

20th Street Apartments

- **Project:** 34 units multifamily acquisition and rehabilitation
- **Condition:** Built 1960's; Inefficient radiant ceiling heating system; limited insulation, and single-pane windows and sliding doors
- **Measures:** Solar hot water heaters, attic and wall insulation, Energy Star refrigerators, dual glazed windows, CFL, Setback thermostats
- **Costs:** \$643,000 / \$110,000 Green premium
- **Annual Savings:** \$11,375 annually
 - Electric use reduced: 39%; Natural gas use reduced: 22%



Mary Elizabeth Inn

- **Project:** 88 units multifamily renovation (San Francisco, CA)
- **Condition:** Built: 1914; Renovation project
- **Measures:** Energy audit, windows, appliances, energy efficient boiler; lighting retrofit
- **Benefits:** 37% reduction in energy consumption over existing conditions



Morningside Villa Apartments



- Project: 50 unit multifamily energy retrofit
- Conditions: Gas furnace health & safety issues, rusted ductwork, inadequate cooling, poor insulation
- Measures: New sealed duct system and passive return system; Room pressure relief; 12 SEER HVAC equipment; Insulated attic to R-30 blown cellulose; Performed Duct Blaster on duct system
- Cost: Covered by AZ weatherization program
- Savings: \$140 per year per unit

Brickyard Creek Apartment

- Program: 92 unit multifamily rehabilitation (Red Bluff, CA)
- Condition: Built 1970s. Metered, inefficient boiler, hot water and HVAC systems; outdated appliances; excessive energy costs
- Measures: Facility energy audit; high efficiency gas systems, windows, appliances, Lighting inventory; retrofit to individually metered
- Costs: \$5.3 million rehabilitation



Park Terrace Apartments



Solar Improvements:

- 40 Fireball Solar Collectors
- 800 Gallon Solar Storage
- Cost: \$43,000
- Payback: 6 years; 16.74% RR

- Project: 92 units (Yuba City, CA)
- Condition: Built: 1974; Inefficient boilers, excessive energy costs
- Measures: Facility energy audit; new solar hot water system, windows, efficient room air conditioner
- Cost: \$6,759,443
- Savings: ~\$9,000 annual savings
 - 50% energy reduction for hot water
 - Exceeds Title 24 energy standards by 15%

Flanders Pointe Apartments

- Project: 82 units multifamily energy retrofit (Tustin, CA)
- Condition: Built 1960. Single pane windows; no attic/roof insulation;
- Measures: Attic insulation(R-30); domestic hot water pipe insulation; air conditioner tune-up; exterior solar window shades; and a central boiler demand controller
- Annual Savings:
 - Building - 34,000 kWh; \$47,591
 - Tenants - \$580/year reductions



The Californian

- **Project:** 217 units Energy Retrofit (Fresno, CA)
- **Measures:**
 - High Efficiency DHW Boiler System; Variable Speed Control System on Water Booster Pumps; HVAC System Tune-up; insulation; unit weatherization; lighting
- **Cost:** ~\$160,000
- **Savings:** \$29,500 /year
 - Reduced consumption: 24%
 - Payback Period: 5-6 years



The Californian – Savings Detail

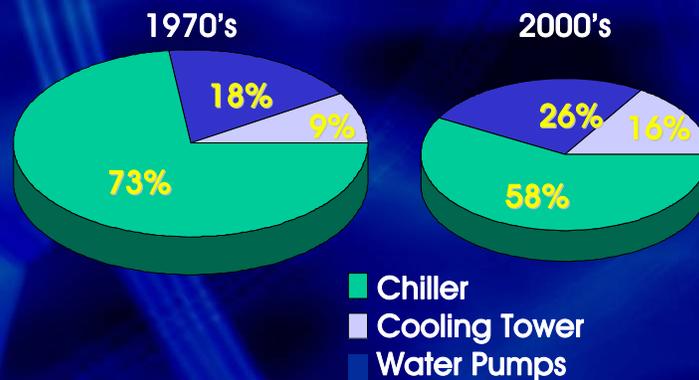
Measure	kBTU/yr.	% Total kBTU Savings	Savings	Payback	Actual Invoices
DHW Boiler System Replacement	1,595,918	81.3%	\$ 14,922	7.87	\$ 117,477
DHW Boiler System Replacement	314,296	16.0%	\$ 12,528	1.38	\$ 17,339
HVAC System Tune-up	52,437	2.7%	\$ 2,090	8.89	\$ 18,572
Total	1,962,651	100%	\$ 29,539	5.19	\$ 153,387

