scalable, the “one size fits all” approach is eliminated, thus creating large cost savings, realizing a relatively low industry cost for commissioning a large scale alternative energy project.

The technology has been vetted by Sigma Energy Solutions, AON/AIG, and has been permitted in So.

California multiple times being referred to as one of California’s best available technology in the industry.

### Q: Why Waste-to-Energy?

The waste-to-energy operation has been a sought out process for decades, because the idea of taking an otherwise harmful/hazardous waste stream, and using that waste to produce commodities, including energy and fuels, is ideal. Current methods of waste disposal utilize this same principal in fermentation time. GWECC technology creates outputs in Real-Time, for instant realized revenues, as opposed to fermentation time, which is long, costly, and capital intense. The real industry constraint has been the processes that fail to meet air standards and project commissioning with an adequate return on investment. GWECC has overcome both constraints and has been able to package solutions in an all-inclusive type of scenario, making projects seamless from start to finish. Moreover, because there is such an enormous amount of waste stream feed-stocks, i.e. Municipal Solid Waste, Biosolids, etc., there is no better sector in alternative energy than waste-to-energy.

### Q: How can municipalities benefit?

Because GWECC works closely with cities and municipalities to construct waste-to-energy projects using the GWECC Municipal Financial Package, municipalities can benefit largely from GWECC waste-to-energy technology projects. The value added in simply reducing and/or eliminating the problem of overflowing landfills and waste disposal sites provides enough cost savings to justify a project. However, cities and municipalities are also realizing indirect benefits in increasing the workforce, potential reduction of energy costs, and promoting sustainability, while also sharing in project revenues from the commodities produced.

### Q: Is GWECC technology currently operating?

GWECC technology is currently running in several locations throughout the world, largely represented on the western seaboard of North America. Locations include LA County, CA, Chino, CA, Las Vegas, NV and Yong In, South Korea. Conversion facilities have been in operation in the USA since 1998 with projects using various different types of feedstock’s.

### Q: How much does a facility cost?

GWECC waste-to-energy facilities are turn-key from the technology perspective, however because each project is tailored to each specific site, the variables for implementation are too volatile to estimate a “one size fits all” cost approach. GWECC does provides ample cost savings for implementation on a scale lower than that of the industry average.



**“To become the benchmark for waste disposal and alternative energy production”**

**GWECC Mission Statement**



## The Turn-Key Solution: Step 1 Summary

The feasibility portion of GWECC Solutions is the most vital element in the comprehensive solutions package. The process includes the most critical aspects for project completion. This intricate process results include a detailed accumulation of each proposed project from start to finish, outlining each key aspect of the GWECC alternative energy model.

The GWECC alternative energy model explains that the success of an alternative energy project is dependent upon two variables. First, the feed-stock used for project implementation has to be plentiful and adequate. This is expressed

through the “waste stream” that is typically used to fuel the project; in many cases we are talking about Municipal Solid Waste (MSW), Biosolids, Tires, and various other waste streams.

The second aspect of the GWECC alternative energy model explains that after process conversion, the guaranteed output purchase for commodities produced is key for project success. In many cases, this is expressed through a Power Purchase Agreements (PPA) or an off-take agreement.

The GWECC feasibility study is conducted and paid for on behalf of the client. Once GWECC is retained to

conduct this process, feasibility includes, but is not limited to the following key elements: Permitting & Approvals, Financial Projections, Capital Structure, Customer Information, Competition, Marketing, Sales, & Distribution, Major Customers, Implementation/Marketing Plan, Research & Development.

GWECC takes projects from the regulatory permitting process to project implementation. Commissioning projects from start to finish is GWECC’s core competency.

For more information visit:

[www.gwecc.com](http://www.gwecc.com)