



KCG Green Energy Solutions

Company And Solutions Profile

June 2013





KCG Green Energy Solutions

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Who are we?

KCG Green Energy Consultants, LLC is a certified minority business consulting firm that provides energy efficient and renewable energy solutions to building and real estate owners worldwide. We offer our services to residential, multi-family, commercial and educational facilities, as well as hospitals, airports, and government buildings. We identify whole building energy consumption through billing analysis, diagnostic testing, and building simulation modeling to measure performance and usage.

Our solutions include the most advance technology, including Building Automation Systems (BAS), Intelligent Energy Management (IEM) systems, and Automated Meter Reading (AMR) systems, that allows our clients to monitor and understand their energy consumption, enabling them to make effective decisions on energy reductions. Our staff believes that we must provide our clients with accurate energy consumption information in resulting in efficient energy management practices.

From comprehensive sustainability audits to on-site debris removal, our integrated solutions help your business run more efficiently. We offer the creation of customized green- building solutions to proper debris disposal helping you implement your environmental initiatives to achieve positive economic results.

Services Provided:

- Benchmarking/Greenhouse gas emissions reporting
- Consulting/Energy Management solutions
- Construction Waste Diversion and Recycling
- Energy Audits (ASHRAE Level I&II Audits)
- Energy Star Rating/Energy Star Label
- LEED Certification
- Measurement and Verification
- Sub-metering
- Water Conservation

At KCG, we focus on empowering our clients with solutions and technology to reduce their carbon footprint, while saving money. We can measure the exact amount of water, gas, and electricity your building consumes, and determine efficient solutions that reduces energy usage. KCG Green Energy Consultants, LLC is dedicated to implementing energy efficient measures, using proven strategies and the latest technology to achieve maximum energy conservation.



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Understand First: Our unique approach

The greatest challenge in any environment is to first understand exactly how and where your energy is being used, and by what equipment and processes. By **understanding your energy profile**, it is then possible to identify more intelligent ways of using less energy to produce the same or better results.

Very often, customers are not fully aware of how their energy bills are calculated, and become frustrated in not knowing where to start to reduce these monthly costs. By conducting an **“energy audit”**, a detailed report is compiled, along with the suggested solutions and the expected energy savings and payback periods. This assists the business to then make the correct, and informed, decision.

Consider KCG Green Energy Solutions as being your new “Energy Advisors”.

How do we add value to your business?

KCG Green Energy Solutions is different to most other companies in that we are not focused on a particular product range. **We are solutions and results focused**. If a particular solution is not financially feasible to implement then it cannot be seen to be adding any value to your business either.

Our areas of solutions expertise cover the following:

Energy Auditing

Not all businesses are the same. The art of energy auditing is being able to identify which environments need to be monitored, and for how long, in order to collect the right amount of data to compile an Energy Report and present it to the business in the context of their operations.

An Energy Report should also contain the financial cost calculations of the current environment, as well as the efficiency of the proposed environment, in order to enable the business to make an informed decision.

Besides collecting data, we are also able to identify the full energy cycle of different operations within the business to see if any energy being discarded can be utilized by other processes. Moving and exchanging energy between different processes provides greater savings than just trying to make each process as energy efficient as possible individually.

Green Consulting

Being part of a dedicated team enables us to leverage the skills and knowledge that we have across all the different aspects for a particular project, to provide guidance for “Best Practices” on solution technologies, building materials used and installation approaches.



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How do we add value to your business? (continued)

Lighting

In environments where lighting is used for more than 6 to 8 hours a day, energy efficient lighting solutions can reduce these electrical costs by up to 90%. This provides a payback period of around 2 years.

In addition to reducing electrical costs, these newer lighting technologies also generate a much better quality of light. These lights also last much longer, reducing overall maintenance costs as well as the costs of replacing the actual bulbs.

Water Heating

Contrary to popular belief, a solar geyser is not the only answer to provide hot water. In some environments, other solutions based on heat exchange processes will provide more efficient solutions to heat large volumes of water. These solutions will also continue to provide energy efficient hot water heating during the evening and also throughout winter.

Water heating solutions can reduce their associated electrical costs by up to 50%, or more, and have a payback period of less than 3 years.

PEAK Power

PEAK power is the maximum amount of power that can be provided by any power source. Using PEAK power during certain times can also incur additional and expensive tariff penalties. If your company's operations needs to expand and there is no additional PEAK power available from your electrical provider, you will not be able to power up any additional machinery or equipment required to grow your business.

There are many solutions that enable a business to reduce their PEAK power, either through energy efficiency, automated PEAK load management or by generating additional power from another energy source. These options allow a business to reduce their tariff penalty costs, as well as being less restricted to grow their current operation.

Depending on the exact business requirements, costs and implications, the payback period on these solutions can be as quick as a few months.



