

City of Reno



Energy Efficiency and Renewable Energy Initiative

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Public Works Director



Green Priority

Enhance the City's efforts to reduce its impact on the environment and provide leadership in the community to encourage residents and businesses to join this effort.



Performance Contracting (Energy Services Companies or ESCOs)

- Energy audit of facilities
- General contractor on projects
- Arrange financing
- Measurement & verification
 - Standards of Operation
- Energy and environmental reporting
- Guaranteed savings



Performance Contracting Benefits

- Allowed by the federal government and at least 33 states
- Allowed City of Reno to proceed on projects now
- No allocation from general fund
- All projects paid through energy savings, grants, and rebates



Performance Contracting Benefits

- Created local jobs for subcontractors
- Guaranteed payments of bonds and loans
- Guaranteed savings!!!

1,287 kW PV City-wide at 12 Locations Downtown Events Center-180kW



Wind – 9 turbines at 4 locations



Reno Arch-2,076 bulbs to LED



City Hall

- Lighting systems
- Chiller/Tower replacement
- Boiler plant replacement
- Control systems
- \$6,404,790
- Reduce cost from ~\$4.54 to ~\$2.54 per square foot



Miscellaneous Projects

- Centralized energy management
- Outdoor lighting upgrades
- Parks lighting upgrades
- Water system upgrades
- Pool covers
- Boiler improvements at Swimming Pools
- Solar thermal hot water
- Street light LED retrofit



Summary

- \$19,257,112 in projects
- \$1,156,648 per year cost savings
- 8,930,706 kWh/year energy savings
- 279 jobs created/retained



Federal Grants & Utility Rebates

- \$2,142,800 Energy Efficiency Conservation Block Grants*
- \$156,400 WindGenerations
- \$1,608,660 SolarGenerations
- \$263,592 SureBet
- \$568,700 NSOE Grant

- \$4,740,152 Total



Financing

- \$2,261,645 Qualified Energy Conservation Bonds (QECCBs)
- \$2,340,000 Clean & Renewable Energy Bonds (CREBs)
- \$10,860,000 Recovery Zone Economic Development Bonds (RZEDs) *

- EECCBG and RZEDs were part of ARRA and not available in future. Replace with municipal or ESCo financing.



Projected Environmental Benefits

Greenhouse Gas Reduction from **8.9 M kWh** and **225 K Therm Savings**

- Carbon Dioxide (CO₂) Eliminated (lbs) = **19,873,547**
- Sulfur Dioxide (SO₂) Eliminated (lbs) = **32,700**
- Nitric Oxide (NO_x) Eliminated (lbs) = **31,400**

Reduction is Equivalent to the CO₂ Emissions From:

- **1,968** annual passenger cars
- **1,423** household electricity use

Water savings = **7,877,000** gallons per year





City of Reno

AMERESCO
Green · Clean · Sustainable
INTERNAL USER

Select a customer:
City of Reno

Select a project: (3)
City of Reno (Phase 2)

Select a site: (45)

All ESCO sites - Project level

- Amtrak
- City Hall
- Community Assistance Center
- Community Development- Annex
- Corp Yard- All Areas
- Utility Report: site**

Total SF: 152,000
Consumption/SF: 0.57 Therms
Cost/SF: \$0.51956

M & V Report: site

Weather & Cycle Day Adj. Sav:
Annual Guaranteed Sav (Pro): 0 Therms
Delta: 0 Therms