Tucson Town House

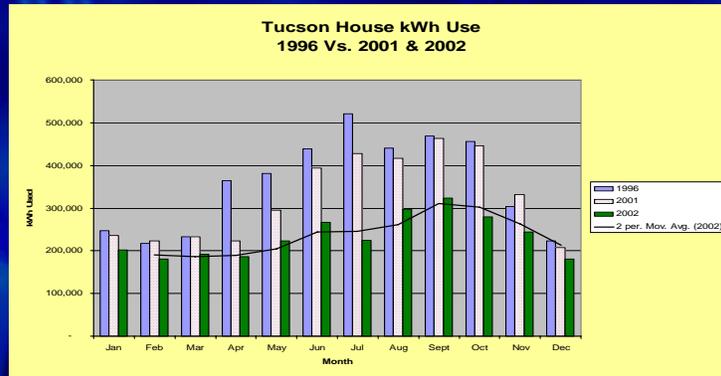


- **Project:** 200 units energy retrofit
- **Conditions:** High property energy bills, inadequate cooling
- **Measures:** Chiller replacement and lighting upgrades to units and common areas
- **Costs:** \$194,000 (Lighting)
\$972,150 (Chiller)
- **Savings:** Over \$100,000 annually

Tucson House – Chiller Energy Consumption

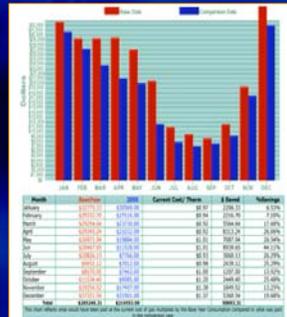


Tucson Housing – 1st Year Savings

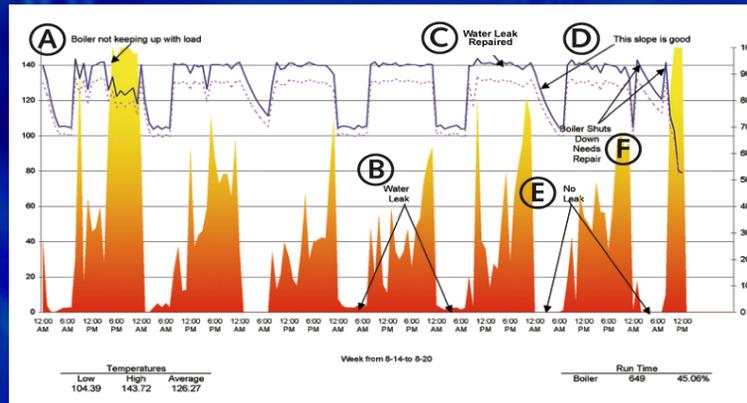


Angelus Plaza Apartments

- **Project:** 1,093 HUD-assisted multifamily (Los Angeles)
- **Conditions:** High property energy bills,
- **Measures:** Domestic Hot Water upgrades and monitoring
- **Costs:** Energy Performance Contract (*Equity Thru Energy*)
- **Savings:**
 - 20% reduction to hot water consumption and costs
 - 49,674 therms
 - \$50,700 annually



Angelus Plaza - Monitoring



Fresno Housing Authority – Evaporative Cooler Portfolio Modernization

- **Project:** 317 units of public housing energy modernization (Fresno)
- **Condition:** High cooling costs, inadequate cooling, maintenance issues, customer complaints
- **Measures:** Replacement with high efficiency evaporative cooling equipment
- **Costs:** ~\$500,00 (Offset by ~\$100,000 in utility rebates)
- **Benefits:**
 - Reduced consumption
 - Increased cooling comfort
 - Fewer complaint/maintenance calls



Performance Manager Steve Katis helps with the installation of a new Evaporative cooler on a Fresno Housing Authority duplex.

Franco Center

- **Project:** 110 HUD-assisted multifamily (Stockton, CA)
- **Conditions:** Boiler performance problems/ failures; inadequate cooling
- **Measures:** Energy Audit, ESCO investment assessment, Boiler and chiller replacement
- **Costs:** \$1.8 million
- **Savings:** Unavailable



Rotary Plaza

- **Project:** 181 units multifamily lighting retrofit (San Francisco, CA)
- **Condition:** Built: 1970; Excessive energy costs
- **Measures:** Energy audit; full lighting retrofit
- **Savings:**
 - Energy savings from lighting will be recycled to finance additional energy efficiency improvements



Glenridge Apartments

- **Project:** 277 units multifamily lighting retrofit (San Francisco, CA)
- **Condition:** Built 1968. Master metered; high energy costs
- **Measures:** Facility energy audit; Lighting inventory; Full lighting retrofit
- **Rebate:** \$12,000