



AUSTIN ENERGY GREEN BUILDING

PRE-SUBMITTAL WORKSHEET 2013.0



Stars Achieved

No Stars

STAR LEVELS		POINTS	RATING RESULTS	
PRESCRIPTIVE			Total Points	0
1 Star ★	Basic Requirements (BR)	None	Basic Requirements	Not Fulfilled
2 Stars ★★	BR + 2-Star Requirements + points	25	2-5 Star Special Requirements met	No Stars
3 Stars ★★★	BR + 3-Star Requirements + points	50	Square feet per ton of cooling	
4 Stars ★★★★	BR + 4-Star Requirements + points	75	TCV score	0
5 Stars ★★★★★	BR + 5-Star Requirements + points	100		

**This form is for planning and field use only
(not a legally-binding document).
Use online Rating to submit actual Rating.**

INSTRUCTIONS TO SUBMITTER (ARCHITECT/DESIGNER OR BUILDER)

1. Use this Excel document as a design, specification and pre-rating submittal tool.

Consult with your Rater and the "Guide to the Single-Family Rating 2013" for help.

Basic Requirements must be met for all Ratings for new construction. Exceptions may be made for renovations.

2. When starting the design please begin the online rating process.

3. You will be charged a service fee of \$50 for each rating.

After an online rating application has been accepted, you will be sent an invoice.

You must make payment to Austin Energy before your rating can be completed.

4. If your project is located outside the AE service area but is inside the Extended Rating Area:

You must work with an Extended Area Rater (see www.greenbuilding.austinenergy.com for information).

Use the online rating, just as for ratings in the AE service area.

See "Guide to the Single-Family Rating" for explanations of all measures.

Place an x in each yellow box at left and fill in other relevant yellow cells.

All Basic Requirements must be checked for a home to rate.

REQUIRED

Codes and testing

- Modeling score (applies only to new-construction, detached homes)**
 - Minimum IC3-Austin score required in 2013 is **0.0**.
 - OR minimum HERS score required in 2013 is **70**
- Current City of Austin IRC, IECC Codes and Amendments must be met, regardless of project location**
Among others, note that the following City of Austin required standards must be met:
 - IRC with Austin amendments
 - IECC with Austin amendments
 - UPC with Austin amendments
 - Including Austin Irrigation Design Criteria

HVAC efficiency and design

- Cooling and heating equipment and duct sizing determined by correct Manual J and D calculation based on orientation, plans and specifications**
 - a Use "ACCA Manual J Inputs for Mechanical Equipment Sizing" for homes in the AE service area and appropriate ACCA inputs for other climate areas. Equipment installed must match calculation.
 - b If correct Manual J calculation results in fewer than **600** sf of living space per ton of cooling, the design is inappropriate for Central Texas and the home will not be rated.
 - c Homes for which split systems are too large (approx. <900 sf) must be equipped with a mini-split or other appropriate system.
 - d Home *design and construction* must accommodate the selected equipment and the correctly sized and insulated ductwork.
 - e Submit full Manual J and D Report with equipment specified; split-system equipment must be an AHRI match.
 - f Submit **AHRI** certificate for split system *installed*. For mini/multi-split or alternative system, submit website printout.
- Cooling and heating equipment minimum efficiency for split systems:**
Cooling: 15 SEER/12 EER; Heating: gas furnace 80 AFUE; heat pump 8.2 HSPF
Air handlers must meet the Florida building code, Section 13-610.2.A.2.1 standard; see manufacturer's specifications.
- Ductwork system is masked / sealed at supplies and returns during construction**
- Ceiling registers: curved blade-type--fixed or adjustable; wall registers may be flat-blade, installed/adjusted to direct airflow across ceiling**

Insulation installation

- Insulation installation meets Energy Star Grade I + No added urea formaldehyde; sealing of thermal enclosure/envelope meets current IECC standard for limiting air infiltration**

Skylights

- No skylights into conditioned space OR any skylights installed meet current Energy Star criteria for SHGC and U-factor**

