Energy Efficiency in Arizona

Southwest Energy Efficiency Project

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Arizona Context

- Arizona’s current population is approximately 6.5 M (U.S. Census Bureau, 2008)
  - Arizona’s projected population in 2025 is 10M.
- Arizona’s current peak energy needs are approximately 16,000 MW
  - By 2025 peak energy needs will be approximately 32,000 MW.
- Without aggressive energy efficiency and smart growth, Arizona customers will face the prospect of adding the equivalent of:
  - 4 Palo Verde Nuclear Generation Stations (4000 MW each).
  - 8 Hoover Dams (2080 MW each).
  - 28 2x1 Combined Cycle Natural Gas Plants (570 MW each).
- Utility Resource Plans have recognized the importance of energy efficiency
  - APS has identified a tripling of its Energy Efficiency efforts as a key to meeting its future needs.
Why Do We Need More Energy Efficiency?

The cheapest form of “energy” that exists

- Recent APS case found cost to be 1.02 cents per kWH.
- The Energy Information Administration calculated Arizona’s average retail price of electricity across all sectors to be 8.34 cents per kWH.
Why Do We Need More Energy Efficiency?

- Increasing incentives for Energy-Efficiency creates substantial new construction investment and employment retrofitting buildings.
  - One study estimated that energy efficiency created twice as many jobs as natural gas generation, creating 21.5 jobs for every $1 million invested vs. 11.5 jobs. (New Energy for America, Apollo Jobs Report 2004).
  - According to the Center for Energy, Resources and Economic Sustainability at the University of California, Berkeley, California’s energy-efficiency policies created nearly 1.5 million jobs from 1977 to 2007, while eliminating fewer than 25,000.
Why Do We Need More Energy Efficiency?

- **Federal Action of Fossil Fuels**
  - High probability of some Federal legislation on carbon which would increase costs of fossil fuel generation.
  - Cap & Trade as proposed could lead to an APS rate increase of 11-41%; TEP rate increase of 25%.
  - EPA is preparing to take action on the Navajo Coal plant which could result in costs of either $95M or $875M depending on which Best Available Control Technology (BART) is required.
  - Anticipate greater regulation of Coal Ash.

- **Natural Gas remains extremely volatile.**

- **Solar costs are projected to reach grid parity by 2015, which heightens the need for a bridge to that date.**
Potential Costs from Possible EPA Action on Navajo Generation Station

- Low NOx Burners: $42 million, 0.47 deciview change
- Selective Catalytic Reduction: $663 million, 0.70 deciview change

*Humanly Perceptible Change in Visibility*
ACC has currently approved annual budgets for APS, TEP and Southwest Gas of approximately $37M.

There are currently 40 approved energy efficiency programs at Arizona’s gas and electric utilities:

- APS (10 Programs)
- UNSE (6 Programs)
- SWG (7 Programs)
- TEP (9 Programs)
- UNSG (4 Programs)
- SSVEC (4 Programs)

Some Existing Programs include:

- Low-Income Weatherization (All)
- HVAC (APS, TEP, UNSE)
- New Construction (APS, TEP)
- Compact Fluorescent Lamps (APS, TEP)
- Building Operator Training (APS)
The Low-Income Weatherization Assistance Program has the primary mission of reducing the fuel or electricity expense for space heating, space cooling, and water heating for income-eligible households, while improving the health and safety of the dwelling’s occupants.

Under ARRA, the Weatherization Assistance Programs was amended.
- Maximum eligible income level has been raised from 150% to 200%;
- Assistance level per dwelling has been raised from $2,500 to $6,500.

The stimulus weatherization monies are being directed to Arizona’s Community Action Associations. These funds will enable the weatherization of approximately 10,000 Arizona homes.
The Commission has initiated an energy efficiency workshop to examine current utility energy efficiency programs and develop ways to increase Arizona’s efforts and results.

Part of the discussion includes creating a long term energy efficiency target, perhaps 22% by 2020.

Energy efficiency would ramp up by 1.5% annually.

2% could be met by Demand Response.
Goals Set by other States

- **Utah**: Increasing energy efficiency by 20% by 2015;
- **New York**: Reducing electrical usage by 15% by 2015;
- **Virginia**: 10% electrical savings by 2022, calculating from 2006 sales;
- **Illinois**: Increasing from 0.2% of energy delivered in 2008 to 2.0% annually for 2015 and subsequent years;
- **Minnesota**: at least 1.0% per year;
- **Washington**: 10.6% of projected needs by 2025; and
- **North Carolina**: 12.5% energy savings through renewable energy and energy efficiency by 2021 and thereafter; 25% can come from energy efficiency
Conclusion

Arizona Corporation Commission documents and orders can be found by visiting www.azcc.gov

Information on Arizona’s Renewable Energy Standard can be found by visiting www.azcc.gov/divisions/util/electric/environmental.htm

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