

# GEG

**GREEN ENERGY GROUP**



Image by: Gensler



Image by: Sasaki Associates

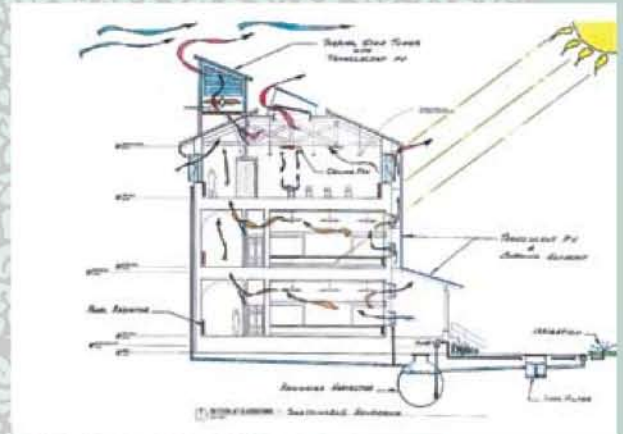
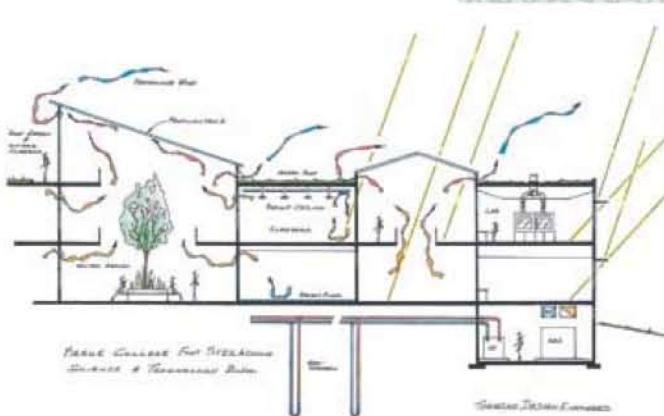


Image by: LMN/TEF and Studio 216

## Introduction to Green Energy Group

Headquartered in the United Arab Emirates, with locations around the globe, Green Energy Group (GEG) provides services and products for the green building industry, including turnkey green and sustainable design, products and construction services. Partnering with firms that are leaders in their industries, GEG is able to provide world-class, comprehensive services and products to our clients. Because of the wide range of services and products that we provide, GEG can be involved in the design and construction of a green building from start to finish, saving our clients money and time and facilitating the process. GEG's expertise isn't limited to select areas but encompasses all sectors including educational, arts, commercial, infrastructure, health care, mixed-use, historical, and hospitality.

We are committed to changing the way buildings are designed and constructed through more collaboration from the start of the process with all the people who will be involved from the Architect and Engineer to the Contractor and Commissioning Agent. Through this collaboration, we are able to find better, more sustainable and innovative solutions and the resulting buildings incorporate cutting edge technologies and products.



## “Making Green Easy”

GEG's motto of “Making Green Easy” means that we provide all the services a client needs to make their green building from inception to completion and beyond. GEG's partners provide Architectural, Engineering, Master Planning, Infrastructure, Landscape and Lighting design; LEED and Sustainable Consulting; Green Technologies, Tools, and Products; Green Construction; and Building Commissioning and Management. GEG's member's collaboration makes the process of building green timely and cost effective, producing unique, sustainable buildings.

## GEG Members



Timmons Design International (TDI) is a consulting engineering firm providing design services encompassing Mechanical, Electrical, Plumbing, Lighting and Infrastructure design, LEED and Sustainable Consulting, and Design Management. As a member of the United States Green Building Council, TDI has more than 20 years of design experience in the green building industry and is committed to incorporating sustainable practices in all of its designs.

Greentech supplies the technological tools and products that are necessary components for building green sector using sustainable tools, material and techniques.

Windtech, in association with various manufacturers including Ghodawat Industries, provides Wind Turbines ranging from 10kw to 1650kw, as well as towers and blades.

Green Construction Group (GCG), a branch of Al Dhafr International Group (a First Class Contractor Company), provides complete green building solutions in the construction industry.

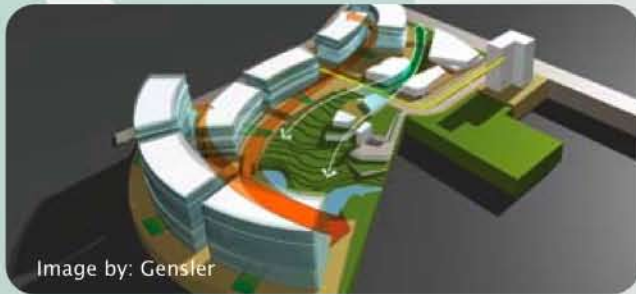


Image by: Gensler



Image by: Leo A. Daly

## Locations

GEG is always expanding and looking for team members who can provide not only what our clients need but also an exceptional level of services and products. GEG has locations across the globe so as to provide local, hands on service to our clients. GEG's European and Asian headquarters are located in Abu Dhabi, United Arab Emirates and the North American Headquarter is located in San Francisco, California.