AMERESCO INTERNAL USER

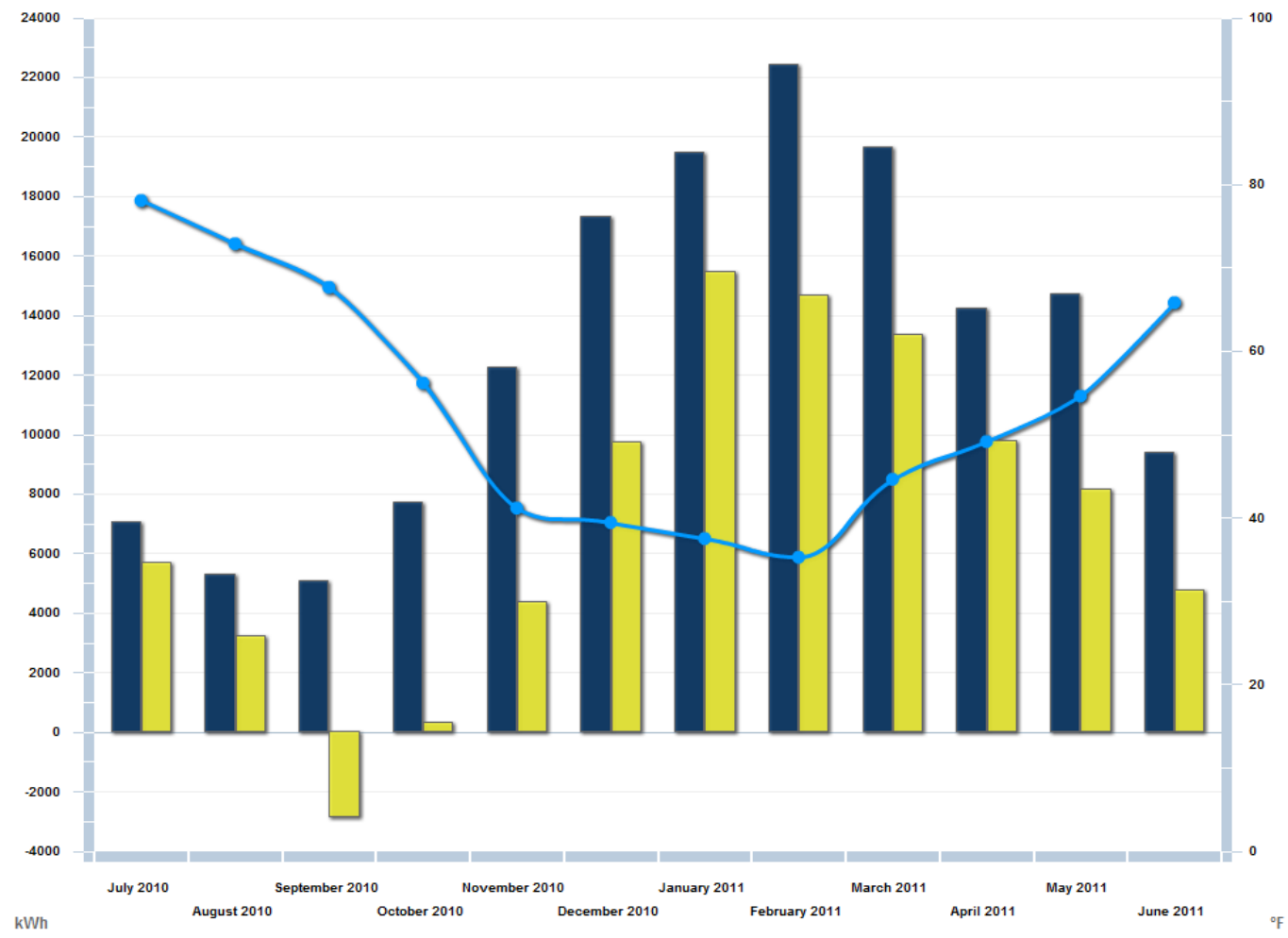
City Hall - Therms, Fiscal Year 2011

Units measured in Therms.

Show 5 Previous Years

Reports: M&V Utility Variance

Column



Calendar Year ■ Baseline (2007) ■ 2011

Weather/Cycle Day Adj. Baseline Facility Changes Adj. Set Point & Schedule Adj.

Show Avg Monthly Temp.

Savings as of Dec. 30, 2011

| | Renewable Energy Generation (kWh) | Energy Efficiency Projects Savings (kWh) | Natural Gas Savings (Therms) | Cost Savings (\$) | CO2 Reduction (Metric Tons) |
|--------------------------|--|---|-------------------------------------|--------------------------|------------------------------------|
| <i>Exterior Retrofit</i> | <i>N/A</i> | <i>4,087,713</i> | <i>56,600</i> | <i>\$521,040</i> | <i>2,865.5</i> |
| <i>Interior Retrofit</i> | <i>N/A</i> | <i>2,896,265</i> | <i>94,334</i> | <i>\$506,034</i> | <i>2,550.8</i> |
| <i>Renewables</i> | <i>641,763</i> | <i>N/A</i> | <i>15,630</i> | <i>\$142,595</i> | <i>893.2</i> |
| Total | 641,763 | 6,983,978 | 166,565 | \$1,169,669 | 6,309.6 |



Greening Reno

- National Resources Defense Council 22 smartest cities
- Time.com -10 greenest things you didn't know
- 120 media hits for city hall wind
- WSJ article on wind project

www.reno.gov

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Policy Takeaways

- Standards of Operation
- Energy Audit – Financial Grade
 - RFQ to short list
 - Mini-Audit (2 buildings) & Presentation for Final Selection
 - Identify Rebates with Energy Utilities for Conservation Projects
- Agreement with Add'l Savings to benefit project.