Indoor environmental quality

- Exhaust fans venting to outside for cooktops and bathrooms with tub or shower**
Kitchen exhaust that equals or exceeds 400cfm has make-up air provided
- Bathroom exhaust fans are connected to timer or humidistat (not motion-sensor); recommended sone rating: ≤ 1.0**
- Low-VOC interior wall and ceiling paint: VOC ≤ 50 grams per liter or is CoA recycled paint;**
- Carbon monoxide detector installed, exceptions include; no gas appliances, detached garages (may be combined with smoke detector)**

Electrical

- Energy Star appliances / fixtures-- ≥ 4 from following list: appliances, ventilation fans light fixtures, ceiling fans**
- Ceiling fans: minimum of 2 installed within heated and cooled space**

Landscaping

- Planting beds have a minimum depth of 6" of soil containing 25% compost (such as Dillo Dirt) and minimum depth of 2" organic mulch**
- A minimum of 90% of new plants are from current Grow Green plant list**

- All Basic Requirements Fulfilled**



B. Measures For Points

Place an x in the yellow column to the left of the measures you intend to select

Star Requirements	Points for Measure
	x

EDUCATION

1. Green Building education

5	Green Boots Graduate: Applicant is a certified graduate of Green Boots, additional points available for each trade who attends the trade specific Green Boots session
3	Green By Design attended by professional: AEGB Green by Design workshop attended by member of current design +/- or builder staff
3	Green by Design attended by homeowner: AEGB Green by Design workshop attended by homeowner before home plans are finalized

2. Team documentation

2	Documented design team meeting held in design stage; team includes owner, architect/designer, builder, mechanical contractor
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3. Homeowner Training manual

5	Homeowner training manual
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SITE

1. Density

4	Lot has more than one dwelling unit
3	Lot size is less than 5,750 sq. ft.

2. Community

3	Street, electricity, water and wastewater have been in place for a minimum of 25 years
2	Public transit stop is within a 1/4 mile walk
2	Food store is within a 1/2 mile walk
2	Four or more community resources within a 1/2 mile walk (public park/trail, school, post office, community center/daycare/community garden)

3. Rain gutters - Four Star Requirement

3	Complete gutter and downspout system directs stormwater away from foundation to landscaping or catchment system
4	3 OR Alternative rain water management system to direct water off of the roof and away from the building onto a non-splatter pervious surface.

4. Site Work and Landscape

3	Site work diverts water to onsite infiltration- retaining walls, berms, french drains to a rain garden, vegetated filter strip, swale, or detention pond
2	Permeable materials- used for a minimum of 25% of driveways, parking areas, walkways, and patios; not installed over impermeable base - excluding decomposed granite
2	Light pollution- All exterior light fixtures are designed to reduce up-lighting/light pollution; or fixture locations are shielded from above
1	Exterior lighting- All exterior lighting has motion detectors with photocell controllers
1	Landscaping- All new plants, shrubs and trees have trunk, base or stem located at least 36" from foundation

5. Outdoor living

4	Built-in outdoor kitchen
3	Built-in outdoor fireplace (no indoor fireplace installed)
3	Plumbed outdoor shower
3	Covered, usable <u>front</u> porch protects entry door (minimum depth: 6'; minimum area: 100 sf)
2	Covered, usable porch other than front porch (minimum side dimension: 6'; minimum area 100 sf)
1	One of the above porches is fully screened
1	Uncovered patio (minimum side dimension: 6'; minimum area 150 sf)

ENERGY

1. Attic systems

3	Closed/sealed attic system: unvented; polyurethane foam insulation at roof; minimum 5.5" depth
2	Recessed-can lighting fixtures do not penetrate the thermal enclosure; OR no recessed-can fixtures are installed
1	Vented attic system: continuous ridge and continuous soffit vents; no other functioning vents installed

2. Insulation and thermal bridging - Four Star Requirement

3	"Total fill" insulation in walls (blown cellulose, BIBS, spray foam) AND \geq R-2 exterior sheathing (corner-brace sheathing excepted); or 2 x 6 exterior framing total fill or SIPs
4	2 OR R-2 or greater exterior insulation
1	OR Insulated headers are sized for the loads they bear; no headers in non-load-bearing wall
0	OR the building is a remodel

