

# Valuing Energy Efficiency Improvements, Certifications and Savings

*Presenter*

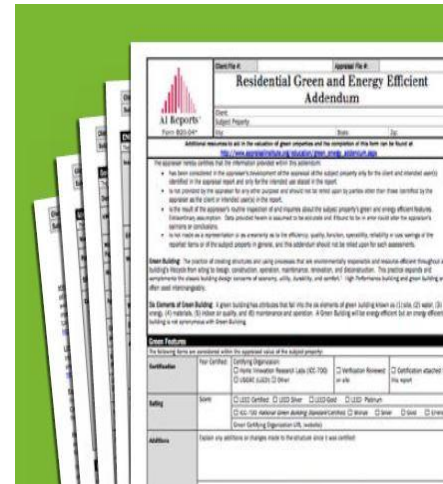
**Sandra K. Adomatis, SRA, LEED Green Associate**

Real Estate Appraiser

Adomatis Appraisal Service

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Real Case Studies

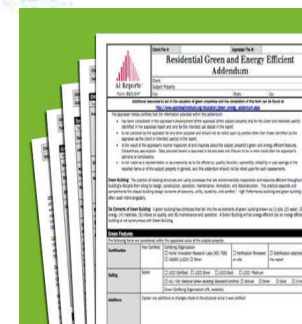
AI®

Green Courses

Register Now

## Valuation of Sustainable Buildings

- Course Descriptions and Online Registration
  - *Introduction to Green Buildings*
  - *Case Studies in Appraising Green Residential Buildings*
  - *Residential and Commercial Valuation of Solar*
  - *Case Studies in Appraising Green Commercial Buildings*
- FAQs
- Green/Sustainability Program Registry
  - Residential
  - Commercial



<http://www.appraisalinstitute.org/education/your-career/professional-development-programs/#Valuation of Sustainable Buildings>

## Valuation of Sustainable Buildings: Residential

### Professional Development Program Registry

**NOTE:** This Registry lists the names of Designated Members, Candidates, Practicing Affiliates, Affiliates and other individuals not in one such category who have successfully completed (attended and passed the examinations) the courses in this section of the *Valuation of Sustainable Buildings Professional Development Program* examinations.

There may be other qualified Appraisal Institute Designated members who may handle green/sustainability assignments but have not taken the *Valuation of Sustainable Buildings Professional Development Program*. [Visit the Find an Appraiser directory](#) to find Designated members who have identified green/sustainability as a specialty.

[View Program FAQs](#) ▶

[Please read this notice regarding Professional Development Programs](#) ▶

\* Has not completed the Residential and Commercial Valuation of Solar course. Those on the registry have until December 31, 2014 to complete Residential and Commercial Valuation of Solar to remain on the registry.

<http://www.myappraisalinstitute.org/findappraiser/>

# RESNET Announcement

<https://www.resnet.us/blog/appraisal-institute-enters-into-agreement-with-resnet-to-produce-the-residential-green-and-energy-efficient-addendum-as-home-energy-rating-report/>



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CERTIFIED ENERGY AUDITORS/RATERS AND QUALIFIED CONTRACTORS/BUILDERS

**>> ARE YOU A HOMEOWNER?**  
[Visit our Homeowner site](#)

Home | Rater/Auditor Information | Contractor Information | Builder Information | Provider Information | RESNET Standards | RESNET Conference | Partners | Resources | RESBlog

## APPRAISAL INSTITUTE ENTERS INTO AGREEMENT WITH RESNET TO PRODUCE THE RESIDENTIAL GREEN AND ENERGY EFFICIENT ADDENDUM AS HOME ENERGY RATING REPORT

November 6th, 2013 - Posted by Laurel Elam under [RESNET News](#)

 AI Reports™ Form 820.04*	Client File #:		Appraisal File #:	
	<b>Residential Green and Energy Efficient Addendum</b>			
	Client:			
	Subject Property:			
	City:	State:	Zip:	

The Appraisal Institute has developed a Residential Green and Energy Efficient Addendum. The Appraisal Institute Green Addendum is the first residential green and energy efficient appraisal report addendum developed by appraisers, for use by appraisers when appropriate. The Appraisal Institute Green Addendum provides items of high performance house features for consideration by appraisers.

### >> RESNET HOT TOPIC

- Conference
- Energy Auditor Information
- Energy Efficiency
- Hot News
- Hot Topics
- Job Opportunities
- Legislation
- New Members
- Rater Information
- Recovery Through Retrofit
- RESNET News

The Appraisal Institute Green Addendum will provide appraisers a tool for selecting comparable sales for the property they are

## AI Webinars Recorded

- Valuation of Solar Photovoltaic Systems
- Residential Solar Photovoltaic Leases: Market Value Dilemma
- Residential Green Valuation: Tools for Valuing High Performance Properties

<http://www.appraisalinstitute.org/search/?keyword=recorded%20webinars#keyword=recorded%20webinars&pg=3>



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# Coming Soon

## April 2014

[www.appraisalinstitute.org](http://www.appraisalinstitute.org)




