

RENEWABLE ENERGY & PROJECT FINANCING

RENEWABLE ENERGY IS GREEN POWER

Electricity is produced from a variety of sources such as natural gas, oil, coal, nuclear, hydropower, biomass, wind, solar, geothermal fluids and solid waste. Green Power is electricity generated from renewable energy sources such as solar, wind, geothermal sources, biomass and hydropower. These green sources of power provide sustainable development by utilizing non-depleting energy forms as compared to petroleum, coal, nuclear and natural gas.



SOLAR PHOTOVOLTAICS (PV) – POWER

GEA has designed several grid-connected PV systems. System owners like the fact that the system reduces the amount of electricity they purchase from the utility each month. PV is also a clean and pollution-free energy source that can reduce dependence on foreign sources of oil.

While grid-connected PV systems can provide a significant portion of an industry's electrical needs, they may also generate more electricity than needed. The electricity generated by the PV system can be used on site or fed through a meter back into the utility grid. For example, if a PV system is generating at near its rated output and if a facility is idle or closed, a system will typically be producing more electricity than is needed for a given time period and that excess can be "sold" back to the utility. At the end of the month, a credit for electricity sold is deducted from charges for electricity purchased.



WIND POWER

Wind power describes the process by which the wind is used to generate mechanical power or electricity. Wind turbines convert the kinetic energy in the wind into mechanical power. Wind Power is the world's fastest-growing energy technology. Wind turbines harness the wind to generate electricity. Wind turns the turbine blades, which spin a shaft, which connects to the generator and makes electricity. A local transformer is then used to step up the electrical voltage, so that the electricity can then be sent through transmission and distribution lines to homes, businesses and other users. Wind generation can even be combined with other renewable energy technologies.



COGENERATION, BIOMASS AND HYDRO POWER

The use of Biomass Resources serve a variety of goals in the areas of agricultural biotechnology, environmental biotechnology, biogas generation, bioremediation, fermentation, enzymes, and improving woody crops for the agricultural sector, as well as scale-up of fast-growing willow plantations and wood-coal co-firing. Agricultural projects that add value on-farm have included ethanol production from corn, biodiesel production, organic wool scouring, processing fruits and vegetable wastes to animal feed, and recovery of energy from manure. Hydropower offers advantages over other energy sources but faces unique environmental challenges. Hydropower is a fueled by water, so it's a clean fuel source. Cogeneration provides the most efficient means for conversion of fuels into electrical power and energy.



PROJECT FINANCING

The key to implementation of Renewable Energy and Cogeneration Projects is timely, low-cost financing. GEA provides this service as a complement to design services. GEA can arrange short term, medium term and long term financing of renewable energy, cogeneration, and infrastructure projects from US sources. GEA provides the financial assistance and program management to secure the loan package, planning, system design, export of equipment, and commissioning. This is the utmost benefit to the customer, to have one entity provide a seamless transaction from planning to financing to design, equipment delivery, and startup.



Cogeneration produces electrical power and captures waste heat with high efficiencies

THE GEA GROUP

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