

# ENERGY EFFICIENCY & 2006 IRC CODE

Prepared and Presented By:  
Michael Frerking- Living Systems Architecture

## INTRODUCTION

Buildings account for 48% of energy used in the United States. Increasing building energy efficiency 30% is easy and has a short payback period, is a major economic development program for Yavapai County as it creates jobs, saves users significant money which can be spent in the local economy, creates the cheapest power for the utilities which reduces significantly the need to build expensive power plants thereby reduces CO2 emissions (global warming).

There are many no and low cost techniques and technologies that can be utilized to achieve the economic abundance created by increasing energy efficiency 30%. Training and education for code officials, the public, financiers and builders is readily available through highly reputable local and national sources.

## CONSIDERATIONS

- 20 Arizona communities have adopted energy codes.
- The IECC 2006 energy code has been adopted by Pinal, Mojave, and Pima County and also City of Phoenix.
- The prescriptive compliance IECC 2006 residential code is easy to implement.
- 20,000 homes in Arizona received ENERGY STAR ratings in 2006
- Governor Napolitano has mandated that all new state buildings be LEED (Leadership in Energy and Environmental Design) Silver (minimum) Rated.
- Arizona Public Service supports the Energy Star Program as a means to creating least cost energy sources through energy efficiency.
- Arizona Public Service provides substantial credits for the use of solar hot water and electrical generation through photovoltaics.

## ECONOMIC BENEFITS TO YAVAPI COUNTY

- a 30 % reduction in home energy use pays for itself in 1-3 years while increasing building cost 0-3% and would:
  - 1) create 50-100 new jobs
  - 2) create 3-6 million dollars per year in additional taxable revenues
  - 3) create a 3-6 million dollars in market for local energy efficient products
  - 4) create \$150,000-\$300,000 annually in taxes to pay for implementing an energy program.
- an energy efficient home (a certified 50% Energy Star or IECC2006 reduction in energy use pays the builder \$2000 per home) qualifies the owner for
  - 1) an energy efficient mortgage (2% increase in loan amount)
  - 2) \$2,000 federal energy credit
  - 3) \$1,000 state energy credit

- 4) Paying down a home loan w/ energy savings will reduce a 30 year mortgage to 20 years.

## RECOMMENDATIONS

- 1) Review IECC 2006, and adopt a more robust energy program than is presently recommended.
- 2) Mandate LEED Silver rating for all public buildings.
- 3) Provide an education program for code officials (ASBO training seminar for IECC 2006, presented fall 2006, Tucson, AZ.)
- 4) Participate in an energy education program for the public, builders and lenders  
(outside funding sources available).
- 5) Study code incentives to give homeowner's the choice to achieve Energy Star Certifications.

## RESOURCES

LEED ( Leadership in Energy and Environmental Design)  
United States Green Building Council  
[www.usgbc.org/LEED](http://www.usgbc.org/LEED)

Rocky Mountain Institute: 'Free Things That Cost Nothing and save Cash'  
[www.rmi.org/site pages/pid206.php](http://www.rmi.org/site_pages/pid206.php)

Energy Star Program  
[www.energystar.gov](http://www.energystar.gov)

Building America  
30% Reduction Case Study Homes  
Best Practices Series for Hot Dry Climate  
[www.eere.energy.gov/buildings/building\\_america/bp\\_hot-dry\\_mixed-dry.html](http://www.eere.energy.gov/buildings/building_america/bp_hot-dry_mixed-dry.html)