

## ENERGY EFFICIENCY

Energy codes went into effect in 2009 and were adopted by the City. Homes built after this time are required to have energy efficient windows and doors, higher levels of insulation and energy efficient air conditioning systems.

Existing older homes can make improvements to increase their energy efficiency. Many come with rebates and incentives from the utility companies. And most require no permits and inspections!

## INSULATION

Insulation is gauged by its ability to resist the transfer of heat and cold, This is know as the 'R' value. The greater the 'R' value, the greater resistance.

Current Codes require:

- Walls– Min. R 19 (2 x 4 walls)
- Walls– Min. R 22 (2 x 6 walls)
- Ceiling– Min. R 30 (Max. R 42)

Types: Blown-in, batt and spray foam



## AIR CONDITIONING

Current building codes require a minimum SEER rating of 18. If your unit is older than 5 years old, a new unit would increase the efficiency by over 25%.

Insulating or replacing existing solid metal ductwork can increase comfort and efficiency. New codes require all ductwork to be insulated. A duct test can reveal leaks in existing systems.



## PLUMBING

State and Federal laws require the use of low-flow water fixtures. Upgrading to these fixtures can reduce the use of water by up to 10,000 gallons each year for a family of four.

An insulated water heater can save up to 45% in heat loss over an un-insulated unit. Tankless water heaters can save in energy use and heat loss as well. Recirculating pumps reduce the loss of hot water.

## WINDOWS

Low E, dual pane windows can provide up to 20% savings on energy bills while reducing outside noise, and UV infiltration and increasing the efficiency of the AC unit.

## SOLAR SYSTEMS:

Photovoltaic (PV) Solar System converting sunlight to electricity , Photovoltaic (PV) panels or Solar Panels used for water heating and Photovoltaic (PV) panels or Solar Panels (SP) used for space heating or cooling and for swimming pool heating all require permits and inspections.



## WHAT ARE THE PERMIT COSTS FOR A SOLAR PROJECT?

The City's building permit fee for solar system projects is a flat fee, used to cover related City services, including plan review, inspection and related administrative services.

## DESIGN REVIEW BOARD

The addition of roof mounted solar panels alter the appearance of a building's exterior. Because of this, the solar project must be reviewed and approved by the City's Design Review Board (DRB) before a building permit application can be made.

## REBATES AND INCENTIVES

### SOUTHWEST GAS

- Solar and conventional water heaters
- Low flow shower heads
- New windows
- Washer/ dryers
- Weatherization
- Smart Thermostat

Check the website for current updates:

<https://www.swgas.com/en/search/rebates-and-promotions>

### ARIZONA PUBLIC SERVICE

- Home Performance Checkup
- A/C Tune-ups
- A/C Replacement/upgrade
- Duct Testing
- Smart Thermostat

Check the website for current updates:

<https://www.aps.com/en/residential/renewableenergy/renewableenergyincentives/Pages/home.aspx>

### LIBERTY UTILITIES– WATER

Check the website for current updates:

<https://arizona.libertyutilities.com/litchfield-park/residential/>

For more information, visit the entire “Guidelines When Building Within the City” series at [www.litchfield-park.org](http://www.litchfield-park.org)



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# Residential Energy Improvements

## # 8

*Part of the  
“Guidelines When Building Within the City”  
Series*



THE CITY OF  
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DISCOVER THE PARK

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