



Business Case Study:

## *Automobile Club of Southern California*

### **Background**

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- Type of Business: Provider of travel, financial, insurance and automotive-related services
- Location: Offices in 13 Southern California Counties
- Size: 6,000 employees, 75 offices totaling approximately 2 million square feet
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### **Summary**

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As a participant in the I-6 Interruptible Service Program, the Automobile Club of Southern California (ACSC) was asked by Southern California Edison (SCE) to curtail its energy usage in the summer of 2000. But despite its efforts, the ACSC could not meet SCE's request, and therefore had to take more effective measures. In addition to lighting retrofits and heating, ventilating and air-conditioning (HVAC), computer- and energy-management-system (EMS) upgrades, ACSC's 6,000 employees – in 75 offices totaling more than 2 million square feet of space – became an integral part of the company's conservation campaign for 2001.

Referenced in Business Guides:

- #1, "Reduce Energy Use in Commercial Facilities Through Conservation Measures and Efficiency Improvements"
- #3, "Target Business Employees for Energy Conservation in the Workplace"

### **Plan**

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The ACSC's first step toward developing an energy conservation plan was forming an energy committee. The committee – consisting of approximately 15 employees from various departments, including Employee Communications and District Office Operations, as well as outside consultants – reviewed current facilities and operations before developing short-term conservation methods and long-term efficiency programs.

Consultant Able Engineering helped evaluate opportunities for reducing energy consumption at each of ACSC's 75 offices. The consultant produced reports, recommendations and an electricity usage graph that illustrated the kinds of energy changes that would likely occur as a result of specific practices.

Energy conservation guidelines and mandates were communicated to the offices through members of the energy committee. ACSC decided on an energy conservation goal of 20 percent reduction in each office, and signed up for SCE's AMICOS energy-tracking system.

### **Programs: Conservation**

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✓ **HVAC:** Installed programmable thermostats on air conditioners in offices without energy-management systems.

✓ **Lighting:**

- Installed motion sensors in three facilities (administration office, headquarters and the Long Beach office).
- Turned off all exterior accent lighting, building signage and logo monument signs in response to the State mandate that all retail establishments curtail night exterior lighting.

✓ **Employees:** Prohibited individual heaters and fans in order to reduce energy usage and prevent electrical circuit overloads. Employees were also required to power-down electrical equipment during non-business hours. Sporadic reviews were performed to verify compliance.

### **Programs: Efficiency**

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✓ **HVAC:**

- Installed variable speed drives on air conditioners in offices without energy-management systems.
- Installed an incremental chiller to cool the central plant.
- Installed variable speed drives on chillers in the Costa Mesa facility.
- Installed an efficient 80-ton air conditioning unit.
- Replaced standard efficiency motors for the HVAC system with high-efficiency motors. Nineteen total motors were replaced in Costa Mesa.

✓ **Lighting:** Retrofitted existing T12 lighting fixtures with T8 lights and electronic ballasts in five buildings.

✓ **Weatherization:** Installed 33,000 square feet of reflective roofing at Costa Mesa facility.

✓ **Equipment Upgrade:** Upgraded mainframe computer data storage system. ACSC installed a Shark System to replace old tape storage devices and controllers. The new system reduced chiller and electrical demand and cut electrical consumption by approximately 1.3 million kWh/year.

### **Programs: Employee Outreach**

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✓ **Employee Contest:** The 75 offices located in Southern California competed with one another in an energy conservation contest held between June and September 2001. The top three offices with the greatest electrical consumption reduction for the summer months were recognized for their efforts, as were the offices and employees with the most creative energy-savings ideas. The Whittier office had the largest decrease in energy consumption during the four-month summer competition using 48.3 percent less energy when compared with the previous year. The energy committee judged the contest. Prize money totaled \$1,000.

### **Programs: Public Outreach**

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✓ **Magazine:** ACSC included several articles in an internal magazine – *Clubways* – recapping energy conservation successes and sharing energy conservation tips. The magazine is distributed to its 6,000 employees. One such article was: “Flex Your Power – The Energy Crisis in California Goes Beyond Its Borders,” Vol. 53 No. 5, May 2001.

### **Budget and Finance**

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The conservation and efficiency projects were financed primarily by the company at an approximate cost of \$2.4

million. ACSC took advantage of rebates from SCE and the Los Angeles Department of Water and Power (LADWP). Rebates for various projects totaled \$200,000. Specific programs costs and rebates included:

- The chiller cost \$80,000 and ACSA received a \$12,000 rebate from LADWP.
- Variable speed drives on chillers in the Costa Mesa facility cost was \$50,000.
- 33,000 square feet of reflective roofing at Costa Mesa facility cost was \$150,000 and ACSC received a rebate of \$6,000 from San Diego Gas & Electric (SDG&E).

### **Results**

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ACSC saved more than 4.8 million kilowatt-hours (kWh) and almost \$500,000 in energy costs in 2001. ACSC reduced energy consumption by approximately 12 percent throughout the company. Approximately three-quarters of the savings were attributed to installed efficiency measures. Between June and September 2001, 32 offices (or 46 percent) reduced overall consumption by 20 percent or more. The top three offices reduced energy consumption by 48.3 percent, 36.5 percent and 35.3 percent respectively, compared with the same period in 2000. Two offices reduced energy use by as much as a 70.2 percent and 44.8 percent respectively in one month.

Employee action helped ACSC consume 2,709,000 kWh less in the summer of 2001 compared with the summer of 2000. For the entire year, ACSC reduced energy consumption by 11.8 percent compared with 2000 usage – a savings of 4.8 megawatts (MW).

ACSC’s conservation contest cost \$1,000 in award money, but the returns on the investment were tremendous.