



Client File #:		Appraisal File #:	
<b>Residential Green and Energy Efficient Addendum</b>			
Client:			
Subject Property:			
City:		State:	Zip:

Additional resources to aid in the valuation of green properties and the completion of this form can be found at [http://www.appraisalinstitute.org/education/green\\_energy\\_addendum.aspx](http://www.appraisalinstitute.org/education/green_energy_addendum.aspx)

- The appraiser hereby certifies that the information provided within this addendum:
- has been considered in the appraiser's development of the appraisal of the subject property only for the client and intended user(s) identified in the appraisal report and only for the intended use stated in the report.
  - is not provided by the appraiser for any other purpose and should not be relied upon by parties other than those identified by the appraiser as the client or intended user(s) in the report.
  - is the result of the appraiser's routine inspection of and inquiries about the subject property's green and energy efficient features. Extraordinary assumption: Data provided herein is assumed to be accurate and if found to be in error could alter the appraiser's opinions or conclusions.
  - is not made as a representation or as a warranty as to the efficiency, quality, function, operability, reliability or cost savings of the reported items or of the subject property in general, and this addendum should not be relied upon for such assessments.

**Green Building:** The practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's lifecycle from siting to design, construction, operation, maintenance, renovation, and deconstruction. This practice expands and complements the classic building design concerns of economy, utility, durability, and comfort.<sup>1</sup> High Performance building and green building are often used interchangeably.

**Six Elements of Green Building:** A green building has attributes that fall into the six elements of green building known as (1) site, (2) water, (3) energy, (4) materials, (5) indoor air quality, and (6) maintenance and operation. A Green Building will be energy efficient but an energy efficient building is not synonymous with Green Building.

### Green Features

The following items are considered within the appraised value of the subject property:

<b>Certification</b>	Year Certified:	Certifying Organization: <input type="checkbox"/> USGBC (LEED) <input type="checkbox"/> NAHB (ICC-700) <input type="checkbox"/> Other:	<input type="checkbox"/> Verification Reviewed on site	<input type="checkbox"/> Certification attached to this report

<b>Rating</b>	Score:	<input type="checkbox"/> LEED Certified: <input type="checkbox"/> LEED Silver <input type="checkbox"/> LEED Gold <input type="checkbox"/> LEED Platinum
		<input type="checkbox"/> ICC-700 <i>National Green Building Standard</i> Certified: <input type="checkbox"/> Bronze <input type="checkbox"/> Silver <input type="checkbox"/> Gold <input type="checkbox"/> Emerald
		Green Certifying Organization URL (website)

<b>Additions</b>	Explain any additions or changes made to the structure since it was certified:

Do changes require recertification to verify rating is still applicable?  Yes  No

<b>Comments</b>  Attach the rating worksheet that provides the ratings for each element to provide a better understanding of the features. The worksheet will assist in comparing the subject to sales rated by different organizations.	If a property is built green but not formally certified, it still deserves proper description and analysis to value the features. The market analysis is of the structure's physical, economic, and locational attributes and not an analysis of its label alone.

**The objective of this Addendum is to standardize the communication of the high performing features of residential properties. Identifying the features not found on the 1004 form provides a basis for comparable selection and analysis of the features. Builders, contractors, homeowners, and third party verifiers are encouraged to complete this Addendum and present to appraisers, agents, lenders, and homeowners.**

<sup>1</sup> U.S. Environmental Protection Agency at [www.epa.gov/greenbuildings/pubs/about.htm](http://www.epa.gov/greenbuildings/pubs/about.htm).



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### Solar Panels

The following items are considered within the appraised value of the subject property:

