

Course Title: Selling the Sun

Course Description: This class provides the tools you need to properly communicate the value of solar energy systems in the residential real estate market. You will be able to help clients determine the market value of a home with a solar installation, so that sellers receive the proper value at the time of sale and buyers know what solar is worth.

Learning Objectives (See attachment on Bloom’s Taxonomy and Learning Levels)

Learning Level	Learning Objective
Insert Level (Words or Numbers)	Insert corresponding learning objective
See Attached.	

The following will be the means used in assessing whether the Learning Objectives have been met (Pre and post test, Q&A etc.)

Timed Outline: Describe in detail the components of the course by breaking it down into subject matter areas of no greater than 15 minutes. What will be the method of instruction or teaching technique used for each area (lecture, slides, group activities, videotape etc.)

Length in Time (15 min. increments)	Teaching Technique	Subject Matter Segment and Description
See Attached.		



Preferred Systems, Inc.

Providing Continuing Education & Training That Works

Selling the Sun
Course Materials

Course URL:

<http://learninglibrary.com/Elevate/A/Account/Login>

User ID:

Washington@preferrededucation.com

Password:

Test123

Secondary Providers:

No secondary providers are authorized to offer this course.



Instructor

Instructors should submit the following information to Preferred Systems, Inc. when working with content providers to get courses approved by ARELLO:

Standard:	How Standard is Met:
Is the instructor CDEI certified?	Yes, Sandra Adomatis CDEI #67579
Instructors are numerically sufficient to achieve the objectives of the course?	Yes, Elevate Energy has 2-3 staff available to support the instructor. Staff includes content developers and subject matter experts.
Instructors have the time to perform the responsibilities assigned to the course?	Yes, the instructor has 15 hours a week to dedicate to online instruction.
State the amount of time each day or week that is available to devote to the course:	Approximately 40 hours per week. Business hours are 8:00 am to 5:00 pm Central Time during the work week. Our goal is to respond to learner's questions within 4 hours during business hours.
How does the instructor ensure that the learner is making satisfactory progress throughout the course?	The class offers incremental tests at the end of each module; learners need a passing score of 80% before moving to the next module. The student will have communication with the instructor through post discussions.
Will the instructor be teaching any other course?	Yes, instructor will be teaching a two-day solar course online for the Appraisal Institute's online program. She currently teaches Report Writing, Real Estate Operations, and Case Studies in Valuing Res. Green Buildings online for the Appraisal Institute. She has been instructing online for 20 years.
What are the instructor's other professional duties?	Teaching other in-person and online classes, she consistently receives 4.7 to 5.0 ratings with 5 being the maximum rating out of a 1-5 scale. She was Vice Chair of National

	Education Program for Appraisal Institute for 4 years.
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Course Orientation

Course Information:	This course can be accessed at: http://learninglibrary.com/Elevate/A/Account/Login
Course Instructor:	Sandra Adomatis adomatis@hotmail.com
Instructor Response Time:	Instructors will respond to all email inquiries within 48 hours
Course Description:	This class provides the tools you need to properly communicate the value of solar energy systems in the residential real estate market. You will be able to help clients determine the market value of a home with a solar installation, so that sellers receive the proper value at the time of sale and buyers know what solar is worth.
Prerequisites:	None
Criteria for successful completion of the course:	Successfully complete all module exams with an 80% pass rate on each. The Learning Management System will present the participant with a Certificate of Completion upon submission of final passed assessment.
Exam Information:	This course contains 5 modules. Participants must answer 80% of questions correctly at the end of each module in order to successfully pass the course. This course does not include a pretest or posttest.
Refund Policy:	Refund requests cannot exceed the original purchase price (including discounts) as listed on the purchase receipt. Refunds for all products, except live webinars, are subject to a \$15 processing fee. Refunds are not available for products not purchased, i.e., obtained for free or through complimentary access. Refund requests will be honored only if the following conditions are met:

	<ul style="list-style-type: none"> • The request is made within thirty (30) days of the purchase date. Refund requests after 30 days will not be honored. • If for an online course, the student is less than halfway through the course. Student progress in online courses is tracked and verified using digital bookmarking. If a student 's course access has passed the halfway mark, the refund request will not be honored. • To apply for a refund, contact Customer Service at support@learninglibrary.com and provide the following information: <ol style="list-style-type: none"> 1. Your name 2. The product name 3. The reason for the refund <p>NOTES: No credit card information is needed to process a refund. Refunds will be credited to the same credit card with which the original purchase was made. The information contained in this refund policy supersedes any verbal or other written information that anyone may receive regarding this policy.</p>
Course Expiry	<p>Participants can register for the course at any time.</p> <p>All course materials expire one year from date of initial registration.</p>
Cheating Policy	<p>Preferred Systems, Inc. expects that all courses will be completed independently and without assistance by the person who registers for the course.</p> <p>Course access and all fees paid will be forfeited by the student should Preferred Systems, Inc. discover any evidence of cheating by the student. Cheating includes misrepresenting the participant's identity or receiving assistance in completing course materials.</p>
Accreditation	<p>Preferred Systems, Inc. is the approved educational provider for this course. Course credits will be reported to the appropriate state agency within five business days of course completion. Participants must provide accurate real estate license number when registering for the course to ensure proper credit reporting.</p>

