

# The Westin Mission Hills Golf Resort & Spa, Rancho Mirage, California

## Central Plant and HVAC Systems Upgrade



Energy Savings:  
**1,753,303 kWh** kWh

Estimated Annual Utility Cost Savings:  
**\$245,462**

Total Utility Incentive Rebate:  
**\$180,519**

Project Implementation Costs:  
**\$1,012,163**

Project Simple Payback:  
**3.4** years

### SUMMARY

The Westin Mission Hills Golf Resort & Spa makes carbon footprint reduction its top priority through multiple key energy-saving and sustainability strategies. Set upon 360 acres within legendary Rancho Mirage, California, the AAA Four-Diamond Westin Mission Hills Golf Resort & Spa is an exotic desert sanctuary. The resort is a premier meeting place with extensive indoor and outdoor venues, high-tech capabilities, and destination services. Amenities include an array of accommodations, pool facilities, a spa, and two golf courses. As a Starwood Hotel & Resort, the Westin Mission Hills has a Carbon Reduction Plan and also has an Environmental Sustainability Policy—which is focused on conserving natural resources, minimizing waste and pollution, enhancing indoor environmental quality, establishing and reporting key environmental performance indicators, and raising awareness among staff and guests. Through Willdan's nomination, the hotel was awarded the Cool Planet Award in 2013.

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### GOALS AND CHALLENGES

#### A clear path to energy savings

Part of a national corporate initiative aimed at every property in the Starwood portfolio, the 30/20 By 20 Climate Action and Energy Reduction Plan challenged Westin Mission Hills to meet two ambitious goals: reduce energy consumption (electricity and gas and/or any fuel use) by 30% and water consumption by 20% by the year 2020. The hotel's progress in achieving the 30/20 By 20 Plan is tracked through a combination of software and website data that reports base-year levels and year-to-date reductions and/or increases over the baseline.

### SOLUTIONS AND OUTCOME

#### An aggressive approach pays big dividends

The Westin Mission Hills Golf Resort & Spa has taken an aggressive approach to saving energy, while still delivering a four-star experience to its guests. The hotel reduced its energy consumption by 14.6% or 1.1 million kilowatt hours by investing \$1 million

in energy-efficient improvements, offset by utility cash incentives.

Willdan has supported the property with the implementation of several major energy efficiency measures including:

- Installation of two new high-efficiency 435-ton chillers with variable-frequency drives (VFDs).
- Installation of a "plate and frame" water-side economizer to provide "free cooling" during night time and winter months when outdoor temperatures are cool
- Installation of new high-efficiency cooling towers with VFDs and consolidation of condenser water pumps
- VFD for heating hot water pumps



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In 2011 Willdan Energy Solutions was engaged by the Westin to complete a comprehensive audit of the property to identify energy measures to help the property achieve its environmental goals. Energy efficiency measures implemented from that audit have helped the hotel achieve annual savings of over 1.1 million kilowatt hours and reduce its peak demand profile, which translates into cost savings of approximately \$150,000 per year. Willdan also helped the Westin Mission Hills obtain a cash incentive from the local utilities amounting to \$122,373 for work completed as of December 2013.

- Interior lighting upgrades to high-efficiency fluorescent lamps and premium ballasts
- Upgraded building management system (BMS) to optimize central plant
- Lighting occupancy sensors
- Swimming pool and spa lighting upgraded to high-efficiency, longer lasting LEDs
- Upgraded exterior and interior lighting to LED

While the Westin has accomplished much in their energy saving work, they haven't stopped there. Additional energy-saving projects under consideration by the hotel include:

- Installation of VFDs on air handling units (AHUs) and ventilation fans
- Implementation of demand-controlled ventilation in their ballrooms and meeting areas

- Comprehensive lighting upgrades throughout the property to LED, where incandescent or halogen remain
- Upgrading the chilled water distribution system for optimal efficiency and proper flow at remote points
- Installation of VFDs on water feature pumps throughout the property and golf courses

### About the Westin Mission Hills

Originally built in 1987 with a major renovation in 2001, the hotel boasts over 887,000 square feet of conditioned space including 512 guest rooms, extensive convention and meeting space, full kitchens, a spa and a number of large swimming pools and Jacuzzis. The facility also has two highly rated golf courses with water features and exterior landscaped areas as well as outdoor surface parking, making it a major energy consumer.



**"We are honored to be recognized with this prestigious award as a result of the efforts of our team, who implemented the best practices and equipment to save energy and reduce our carbon footprint. We're committed to a long-term approach to conservation."**

*- Randy Zupanski, general manager of  
The Westin Mission Hills Golf Resort & Spa*



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