AN INNOVATIVE COMBINATION OF EXISTING TECHNOLOGIES DESIGNED TO REDUCE ENERGY USE & COST

The Green Cooling–TWIN ENERGY Chiller Hot Water Generator (CHWG) represents an exciting development with regard to providing low energy cooling and heating throughout the Middle East.

Combining proven technology with practical common sense engineering reduces energy costs and carbon emissions.

Historically we see the duplication of energy in many applications and industry sectors.

By this we mean that energy is used to provide cooling, but the valuable thermal energy that is produced as a by-product of the cooling process is simply rejected as waste into the atmosphere.

WHAT DO WE KNOW?
We know that the process of refrigeration is simply a means of transferring energy from one place to another.

WHAT DO WE DO?
We transfer valuable energy from cooling directly to waste and importantly we do not normally attempt to recycle this high cost waste energy from cooling.

WHAT CAN WE DO?
The GC–TWIN ENERGY Chiller Hot Water Generator enables this waste energy to be recycled and used again on site to produce high temperature hot water.

Existing or new facilities can now benefit from significantly reduced energy costs by incorporating a TWIN ENERGY system into their installation.

In basic terms the GC-TWIN ENERGY provides simultaneous cooling and hot water outputs using 50% of the energy that would normally be required.

For example if an application requires 100kW of cooling and also requires 100kW of energy to produce stored hot water i.e. total 200kW, the TWIN ENERGY will satisfy both requirements but will only require the input power to satisfy 100kW of cooling i.e. circa 30kW.

This is achieved by a combination of CO2 cooling and heating technology in which the total rejected heat from the cooling process is recycled into high temperature 70°C hot water.
AN EFFICIENT AND PRACTICAL SYSTEM PROVIDING COOLING AND SIMULTANEOUS HOT WATER PRODUCTION
LOW COST - LOW CARBON - PROVEN - PRACTICAL

The GC-TWIN ENERGY UNIT allows the cooling input energy to be used twice, but importantly the recycled second time use energy provided for hot water production is virtually FREE and virtually ZERO CARBON.

- Reduce energy use by 50% if the production/storage of chilled water and hot water is required
- High efficiency with total heating & cooling input power being comparable to that required by a standard cooling only system*
- Retrofit into existing sites
- Specify for new installations
- Install lower capacity electrical supplies
- Cool swimming pools
- Cool incoming/stored potable water
- Satisfy HVAC cooling demands
- Produce 65°C accumulated/stored hot water
- Replace direct electric hot water production
- Replace gas fired hot water production
- Supplement solar thermal hot water production
- Produce virtually FREE recycled energy
- Produce virtually ZERO CARBON recycled energy

Even when cooling loads are reduced and there is no cooling load to recycle, the GC-TWIN ENERGY will still produce low cost and low energy hot water by extracting renewable heat from atmosphere at high efficiency. Similarly if the hot water demand is satisfied and as a last resort, the GC-TWIN ENERGY can be configured to reject heat to atmosphere.

The GC-TWIN ENERGY provides a practical and proven means of producing cooling and hot water 52 weeks of the year.

RECYCLED ENERGY COMBINED WITH RENEWABLE ENERGY

The practical potential for both new and retrofit-replacement applications means that the TWIN ENERGY is becoming an attractive alternative to expensive and high energy use direct gas and electric hot water production.

INNOVATIVE, PRACTICAL PROVEN & COST REDUCING

The second time use of recycled energy is now recognised as being of higher benefit & value than energy produced from renewable means.

Why accept waste when valuable rejected cooling energy can be recycled & used again on site by installing a Green Cooling TWIN ENERGY system.

- Hotel hot water production
- Apartment & Residential hot water production
- Hotel & residential potable water cooling
- Swimming Pool cooling
- Air-conditioning chilled water production
- Food and Drink processing & production
- Chemical & Petrochemical processing
- Pharmaceutical manufacturing
- Plastics production & manufacturing

*Efficiency will be dependent on individual project conditions and requirements, an individual illustration can be provided with regard to capital cost, operational costs and return on capital, based on actual site specific information.

Contact Green Cooling now to discuss a current project or to discuss the benefits of using the GC-TWIN ENERGY UNIT in the future

For more information email: sales@greencooling.co.uk visit: www.greencooling.co.uk