

Grid-Tied Commercial System

Arizona State Game and Fish Department in Phoenix, AZ



Alpha Energy installed a 191kW grid-tied solar power system to provide power to the main facility of the Arizona State Game and Fish Department. As part of a comprehensive program at the government building, this renewable energy system helped the agency attain Platinum LEED status.

The 191kW solar power system utilizes a total of 1,092, 175W photovoltaic panels connected by two 82kW and two 13kW inverters. The roof-mounted, ballasted system is designed to minimize live and dead loading during heavy rain. The innovative ballasted approach provides a zero-roof penetration system to maximize longevity and reduce life cycle roofing costs.

A complete web-interface and weather monitoring system provides auto-alerts to ensure optimal system performance at all times. The system generates more than 297,500kWh per year, which is roughly the amount required to power 21 homes. The resulting CO₂ offset of 358,282lbs is equivalent to preventing the emissions of more than 30 cars annually.

Through a commitment to quality workmanship and innovative financing options, Alpha Energy provided the Arizona Game & Fish Department with the ideal turn-key solar power solution. The agency can now enjoy an efficient low-cost alternative to electricity and concentrate on its core business without worrying about system cost and maintenance.

System Specifications

System Power:	191kW
PV Array:	(1,092) 175 modules
Solar Inverters:	(2) 82kW inverters, (2) 13kW inverters
Data Monitoring Software:	Portable web monitoring, data logging, weather monitoring and auto alerts
Warranty:	20 year O&M, 10 year inverter and 10 year racking warranty

Solar Electricity Production



These estimates are based on thirty years of solar radiation data collected near Phoenix, AZ by the USA National Renewable Energy Laboratory. They represent long-term production estimates based on the size of the solar array, solar panel tilt and orientation. Actual production may vary, due to factors including, but not limited to, site-specific shading and solar panel temperature.



Progression Photos

Arizona State Game and Fish Department Installation



Large open room space dedicated to solar power



Materials staged onsite



PV array racking constructed on ground to speed process



All permitting and inspections coordinated by Alpha



Alpha worked with customer on multiple financing options



Will generate more than 290,000 kilowatt hours per year



Onsite project management ensured smooth installation



Ballasted system required more than 1,000 PV modules



Government building was awarded Platinum LEED status