## Innovation & Excellence in Engineering Design

Timmons Design International (TDI) is a consulting engineering firm. We offer a complete range of Mechanical, Electrical, Plumbing and Sustainable design services for a diverse range of projects including: civic, educational, high-rise, residential developments, commercial, port and waterfront development, parks, infrastructure, mixed use, and hospitality.

Our team of talented engineers and project managers are dedicated to achieving the best possible solutions for our clients through collaboration, innovation and technical proficiency. Our goal is to change the way architects and engineers work together by breaking the mold and enhancing the architect's design through elegant and simple engineering solutions.

We are committed to incorporating the principles of sustainable design in all our projects. Our designs are energy conscious from inception to completion and are supported with detailed computational life cycle cost analyses that review first cost, maintenance costs and replacement costs over the life of the systems.

## Our Design Philosophy "Passive before Active"

At TDI, our engineers are constantly pushing the design envelope to reduce the environmental impact of our projects' energy consumption while being mindful of projects' first cost. Our philosophy is to first consider passive system designs, such as natural ventilation, natural daylighting and thermal mass, before employing active design solutions. We accomplish this goal by working directly with the architect during the conceptual stage to optimize building orientation, shading, glazing, and window arrangement.

Passive systems greatly reduce building operating cost because they do not require maintenance or replacement and significantly reduce energy usage of the building lighting and HVAC systems. Once passive systems have been optimized, high efficiency active systems can be designed to meet those loads not met by passive design.

## Integrated Design

Integrated design stems from the comprehension of a project's intention: how people interact with a building, how the building integrates into the environment and how the building performs over its life-cycle and beyond. Led by a Principal-in-Charge, we take a wider role in the design process, working collaboratively with the architect and other design team members. Key project personnel in each required discipline form a cohesive design unit bringing a wealth of experience and design ideas that are then channeled into the project. We integrate the environmental services into a building's already optimized fabric.

## Core Services

Our core skills in project design and management ensure that we establish a clear project vision at the concept stage. Our overriding aim is to utilize all our technical expertise to provide clients with the utmost professional services. Our continual research and development ensure our designs use innovative technology where appropriate. We apply our skills across all, or any part of, the project life cycle: from project identification, site selection, feasibility study, facilities management, and commissioning.

- ✘ Mechanical
- ✘ Electrical
- ✘ Plumbing
- ✘ Sustainable Design
- ✘ LEED Consultation
- ✘ Master Planning
- ✘ Infrastructure
- ✘ Lighting Design
- ✘ IT/Telecom
- ✘ BIM/Energy Modeling

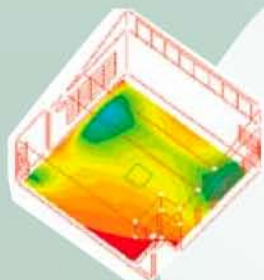
## Green Design

Our commitment to energy performance, resource conservation and pollution reduction in the built environment has evolved into a true sustainable design practice. We provide engineering and sustainable design services ensuring a true balance of conservation, constructability, schedule and budget. We specialize in alternative energy and forward thinking solutions.

- ✘ Photovoltaic Design
- ✘ Solar Hot Water Design
- ✘ Wind Power Design
- ✘ Cogeneration
- ✘ Rainwater/Greywater Design
- ✘ Radiant Technologies
- ✘ Geothermal
- ✘ Biomass
- ✘ Fuel Cells

## Specialty Services/Building Information Modeling (BIM)

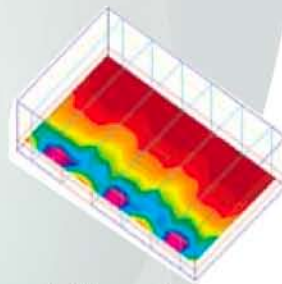
TDI utilizes cutting edge computational modeling for use in small standalone building performance studies or as validation of our innovative building system designs. New modeling techniques and platforms are continually evaluated to ensure that our analysis reflects the latest methods and technologies available to the profession. Our capabilities allow us to simulate the performance of nearly all aspects of the building environment, including daylight analysis, CFD ventilation and distribution analysis, as well as energy savings using energy conservation measures such as daylight or occupancy sensors.



