

Energy Efficiency in Arizona

A photograph of a rooftop solar panel array in Arizona. The panels are dark blue and mounted on a light-colored roof. In the background, there are mountains and a clear sky. The text is overlaid on the image.

Southwest Energy Efficiency Project

Kris Mayes, Chairman
Arizona Corporation Commission

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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**

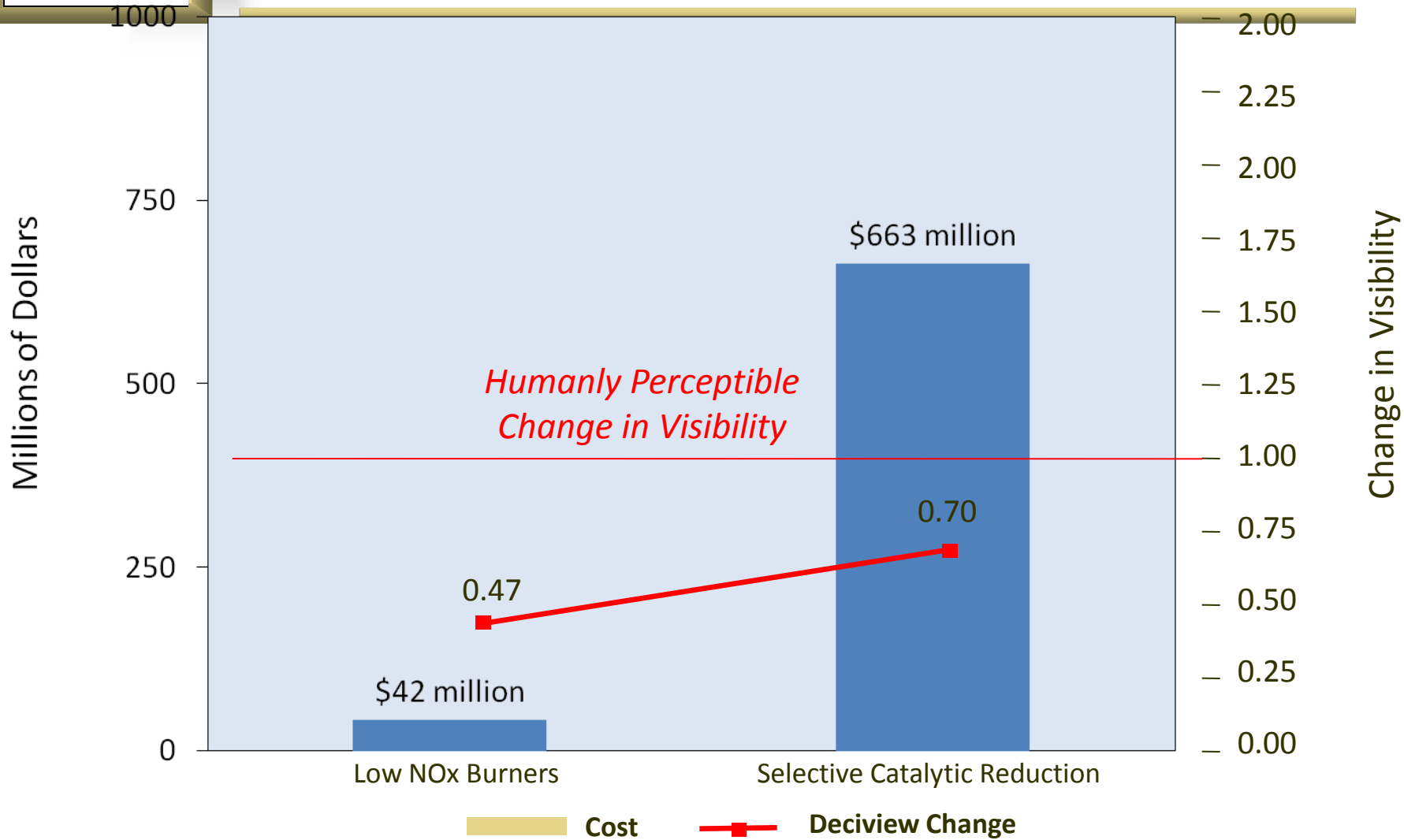
- High probability of some Federal legislation on carbon which would increase costs of fossil fuel generation.
- Cap & Trade as proposed could lead to an APS rate increase of 11-41%; TEP rate increase of 25%.
- EPA is preparing to take action on the Navajo Coal plant which could result in costs of either \$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





Existing Arizona Energy Efficiency

- **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)



\$57M for Low-Income Weatherization Under ARRA

- **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.**



Energy Efficiency Docket

- **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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