Description	Array #1	<input type="checkbox"/> Leased <input type="checkbox"/> Owned	Array #2	<input type="checkbox"/> Leased <input type="checkbox"/> Owned	Description	Solar Thermal Water Heating System
<b>kW (size)</b>					<b>If Active System - type</b>	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect
<b>Manufacturer of Panels</b>					<b>If Passive System - type</b>	<input type="checkbox"/> Integral collector <input type="checkbox"/> Thermosyphon
<b>Warranty on Panels</b>					<b>Storage Tank Size</b>	# Gallons:
<b>Age of Panels</b>					<b>Collector Type</b>	<input type="checkbox"/> Flat-Plat Collector <input type="checkbox"/> Integral Collector <input type="checkbox"/> Evacuated-Tube Solar
<b>Energy Production kWh per Array</b>						
<b>Source for Energy Production Estimate</b>					<b>Back-Up System</b>	<input type="checkbox"/> Conventional Water Htr <input type="checkbox"/> Tankless On Demand <input type="checkbox"/> Tankless Heat Pump
<b>Location (Roof, Ground, Etc.)</b>					<b>Age of System</b>	
<b>Tilt/Slope for Array</b>					<b>Warranty Term</b>	
<b>Azimuth per Array</b>					<b>Manufacturer</b>	
<b>Age of Inverter(s)</b>					<b>Solar Energy Factor (SEF)</b> (Rating range 1 to 11 - higher number is more efficient)	
<b>Manufacturer</b>						
<b>Warranty Term</b>						

Name of Utility Company: \_\_\_\_\_ Cost per kWh charged by Company: \$ \_\_\_\_\_ /kWh

<b>Comments</b> (Discuss incentives available for new panels, condition of current panels, and any maintenance issues. If leased, provide the lease terms.)  A free online tool and manual for valuing the energy production of the Solar PV System is available at <a href="http://www.pvvalue.com">www.pvvalue.com</a>  Download the PV Value™ Manual for explanation of the solar terms on this form and inputs used in the PV Value Tool.	Discuss source of information and define other renewable energy sources, such as wind, hydropower, biomass power, etc.
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Location - Site			
The following items are considered within the appraised value of the subject property:			
<b>Walk Score</b>	Score:	Source: (Example: <a href="http://www.walkscore.com">http://www.walkscore.com</a> )	
<b>Public Transportation</b>	<input type="checkbox"/> Bus - Distance:      Blocks	<input type="checkbox"/> Train - Distance:      Blocks	<input type="checkbox"/> Subway - Distance:      Blocks
<b>Site</b>	Orientation - front faces: <input type="checkbox"/> East/West <input type="checkbox"/> North/South		Landscaping: <input type="checkbox"/> Water Efficient <input type="checkbox"/> Natural
<b>Comments</b>			

Incentives - Amount of Incentive and Terms	
The following items are considered within the appraised value of the subject property:	
<b>Federal</b>	
<b>State</b>	
<b>Local</b>	
<b>Source</b> (For example <a href="http://www.dsireusa.org">www.dsireusa.org</a> )	
<b>Comments</b> Incentives offset cost and should be reported in the cost approach section of the report. Incentives are typically not a sales comparison approach concession since they do not transfer with the property.	

Completed by: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

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## Residential Green and Energy Efficient Addendum Glossary and Resources

**Green Building:** The practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's lifecycle from siting to design, construction, operation, maintenance, renovation, and deconstruction. This practice expands and complements the classic building design concerns of economy, utility, durability, and comfort.<sup>2</sup>

**Six Elements of Green Building:** A green building has attributes that fall into the six elements of green building known as (1) Site, (2) water, (3) energy, (4) materials, (5) indoor air quality, (6) maintenance and operation. A Green Building will be energy efficient but energy efficient building is not synonymous with a Green Building.

**LEED:** Leadership in Energy and Environmental Design is redefining the way we think about the places where we live, work and learn. As an internationally recognized mark of excellence, LEED provides building owners and operators with a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1988>

**Energy Star®:** ENERGY STAR certified new homes must meet strict energy efficiency guidelines set by the U.S. Environmental Protection Agency. These homes are independently verified to be at least 15% more energy efficient than homes built to the 2009 International Energy Conservation Code (IECC), and feature additional measures that deliver a total energy efficiency improvement of up to 30 percent compared to typical new homes and even more compared to most resale homes. [http://www.energystar.gov/index.cfm?c=new\\_homes.hm\\_index](http://www.energystar.gov/index.cfm?c=new_homes.hm_index)

**Home Energy Score (HES):** The Home Energy Score is similar to a vehicle's mile-per-gallon rating. The Home Energy Score allows homeowners to compare the energy performance of their homes to other homes in the area. It also provides homeowners with suggestions for improving their homes' efficiency.