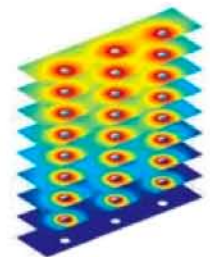
Daylighting Analysis



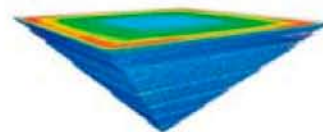
Computational Fluid Dynamics (CFD) Analysis



Façade Thermal Analysis



Finite Element Analysis



Thermal Comfort Analysis

## Sustainability

TDI is committed to incorporating and integrating the principles of sustainable design in all of our projects. When feasible, we incorporate design practices outlined in the US Green Building Council's (USGBC) LEED® Green Building Rating System™. LEED® provides a definitive standard for what constitutes a "green building". TDI has also designed building systems and advised clients according to many other local and regional green building programs implemented throughout the world.



**Greentech** is a supplier of green products and sustainable technologies. Greentech works with the building designers, TDI, and GCG to provide a project with the most current technologies available in the

green building industry. Greentech has in-depth knowledge of all sustainable technologies and stays current on all new, emerging products in order to provide its clients with the most cutting-edge technologies. Greentech is able to assist its clients in choosing the best products available to meet their project goals and local conditions. After determining the appropriate products for the project, Greentech will supply and deliver them to the job site. Greentech is committed to incorporating sustainability into the process of supply and delivery as well by working with local manufacturers and using sustainable shipping methods.



Courtesy of BP Solar



Greentech provides sustainable products such as: Photovoltaic Panels, Solar Hot Water Collectors & Accessories, HVAC Equipment and Low-Flow Fixtures. Greentech is committed to supplying cutting edge technologies at the lowest prices to its clients whether they are commercial contractors or homeowners.



**Green Construction Group (GCG)** was started as the “Green Branch” of Dhafr International Project Group (DIPG), a First Class Construction Contracting company. As construction and demolition waste accounts for 25% of waste going into landfills, DIPG, seeing a need to change its focus from conventional building practices to integrating sustainable methods and materials, created GCG. GCG is committed to providing sustainability in construction by using environmentally friendly materials and construction techniques.



## Green Construction Practices

One of the most important practices that GCG implements is the reuse and recycling of construction material. Through collaboration with the design team and suppliers, GCG is able to plan for waste prevention by considering it during the design process, using sustainable construction practices that reduce the amount of waste, and collaborating with Greentech and Windtech to purchase with waste prevention in mind. GCG implements a waste management plan that incorporates practices such as working with local business owners, and identifying materials for reuse, recycling and disposal. By routinely using green construction methods, clients will see significant savings in their budget, especially in the reduction of wasted construction materials.

Following green construction methods can contribute to obtaining points for the USGBC’s LEED certification and other standards of sustainability. GCG’s goal is to enable all its clients to achieve those credits on all their projects.



**Windtech** is a distributor of wind turbines, turnkey wind turbine packages, and other products related to wind turbines such as blades and towers. Windtech provides wind turbines ranging from 10kw to 1650kw through its partnership with several manufacturers around the world. These partnerships allow Windtech to provide its clients with local, reliable, and budget-friendly products. Windtech has done extensive research on behalf of its customers and only partners with manufacturers that provide high-end products with an excellent track record.

## Why Use Wind Power?

Wind power is a growing industry and is being implemented more and more into the building community. Wind power has a lot of potential for the burgeoning sustainable market. Currently wind power capacity supplies 1% of the world's energy; however, in some regions, this natural, renewable resource supplies up to 40% of energy needs. As an easily recognizable symbol of sustainability, wind turbines are relatively easy to install and can be implemented into a small area. Wind power technology has advanced greatly in recent years making it easy to install even in cramped city sites.

## Services/Products

Windtech provides a range of sizes in wind turbines in order to satisfy the needs of its clients, from large turbines for wind farms for government run public utilities to small, individual turbines for smaller projects. The large scale wind farms can provide enough power to supply large developments or cities depending on the local conditions. Green Energy Group, in collaboration with TDI, provides design for these large scale farms including utility and infrastructure design, as well as providing the capabilities to determine the applicability of wind turbines for a given project. Windtech, in association with Ghodawat Industries, provides the products necessary to supply the construction of wind farms, such as high-end, 1650 GW turbines, blades and towers.

Windtech provides small wind turbine packages making it easy to install wind turbines for any type of project. These full service wind turbine packages include design, supplies and installation of smaller scale turbines. Products may include horizontal axis turbines, building integrated vertical turbines, and wind powered self standing lights. Other services include start-up and commissioning, provisional reception testing, and operation and maintenance of all its products.





Image by: Gensler

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