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How do we add value to your business? (continued)

Reactive Power

In environments that operate heavy machinery, or that use extensive lighting with ballasts (such as fluorescents or Hi Bay lights), electrical power can start to go “out of phase” and become unbalanced, causing Reactive Power. The amount of Reactive Power is monitored by your electrical grid provider and normally incurs exorbitant penalties that appear on your monthly bill as a separate item, listed as kVAr.

By determining the amount of Reactive Power being pushed back by the electrical equipment, it is possible to correctly size a solution to prohibit this as well as increase the efficiency and performance of the equipment. Due to the high tariff penalties associated with Reactive Power, these solutions have a payback period of between 12 and 18 months, saving some companies hundreds of thousands of Rands each month.

Backup Power

Power outages, whether scheduled or caused by poor infrastructure maintenance, place businesses at considerable risk. Many companies approach installing backup power as an isolated requirement, usually purchasing a generator, UPS or large inverter and battery system.

However, without correctly identifying which critical business systems require backup power can result in the company making a purchase that is too large and unnecessarily expensive for their actual requirements. In addition to this, investing in energy efficiency options can often reduce the size, and therefore the cost, of the backup power solution significantly.

Benchmarking Energy Usage

KCG uses interactive energy management tools to track and assess energy and water consumption across our customer’s entire portfolio of buildings, to rate building energy performance, estimate carbon footprints, set investment priorities, and verifies and track progress of improvement projects.

Billing Analysis/Data Acquisition

Historically utility costs are one of the largest expenses a property owner has. It is difficult to predict the costs of utilities from month to month without accurately knowing how much energy a building owner is consuming. Using our superior tracking and data acquisition products, we can accurately determine daily or monthly usage, with real time data, that our clients can use to conserve energy and lower utility bills.



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How do we add value to your business? (continued)

Construction Waste Diversion and Recycling

We work with clients to develop a construction debris recycling and disposal program to keep projects on time and on budget while benefiting the environment.

Energy Star Label/Rating

Through the US Department of Energy and the EPA, buildings achieving a rating of 75 or higher and professionally verified to meet current energy efficiency standards are eligible to apply for the Energy Star. Display the Energy Star plaque to convey superior performance to tenants, customers, and employees. Highlighting the Energy Star qualified buildings in your portfolio sends a positive message to lenders, appraisers, owners, investors, and potential tenants or customers.

LEED Certification

The LEED rating system was developed by the U.S. Green Building Council (USGBC), to provide "building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions. We provide LEED certification for existing buildings.

Measurement and Verification/Commissioning

Building commissioning is a quality assurance program intended to demonstrate the building is constructed well and performs as designed. If the building materials, equipment and systems weren't installed properly or aren't operating as intended, the health, productivity and other benefits of high performance design will not be achieved. Commissioning is a powerful tool because it can indicate if the designers and contractors have done what they've been hired to do. This includes the performance assessment and measurement of the effectiveness and energy efficiency of the project and can include long term monitoring, verification of savings and benchmarking.

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How do we add value to your business? (continued)

Sub- Metering

Our sub-metering systems allow landlords, property managers, and multi-tenant property owners to bill tenants for individual consumption of water, gas, and electricity. The sub-meters are installed on each individual line and are read by a remote wireless system.

Water Conservation

We offer water saving solutions and products from low flow shower heads to water usage sub-metering to determine daily usage patterns or leaks, reducing water demand.

NAICS CODES

KCG Green Energy Consultants, LLC provides services throughout the United States under the following North American Industry Classification System (NAICS) codes:

541350- Building/Home Inspection Services
541611- Management Consulting Services
541620- Environmental Consulting Services
541690- Energy Consulting Services
334515- Energy measuring equipment
924110- Waste stream management

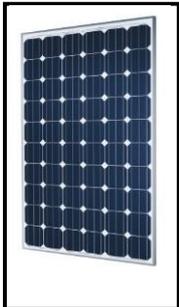
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Renewable Energy

KCG Green Energy Solutions has extensive experience in providing integrated renewable energy and power solutions. Our focus and expertise covers the following:

Solar Energy



Solar generation is the most common of all renewable energy solutions, yet it can also be the most difficult to correctly size a solution for a specific power requirement.

Solar solutions can be used for:

- Stand-alone, remote power requirements
- Hybrid integrated backup power
- Solar powered lighting
- Reducing PEAK Power in large environments

While the cost for solar technology has reduced over recent years, there are usually other criteria that help justify the investment in solar energy, and place the payback calculations into a true perspective.

Solar Water Pumps



Solar Water Pumps are very energy efficient solutions for pumping water, and provide many advantages over traditional water pumps using AC power. Traditional water pumps can use up to 4 times more electricity to pump the same volume of water. Solar Water Pumps are also designed to run dry, unlike an AC water pump that would be permanently damaged. Being solar powered also means that water can be pumped from almost any location, regardless of grid power availability.