The process starts with a home energy assessor collecting energy information during a brief home walk-through. The assessor then scores the home on a scale of 1 to 10, with a score of 10 indicating that the home has excellent energy performance. A score of 1 indicates that the home needs extensive energy improvements. In addition to providing the score, the home energy assessor provides the homeowner with a list of recommended energy improvements and the associated cost savings estimates. [http://www1.eere.energy.gov/buildings/residential/hes\\_index.html](http://www1.eere.energy.gov/buildings/residential/hes_index.html)

**HERS Index:** The Home Energy Rating System (HERS) Index is the Industry Standard by which a home's energy efficiency is measured. It's also the nationally recognized system for inspecting and calculating a home's energy performance. <http://www.resnet.us/hers-index> This Index is assessed by a qualified third party certifier based on the physical characteristics of the house. The energy estimates from this assessment may vary depending on the lifestyle of the occupants, increasing utility expenses, and changes in the maintenance or characteristics of the energy features.

**Building Envelope:** The building envelope is everything that separates the building's interior from the exterior. This includes the foundation, exterior walls, roof, doors and windows.

**Geothermal:** A geothermal heat pump uses the constant below ground temperature of soil or water to heat and cool your home.

<http://energy.gov/energysaver/articles/geothermal-heat-pumps>

**Low-E:** Low emittance indicates a coating is added to the glass surface. The coating allows visible light to pass through the glass while stopping the radiant heat energy from the sun and heat sources in the building from passing through the glass. Approximately 40% of the sun's harmful ultra violet rays are blocked and insulation enhanced.

**Whole Building Ventilation System:** A whole building ventilation system assists in a controlled movement of air in tight envelope construction and may include air-purifying systems. Whole building ventilation equipment is often a part of the forced air heating or cooling systems.

**Energy Recovery Ventilation System:** Often called Heat Recovery Ventilators (HRV). These systems replenish the indoor air without wasting all the energy already used to heat the indoor air. In some climates, these systems are also used to handle water vapor in the incoming air.

**Passive Solar:** Passive solar is technology for using sunlight to light and heat buildings with no circulating fluid or energy conversion system. <http://redc.nrel.gov/solar/glossary> A complete passive solar building design has the following five elements: (1) aperture (collector) (2) absorber (3) thermal mass (4) distribution (5) control. <http://www.nrel.gov/docs/fy01osti/27954.pdf>

**SEER:** Seasonal energy efficiency ratio - The higher the SEER rating, the more energy efficient the equipment is. A higher SEER can result in lower energy costs. [http://www.energystar.gov/index.cfm?c=tax\\_credits.tx\\_definitions&dts=ssps.mcs.seer.eer](http://www.energystar.gov/index.cfm?c=tax_credits.tx_definitions&dts=ssps.mcs.seer.eer)

**Water Sense:** EPA released its Final Version 1.1 WaterSense New Home Specification. This specification will be effective January 1, 2013 and establishes the criteria for new homes labeled under the WaterSense program and is applicable to newly constructed single-family and multi-family homes. [http://www.epa.gov/watersense/new\\_homes/homes\\_final.html](http://www.epa.gov/watersense/new_homes/homes_final.html)

**Water Heaters:** Solar, Heat Pump, Tankless On Demand or Tankless Coil water heaters are described at the following location:

<http://energy.gov/energysaver/articles/solar-water-heaters>.

**Green Certifying Organizations:** A partial list of organizations can be found at: <http://www.usgbc.org/ShowFile.aspx?DocumentID=2001>

**HERS Insulation Installed Rating:** Rating 1 is the best with 3 the lowest rating. [http://www.resnet.us/standards/Enhancements\\_to\\_National\\_Rating\\_Standards.pdf](http://www.resnet.us/standards/Enhancements_to_National_Rating_Standards.pdf)

**SAVE Act:** The SAVE Act is proposed legislation to improve the accuracy of mortgage underwriting used by federal mortgage agencies by ensuring that energy costs are included in the underwriting process. <http://www.imt.org/finance-and-leasing/save-act>

<sup>2</sup> U.S. Environmental Protection Agency at [www.epa.gov/greenbuildings/pubs/about.htm](http://www.epa.gov/greenbuildings/pubs/about.htm).

For education in the valuation of sustainable buildings visit: <http://www.appraisalinstitute.org/education/green/default.aspx>