White Harvest Energy

CHP CASE STUDY

BACKGROUND

The Nottinghill Gate apartments consists of 323 multi-dwelling units. The property uses a central gas boiler and a central electrical chiller for its HVAC. The Project identified, integrated and incorporated products performing natural gas tri-generation (2G Energy / Yazaki Energy) and HVAC energy curtailment and management, that when deployed together results in the capture of substantial rebates & incentives along with substantial annual cash savings.

APPLICATION

The existing heating systems were manually placed into operations for six months of the year and the cooling systems were manually placed into operations for the other six months of the year. Energy savings in the winter is accomplished by feeding all CHP-heated water to the central boilers, and energy savings in the summer is accomplished by feeding all CHP-heated water to first the Absorption Chiller and then that chilled water to the central Chiller.

SUMMARY OF BENEFITS

- Generates:
  - 100 kW electricity
  - 30 RT chilled water (45°F)
  - 332 MBtu/hr hot water (190°F)
- Reduced cost for energy needs
- Utility rebates for energy efficiency
- Improvement in power factor
- Reduced carbon footprint

QUICK FACTS

Site: Multi-family Housing

Location: Tucson, Arizona

Generating Capacity: 2 x 50 kWe

CHP Equipment:

a. Two 2G "G-box" RICE &

b. 30 R-ton Yazaki Absorber

Heat Recovery: Hot water and chilled water

Type of Fuel: Natural Gas



PROJECT TEAM

Owner: Nottinghill Gate

Consultant: White Harvest Energy, LLC

CHP Equipment Supplier: 2G Energy

Developer: Advanced Energy Group