Waste-to-Energy



Waste-to-Energy solutions generate heat and electricity from refuse and waste sources, by incinerating this waste material to drive a turbine that generates electricity, which is usually connected to the grid.

Capturing the harmful gasses and managing the incineration waste correctly provides an invaluable energy solution by reducing the burden of landfill sites and extracting the energy embedded within this waste. Additional benefits include improved recycling onsite, and improving health conditions as refuse collection is improved to increase energy generation.



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Our Completed Projects

These are some of the projects that we have been directly involved with over the past few years.

Family Service in Indiana

A 11,302sqft pre-1978 three story building with an all brick exterior. Twelve units, seven units with two bedrooms and five units with three bedrooms . The units contain electric baseboard heating in each room and an electric wall heater in each bathroom. The building is supplied with hot water using two 120 gallon electric water heaters.

INSPECTED:

- Section 1 – Health and Safety Inspection
- Section 2 – Mechanical Inspection
- Section 3 – Shell Inspection
- Section 4 – Wx Treatments

City Hall Greencastle, IN

An energy assessment was performed on the City Hall building of Greencastle, IN. Total area was 11587 ft square. The building was benchmarked using Energy Star benchmarking tool to establish a baseline for energy consumption. A baseline score of 56 out of 100 was determined for the building, short of a score of 75, the minimum for an ENERGY STAR rating.

RECOMMENDATIONS:

- Solar System
- Lighting System Upgrades
- Building Automation System
- Thermal Boundary/ Thermal Comfort Upgrades

Gary Commission, Gary, IN

The Gary Commission building is an 18,000sqft all brick two story building with a conditioned basement.

INSPECTED:

- Section 1 – Health and Safety Inspection
- Section 2 – Mechanical Inspection
- Section 3 – Shell Inspection
- Section 4 – Wx Treatments

UHAL

A comprehensive energy audit was performed on three U-HAUL retail and self-storage centers of central Indiana. The areas of evaluation include: Interior/Exterior lighting, all HVAC systems, building envelope, and domestic hot water. For each building analyzed, an Energy Use Index and Energy Star Rating was calculated and compared to other buildings of similar size and use. The outcome of this audit has provided an opportunity for directed building modifications that we will refer to as Energy Conservation Measures or ECMs.

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Our Completed Projects

KCG Green Energy has a wide range of partnership and networking with other energy service providing companies throughout the world. We share our knowledge, our intelligence, and our judgment with our partners to provide simple and cost effective renewable energy solutions. Together with our partners we have designed, audited, engineered and installed wind, solar and micro hydro power systems in U.S. and Africa. So far, these installations have generated over 1,000 MW of renewable energy.

RFC Container in Vineland, NJ

940.8 kW Ground Mount system using the ISYS Ground Mount racking system from UNIRAC that allows for pre-assembly of panels and reduces the amount of time needed to erect the solar elements in the field.

Fessler USA in Orwigsburg, PA

500kW Flat Roof Mount system using the Panel Claw racking system that allows for partial pre-assembly of panels. The unique interlocking design and ballast system allows for no roof penetrations a continuous array of panels limited only by the square footage of the roof.

Russo Farms in Vineland, NJ

201.6 KW Ground Mount system using the ISYS Ground Mount racking system from UNIRAC

Novielli in West Chester, PA

10kW Single Axis Tracker racking system in this residential neighborhood that produces 1.65 times the energy as a typical ground mount or roof top installation.

Equatorial Guinea

Multiple 2.5kW Off-Grid Roof Mount systems with battery backup designed to power multiple community centers in rural villages. The systems run the 18 cubic ft refrigerator, LED lighting, 42-in flat panel TV, water pump, and lantern and cell phone charging stations.



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Why KCG Green Energy Solutions?

KCG Green Energy Solutions is a specialist company, providing you with the right energy solution to meet your power requirements. We operate in Indiana.

Our approach is unique in that we look at energy as a whole within your business, and provide you with a solution that is designed specifically to meet your business requirements.

Our focus areas on energy solutions are around the following:

- Energy Audits and Discovery: To determine the true energy profile of your environment
- Operational Savings: Reduce your monthly energy costs immediately
- Guaranteed Power: Integrating power solutions to ensure business availability
- Design-and-Build: Custom solutions to integrate into your environment
- Renewable Energy: Generate electricity from solar, wind and biogas sources
- Solution Monitoring: Ensure deployed solutions continue to meet objectives
- Energy Training: Provide knowledge around energy and power solutions

We pride ourselves in providing solutions that are right for your business, showing the cost payback period and calculations needed to make informed business decisions. By doing so, you will be able to grow your business by reducing your operating expenses and ensure business continuity during power outages.

All of our projects are professionally managed, from initial design scope to customer sign-off.

Consider KCG Green Energy Solutions as being your new "Energy Advisors".

Visit us at: www.kcggreenenergy.com