3. Roof solar reflectance - Five Star Requirement

5	2 Roofing solar reflectance + Solar Reflectance Index (SRI): slope $>5/12 = \geq 0.20/16$; $\geq 3/12 - \leq 5/12: \geq 0.30/30$; $<3/12: \geq 0.55/64$
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4. Overhangs and glazing

3	Overhang projection factor of ≥ 0.5 met for all windows facing southwest to northwest (225° through 315°)
3	Glazing on east and west walls combined does not exceed 25% of total glazing area; glazing on west wall does not exceed 10% of the west wall; and glazing on east wall does not exceed 10% of the east wall (calculations must be provided)
3	Total glazing area is no greater than 15% of conditioned floor area
2	All roof overhangs project a minimum of 24" horizontally
2	Shading or buffer spaces on west/southwest walls of living space for at least 50% of wall area (e.g. porch, pergola, garage, closets)
1	Window and exterior door glass: < 0.30 U-Factor

5. Mechanical within the thermal envelope - Four Star Requirement		
4	5	All duct work and indoor cooling equipments is located within the thermal enclosure/envelope; OR home has no duct work
4	3	OR Indoor cooling equipment is located within the thermal enclosure/envelope, Duct work is located in the attic, R-40 attic insulation, and Duct leakage of < 2 CFM per 100sf
6. High performance systems		
5		Whole-house, inverter driven mini- or multi-split heating and cooling system
4		Variable-capacity compressor
2		Dual capacity compressor
2		Variable-speed air handler
2		Ground source heat pump
7. Water heater efficiency - 3 Star Requirement		
5		Water heater is solar thermal; meets Austin Energy requirements
4		OR Water heater is integral heat pump; minimum efficiency: 2.0 EF
2		OR Gas water heater is tankless/on-demand; minimum efficiency: 0.82 EF
3	2	OR Gas water heater is sealed-combustion/direct vent model; minimum efficiency: 0.80 EF (Energy Factor)
2		OR Energy Star rated gas tank
0		OR if no gas is available in right-of way:>40 Gallon electric WH with >.94 EF
0		OR building is a remodel
8. Controls and monitoring - Five Star Requirement		
5	3	Complete energy management monitoring and control system, Austin Energy Power Partner preferred
3		OR Plug and play monitoring system, includes smart appliances
1		OR Power Partner internet connected approved thermostat
0		OR Thermostat has integral hygrometer or humidistat (or fixed stand-alone)
9. Commissioning: blower door, duct blaster		
3		Blower door test performed results in envelope leakage no greater than 3 ACH50
3		Fresh air commissioning / testing for exhaust fans: ±20% 50 cfm for Bath and 100 CFM for Kitchen exhaust
10. Fans, lighting, and additional Energy Star appliances		
4		Occupancy sensors control ≥50% of interior lighting
3		Energy Star Advanced Lighting Package requirements met
3		90% LED lighting
1		Energy Star appliances/fixtures: ≥2 in addition to 4 of Basic Requirements
11. Solar ready / photovoltaic systems / EV Charging		
5		Solar photovoltaic (PV) power system: minimum of 2.5 kW
2		OR Home is wired as solar-ready with roof area >400 sf: oriented within 75 degrees of due south, unshaded, no penetrations, 9:12 max pitch
2		Electric car charging station installed
1		OR Dedicated 240 volt outlet for future electric car charging

WATER

1. Water heating design - Four Star Requirement		
4	4	>R-4 insulation of hot water lines located outside the thermal envelope/enclosure and in exterior walls
4	3	And/OR Plumbing runs- All water heaters in 1-story home are located within 20 piped feet of appliances +/- fixtures they serve; 30 piped feet for 2-story
4	3	And/OR Push-button on-demand, hot-water recirculation system (not continuously recirculating; not motion-activated)
2. Indoor water conservation		
3		All shower heads have maximum flow of 1.5 gallons per minute; no more than one shower head per shower or tub
2		All bathroom sink faucets are WaterSense models
2		Toilet is ultra HET model
3. Turfgrass and irrigation - Four Star Requirement		
4	3	Any installed irrigation system must include water-efficiency features listed in Rating Guide AND Turfgrass area installed or planned does not exceed 2000 sq. ft. or equal to the foot print of the house or uses Water Sense
4. Auxiliary water		
5		Rainwater is sole source of potable water; 20,000 gallon minimum storage; back-up well allowed
5		Auxiliary harvesting: >5,001 gallons storage
4		OR auxiliary water harvesting: 1001-5,000 gallons storage
3		OR auxiliary water harvesting: 501-1,000 gallons storage
1		OR auxiliary water harvesting: 110-500 gallons storage