## Residential Green Valuation Tools




by Sandra K. Adomatis, SRA, LEED Green Associate

<http://pv.sandia.gov/pvvalue>

- Free tool for valuing solar photovoltaic systems





**PV Value® Photovoltaic Energy Valuation Model v. 1.1**

Choose Property Type:  Residential  Commercial

Solar Resource Calculation		Discount Rate Calculation		Electricity Rate Inputs		Operation & Maintenance Inputs	
Zip Code	32004	Basis Points (low)	50	Click button to update location	Current Utility Reported Electricity Rate	15-Year O&M Expenses as a function of the system size	
System Size in Watts	5,060	Basis Points (high)	200		Florida Power & Light Co.	<input checked="" type="checkbox"/> 15-Year O&M Expenses in ¢/Wh	55
<a href="#">Derate Factor (online calculator)</a>	0.770	Basis Points (average)	125		12.00	<input type="checkbox"/> User Defined (enter in adjacent cell) in ¢/Wh	
Module Degradation Rate	0.5	Update 30-Year Fixed Rate		<input checked="" type="checkbox"/> Residential Rate from PVWATTS in ¢/Wh		Estimated Inverter Replacement	\$1,368.60
Array Type	Fixed	Rate is Current		<input type="checkbox"/> Commercial Rate from PVWATTS in ¢/Wh		<b>System Age and Remaining Lifetime</b>	
Array Tilt (unchecked = latitude)	0.0	FNM 30-Year Fixed 60-day	3.60	Utility Escalation Rates for Florida		Module Warranty/Years	30
Array Azimuth (default = South)	180	Discount Rate (low)	4.10	<input checked="" type="checkbox"/> Residential Escalation Rate from EIA (1990-current)	1.91	Age of System/Years	0
Calculate PV Production	kWh Produced/Year	Discount Rate (high)	5.60	<input type="checkbox"/> Commercial Escalation Rate from EIA (1990-current)		Remaining Energy/Years	30
	6,683	Discount Rate (average)	4.85	<input type="checkbox"/> User Defined (enter in adjacent cell)			

Appraisal Range of Value Estimate	
Low	\$12,731.04
Medium	\$13,964.07
High	\$15,376.04

User Input
User Input Override
Calculated Value

- Inputs follow AI Res. Green & EE Addendum

# Progress in High Performance Market



- More AI Educational Green Courses are being held
- AI Green Registry numbers are increasing
- AMCs are beginning to send appraisers to valuation courses or call seeking appraisers with education
- Builders are beginning to understand documentation necessary for appraisal – AI Green Addendum
- RESNET agreement to complete Addendum will provide more accurate data
- AI Res. Green and EE Addendum provides standardization of information –alerts appraiser selection warning



# NAHB – Builder/Lender Agreement



**Seek lender willing to hire appraiser  
with minimum of 14 hours of qualified green education!**

For buyers preferring to use their own lender, Belcher developed a clause for his sales contract for the requirement. The language, which has been reviewed and enhanced by the Appraisal Institute, states:

*“This Home is being built/renovated/updated to nationally recognized standards above prevailing code. It is designed and constructed with unique features and materials and with high efficient equipment and in accordance with high efficiency standards. The Lender shall choose an Appraiser educated and knowledgeable in this type of valuation of these specialized Homes, preferably an appraiser who holds a professional appraisal designation that requires advanced education on such issues as the valuation of sustainable buildings (e.g. MAI or SRA designations from the Appraisal Institute). The appraiser shall provide verification of green valuation education of 14 hours or more from a qualified educational provider and knowledge to be permitted to conduct the appraisal for this project.”*

[http://www.nahb.org/generic.aspx?sectionID=2628&genericContentID=210458&utm\\_source=twitter&utm\\_medium=social&utm\\_content=TT-valuinggreenhomes&utm\\_campaign=NAHBgreen](http://www.nahb.org/generic.aspx?sectionID=2628&genericContentID=210458&utm_source=twitter&utm_medium=social&utm_content=TT-valuinggreenhomes&utm_campaign=NAHBgreen)

# Challenges in Appraising High Performance

1. Limited data
2. MLS is main source for appraisers –  
inadequately populated or no green fields
3. Lack of proper documentation for houses – No  
standardization in reporting

# Challenges in Appraising High Performance



4. Lack of high-performance knowledge  
(appraiser/agents/underwriters/lenders/builders/buyers/sellers/AMC)
5. Inadequate appraiser fees and process for selecting competent appraiser- Need closer monitoring of appraiser selection

# Clarification of Appraisers Role



- Appraisers do not **ADD** value
- Appraisers develop value based on market data
- In the absence of sales, more than one alternative method should be used to provide tests of reasonableness and credible results
- If Green does not sell for more, we can't appraise it for more than the competitive code-built house

# Steps to improve high-performance transfers



- Educate the public on the benefits
- Educate the real estate professionals on how to document and explain the benefits
- Promote use of the AI Res. Green & EE Addendum
- Open access to databases – DOE-EPA-RESNET
- Develop verifiable statistics on high performance counts – Need one central place for statistics
- Implement more expeditious method of delivering energy reports to owners/buyers/agents/appraisers/lenders
- Closer monitoring of appraiser selection