



Business Case Study:  
*Arden Group/Gelson's Markets*

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## **Background**

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- Type of Business: Supermarket
- Location: Los Angeles County
- Size: 18 stores in Southern California
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## **Summary**

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Gelson's Markets owns and operates 18 retail grocery stores in Southern California. Beginning in 1998, Gelson's installed energy-management systems in most of its stores and in its distribution warehouse to control and monitor lighting, heating/air conditioning and case warmers. Gelson's saved significant energy by: controlling store lighting through time-of-day scheduling; controlling the store's environment with temperature set point strategies that did not interfere with case refrigeration processes; and by controlling case warmers based on the temperature and humidity in the store.

Referenced in Business Guides:

- #1, "Reduce Energy Use in Commercial Facilities Through Conservation Measures and Efficiency Improvements"

## **Plan**

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Outside consultant Energex performed computerized audits and conducted site visits in preparation for the installation of Door Miser anti-sweat controllers.

## **Programs: Conservation**

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- ✓ **Lighting controls:** Placed motion sensors in low-occupancy areas of stores, such as backroom areas to reduce lighting needs.
- ✓ **Energy management system:** Installed a building control system, the Einstein BX, in the markets. The control system acts as a power monitor and regulator with demand shedding features. Power usage logging is also available.
  - Lighting controls for in-store and parking lot lighting, based on store operating hours and natu-

ral light conditions, were installed to minimize the on period for most lighting.

- Anti-Sweat Cycling: Frozen-food doors were equipped with heaters to prevent ice buildup on the frozen food doorframes and glass. The heaters were cycled off 30-50 percent to maintain a dew-point set.

### ✓ **Refrigeration**

- Installed Door Miser anti-sweat controllers in the frozen food cases of 12 Gelson's stores. The Door Miser controls each freezer case individually, thereby reducing the demand load because cases run in a rotating fashion.
- Cycled on and off as needed heaters in the glass frames, reducing energy consumption. The heaters are necessary to keep condensation from building on the glass.

## **Programs: Efficiency**

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### ✓ **Lighting:**

- Replaced old lighting fixtures in four stores with energy-efficient fixtures.
- Replaced T12 fluorescent lighting with T8 bulbs in stores.
- Replaced T12 fluorescent lighting with T5 fixtures in warehouses.

### ✓ **Other equipment:**

- Equipped open low- and medium-temperature cases, such as dairy and produce cases, with pull-down blinds in one store as a pilot project. The blinds were pulled down during non-operating hours to minimize escape of refrigerated air.
- Humico installed Humidity Control Systems – special paneling for walk-in refrigerators – in Gelson's storage refrigerators. The panels consist of the mineral Sorbite, which absorbs humidity and thus requires less work for the compressors.

## **Budget and Finance**

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The Arden Group took advantage of Southern California Edison (SCE) rebates for lighting retrofits and night blinds.

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## **Results**

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The compressors work less per week with the use of Humico paneling. The Humico system generally reduces cooler temperatures by two to four degrees, resulting in energy cost savings.

The 100,000-sq.-fit. warehouse realized immediate savings in energy consumption after T5 lighting was installed. Work conditions for employees improved as a result of brighter lighting.

An audit showed a reduction of energy usage in frozen food cases after Door Miser technology was installed.

Only minor energy savings resulted from the use of pull-down blinds for the reach-in cases, but shelf life of produce was enhanced.

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