MATERIALS AND RESOURCES

1. CWM plans - Two Star Requirement		
2	3	Minimum 50%-by-weight of waste is recycled/reused, not landfilled; documentation required
3		OR Construction waste management plan, approved by Rater at commencement of project; documentation required
2. Durable finished floor - Four Star Requirement		
4		Flooring is 100% durable material
4		OR Finish floor is durable material for a minimum 50% of all floor area (e.g. ceramic tile, concrete, wood) and All non-durable flooring installed is rapidly renewable or CRI Green Label
2		
3. Recycled and reuse of existing buildings and materials		
5		Project is renovation of, and/or addition to existing home
4		OR Existing home removed from site is relocated for use at another site
3		OR existing home removed from site is deconstructed and materials are >75% reclaimed/reused (not landfilled)

4. Durable, locally sourced, and recycled materials		
2		Roofing: metal or tile
2		Significant use of reclaimed/reused materials, such as doors, hardware, flooring, trim
2		Use of recycled-content products
2		Decking material of raised porch/deck is recycled-plastic/composite lumber
2		Use of local materials/products for major elements of the home; harvested or manufactured within 500 miles

5. House size		
4		Less than 900 s.f.
3		OR Less than 1200 s.f.
2		OR Less than 1500 s.f.

6. Framing		
2		Exterior wall framing is 24" o.c.
1		Interior wall framing is 24" o.c.
1		2-stud corners and ladder blocking, drywall clips

7. Pest control - Three Star Requirement		
3	2	All wood framing is treated with borate to a minimum of 3 feet above the foundation
	2	AND/OR Mechanical-barrier termite control system is used

INDOOR ENVIRONMENTAL QUALITY

1. Mechanical ventilation - Four Star Requirement		
4	4	ERV (enthalpy recovery ventilator) with dedicated duct system
	3	OR Mechanical ventilation with automatic damper, timer, humidity, and temperature controls provides fresh air into return-air plenum

2. Natural ventilation and daylighting		
3		Designed, effective stack ventilation: operable windows in cupola, clerestory or top of stairwell
2		Windows are designed for daylighting: placed high on walls, not requiring privacy treatment
2		Designed, effective cross-ventilation: operable windows in main living areas
1		Energy Star tubular daylighting device/solar tube: spaces lacking natural lighting have an Energy Star tubular day-lighting device/solar, such as internal stairwell, powder room

3. IEQ design: garages and fireplaces		
3		No fireplace is located within conditioned space
2		HVAC filter: $\geq 4"$ pleated-media, or electronic (not electrostatic); easily accessed; HVAC system designed for filter type
3		Garage is detached from the house or house has no garage
2		OR attached garage is thermally broken and air-sealed from conditioned living space
1		OR Attached garage has exhaust fan with timer or passive vents installed 18" above floor

4. Finishes		
3		Cabinet materials + adhesives: a) meet E1Standard; or b) CARB Phase I Standard; or c) have no added urea-formaldehyde
2		Interior wall and ceiling paint has maximum VOC level of 10 grams per liter
1		Dedicated kitchen recycling center; approved by Rater

5. Universal design		
3		Home incorporates other barrier-free/universal design/ADA elements: MUST SELECT 5 OF 15 OPTIONS IN GUIDE TO MEET MEASURE
2		Basic access to house provided according to <i>City of Austin Visitability Ordinance</i>
2		All interior doors are 2'-6" or wider (doors to non-walk-in closets excepted)
1		Grab bars installed in tub +/- shower of at least one bathroom
1		Grab blocking install at all tubs and showers; ADA compliant
1		Toilet in at least one bath/powder room is WaterSense ADA model (located on entry-level floor; $\geq 2'-8"$ door width)
1		All doors have lever handles

ADDITIONS AND INNOVATIONS

		Describe other green measures incorporated in this project. Your AEGB Rater will determine points.
	1	
	2	
	3	