



# Scottsdale Green Building Program

## Seeking Input for Green Home Rating Checklist Update

### September 9, 2009

The green building of today is quickly becoming the building standards of tomorrow. Scottsdale's Green Home Building Rating Checklist is being updated to reflect national building code changes, construction industry trends, and evolving federal, state and municipal energy/environmental policy. A draft of the revisions has been completed and available for review on Scottsdale's Green Building web site. The proposed revisions also builds upon Scottsdale's experience gained since the inception of the program in 1998. The updated rating checklist is expected to be launched in January 2010.

The following guidelines were considered in updating the green building rating checklist:

1. Prerequisites
  - Account for changes to city ordinances and guidelines; building and energy codes; and state/federal energy policy
  - Building industry trends including materials, products and construction methods
2. Qualification and Verification
  - Account for national green building programs, rating criteria and standards
  - Verification methods during plan review, inspections, self-certification and compliance certificates
3. Building Performance
  - Energy, water and indoor environmental quality performance measures
  - Create synergy with energy code and existing 3<sup>rd</sup> party energy certification programs such as Energy Star and Environments for Life

### Summary of Proposed Changes

1. Prerequisites
  - Site
    - Collect and divert at least 25% of roof run-off to landscape areas via gutters, downspouts, scuppers, grading and swales.
  - Energy
    - Energy Performance
      - Building must be designed to be at least 30% above the 2006 International Energy Conservation Code (IECC) or 15% above the 2009 IECC
    - Renewable Energy
      - Provide an on-site renewable energy power system with a peak electrical generating capacity of not less than 20% of the electrical service load

- Or provide an on-site solar water heating system that provides not less than 80% of domestic hot water needs or has a peak capacity equivalent to not less than 2.5% of the electrical service load
  - Building Envelope Tightness (third party)
    - thermal bypass inspection per EPA Energy Star program
    - envelope leakage must be determined by a RESNET-certified rater using a RESNET-approved testing protocol -or- the testing option of the 2009 International Energy Conservation Code
  - Duct Tightness (third party)
    - Ducts shall be tested and documented by a RESNET-certified rater using a RESNET-approved testing protocol -or- the testing option of the 2009 International Energy Conservation Code
    - Duct tightness test not required if the air handler and all ducts are located within conditioned space
  - High Efficiency Lighting
    - At least 80% of all interior lighting shall be either Energy Star labeled fixtures or Energy Star labeled luminaries installed in conventional fixtures
  - Water heaters shall be Energy Star labeled
- Indoor Environmental Quality
  - Whole house ventilation system installed per ASHRAE 62.2
    - Based on number of bedrooms and floor area
  - Bathroom exhaust fan controlled by an occupancy sensor, automatic-timer switch or automatic humidistat controller
- Water Efficiency
  - Demand-controlled hot water recirculation pumps shall be activated by a push button or occupant sensor control in each full bathroom and kitchen, when the water heater is greater than 20 feet from furthest fixture
  - All toilets to be Water Sense labeled with high efficiency performance (1.28 or less gallons per flush which includes dual flush toilets)
  - Accumulative flow rate of all showerheads including waterfalls, body sprays and jets that can operate simultaneously shall be limited to 2.5 gallons per minute per shower compartment, where the floor area of the compartment is less than 2,500 square inches.
  - Provide a graywater drain line from at least one plumbing fixture drain (i.e. – shower, lavatory, washing machine) for landscape irrigation. Stub out graywater drain line to building exterior for irrigation connection with an accessible diverter valve for optional drainage to sewer line.
  - All water softeners shall be demand-initiated regeneration. If the device uses an ion exchange technology, it shall be capable of using potassium rather than sodium salt. Devices that use auto-initiated regeneration (fixed schedule) will not meet these requirements.
  - Potable water treatment systems shall have an efficiency rate of not less than 85 percent.

## 2. Green Point Options

- Section 3 – Energy Rating/Performance

- Energy performance options
  - Incremental points for improving energy efficiency above energy code baseline (2 points for each 5% increment above the 30% baseline)
- Section 5 – Heating, Ventilation, and Air Conditioning
  - Points for installing a ductless mini-split HVAC system
- Section 6 – Electrical Power, Lighting, and Appliances
  - Points for load controllers, energy management and light control systems
  - Points for installing an on-site alternative-fuel or charging station for vehicles such as plug-in hybrids
- Section 7 - Plumbing
  - Increased water recovery rate to 95% for achieving points for installing a water purification system
  - Increased points for installing a graywater recycling system with a complete connection to a landscape irrigation system

We welcome your input. Please contact Anthony Floyd, Green Building program Manager, at 480-312-4202 or [afloyd@scottsdaleaz.gov](mailto:afloyd@scottsdaleaz.gov).