	<p>Participants must keep certificates of completion on file for verification and audit purposes. For questions regarding course accreditation please contact info@preferrededucation.com. All inquiries will be addressed within four business hours.</p>
<p>Equipment and System Requirements:</p>	<p>Browser: all major browsers supported. For optimal course performance, utilize Google Chrome or Mozilla Firefox.</p> <p>System compatibility:</p> <ul style="list-style-type: none">• IBM PC or Compatible Computer• Apple Macintosh• Apple iPad• Android Tablet• PC Tablet• Courses are not Smartphone Friendly• Hardware Requirements <p>Operating System: Win 7, Win 8, Win 10, MAC OSX</p> <p>Speakers: Required</p> <p>Software Requirements:</p> <ul style="list-style-type: none">• Adobe Acrobat Reader• Browser Requirements• Internet Explorer 9 or later• Google Chrome• Firefox 45 or later• Apple Safari• Cookies Enabled• Scripting Enabled• JAVA Enabled <p>Screen Resolution:</p> <p>Please be aware that minimum resolution for this module is 1024 x 768 pixels. If your module screen is cut off, please close the module, change the screen resolution and then re-open it. You can also hit F11 or FN+F11 function keys on your keyboard to enter browser full screen mode</p> <p>Hurdles:</p> <p>On specific pages, you will be instructed to click buttons or images for more information. These hurdles require you to click on each button/image before you can move to the next page.</p>

	<p>Similar hurdles are enabled for pages that incorporate audio narration and video. You can move to the next page only after the audio narration or video has completed playing.</p> <p>Bookmark: If, for any reason, you need to exit the module, you may close the browser window. Your location will automatically be bookmarked (saved).</p>
Additional Resources	Additional resources related to the course content can be found under the 'Resources' tab within the course learning management system.
ADA Policy	This course contains text, audio, video, and images in order to appeal to most learning styles. If additional accommodations are needed, please contact the learning management system provider at support@learninglibrary.com or by calling 877-762-9322.
Technical Support Availability and Contact Information:	Chat, FAQ, email and phone support information can be accessed at http://onlinelearning.realtor/A/Home/Help

*Links to all other school and course policies can be found at www.preferrededucation.com



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Selling the Sun Course Outline and Objectives

Solar photovoltaic systems, also called PV, generate electricity from the sun. When added to a property, solar PV systems can power home appliances, lights, air conditioning, cell phones and other electrical devices. There are over one million households in the United States with solar energy systems and the number of solar installations is expected to grow exponentially in the coming years.

There are many reasons why homeowners go solar. One of the most common is to save money on electric bills by cutting energy costs. But the value of solar goes even further. Recent research shows that adding solar to a home—much like renovating the kitchen—can boost its value and resulting home sale price. Solar energy systems may also increase the speed with which a home is sold.¹

This class provides the tools you need to properly communicate the value of solar energy systems in the residential real estate market. You will be able to help clients determine the market value of a home with a solar installation, so that sellers receive the proper value at the time of sale and buyers know what solar is worth. By taking this class you will be able to:

1. Summarize the emerging trends in the residential solar market
2. Recognize the components of solar PV systems
3. Describe the three main financing options for residential solar PV systems
4. Prepare a comprehensive MLS listing that properly features the characteristics of the system
5. Use an online solar PV valuation tool

Module I: The Emerging Solar PV Market

In this module you will learn what is driving the growth of the solar PV market and why the solar PV market is growing so quickly. Identifying the benefits that compel homeowners to install solar PV can help agents have more informed conversations with homeowners and buyers with interest in the technology. After this module you will be able to:

1. Cite the major influencers that are driving the demand for solar PV installations
2. Discuss the expanding consumer interest and initiatives regarding residential solar PV

Module II: Solar PV Technology: The Parts and Pieces In Module II, we will cover the components of the solar system and describe their functions. Then we will pull the pieces together and explain the process of generating electricity from the sun. After this module you will be able to:

1. Recognize the major components of a residential solar PV system and describe their function
2. Explain how the solar PV system generates electricity for the home
3. Explain the relationship between kW and kWh in a typical residential PV system

Module III: Financing the Residential Solar System In Module III, we will review the four common residential solar financing options — direct purchase, solar loans, leases, power purchase agreements —and explain the differences. After this module you will be able to:

1. Identify costs and revenues associated with the purchase of a residential PV system
2. Explain the methods of financing a residential solar system and the differences among these options

Module IV: Listing a Solar PV Home In this module you will learn how to list solar PV homes in the MLS. We will present the PV system characteristics to highlight in the MLS and how to use the MLS features to your advantage. Real estate professionals with this knowledge will be able to highlight the benefits of a solar home while reducing their risk of liability. After this module you be able to:

1. Describe the system characteristics of a solar PV home in an MLS listing accurately and thoroughly
2. Collect listing information about solar PV systems that will help appraisers accurately and properly value a solar home
3. Understand the risk and liability associated with inaccurate performance claims for a PV system

Module V: Establishing the List Price of a Home with Solar PV In Module V you will learn the key concepts and tools that can help you establish a list price for a home with a homeowner-owned PV system. You will also learn what information you will need to collect in order to use an online valuation tool to assist homeowners in transactions that involve homeowner- owned solar PV systems. After this module you will be able to:

1. Identify the information needed to establish the contributory value of a homeowner-owned PV system
2. Use an online tool to establish the contributory value of a homeowner-owned PV system

Timed Class Outline

Approximately 5 Minutes

Introduction

- Disclaimer
- Acknowledgements

Welcome

- Solar for the Real Estate Professionals
 - Center of the Transaction
- A Note about Terminology
- Structure of the Class
 - What You Will Learn
 - Structure and Learning Objectives
 - Course Notes
- Practitioner Spotlight

Approximately 15 Minutes

Module I. The Emerging Solar PV Market

In this module you will learn what is driving the growth of the solar PV market and why the solar PV market is growing so quickly. Identifying the benefits that compel homeowners to install solar PV can help agents have more informed conversations with homeowners and buyers with interest in the technology. After this module you will be able to:

1. Cite the major influencers that are driving the demand for solar PV installations
 2. Discuss the expanding consumer interest and initiatives regarding residential solar PV
-
- Introduction
 - The Growth of the Solar PV Market
 - Rapid Growth
 - What is Behind the Growth of Solar?
 - Activity
 - An Expanding Conversation
 - Research
 - Zillow Sun Number™
 - Google's Project Sunroof

Selling the Sun: Establishing Value for Solar PV Homes

- Social Media
- Practitioner Spotlight
- Review of Module I
- Module I Quiz

Approximately 20 Minutes

Module II: Part 1 The Parts and Pieces of a Solar PV System

In Module II, we will cover the components of the solar system and describe their functions. After this module you will be able to:

1. Recognize the major components of a residential solar PV system and describe their function
 2. Explain how the solar PV system generates electricity for the home
- Introduction
 - The Visible Components of the PV System
 - Solar Panels
 - Inverters
 - Mounting Systems
 - Performance Monitoring System
 - Review: Main Components of the Solar PV System

Approximately 20 Minutes

Module II: Part 2 The Parts and Pieces of a Solar PV System

Next, we will pull the pieces together and explain the process of generating electricity from the sun.

1. Explain the relationship between kW and kWh in a typical residential PV system
- Bi-directional Meter (a.k.a. Net Meter)
 - Batteries
 - The Solar PV System: How It Works
 - Activity
 - Understanding kWh and kW
 - Resources for the Homeowner and the Real Estate Professional
 - Activity
 - Understanding kWh and kW
 - Practitioner Spotlight
 - Review of Module II
 - Module II Quiz

Approximately 20 Minutes

Module III: Part 1. Financing the Residential Solar System

In Part 1 of Module III, we will review the four common residential solar financing options. After this module you will be able to:

1. Identify costs and revenues associated with the purchase of a residential PV system
- Introduction
 - Solar Financing Options
 - Breaking down the differences: Direct Ownership and Third-Party Ownership
 - Direct Ownership
 - Third-Party Ownership
 - Solar Leases and PPAs: What's the Difference?
 - Industry Spotlight: National Association of REALTORS® Green Designation

Approximately 20 Minutes

Module III: Part 2. Financing the Residential Solar System

Next, we will explain the differences between different financing options, including direct purchase, solar loans, leases, and power purchase agreements.

1. Explain the methods of financing a residential solar system and the differences among these options
- Direct Ownership: Cash Purchase
 - General Information
 - Liability
 - Benefits and Challenges
 - Purchasing the PV System with Cash: Costs and Revenues
 - Direct Ownership: Solar Loans
 - General Information
 - Financing
 - Liability
 - Benefits and Challenges
 - Activity
 - Third-Party Ownership: Solar Leases
 - General Information
 - Financing
 - Liability
 - Benefits and Challenges
 - Third-Party Ownership: Power Purchase Agreement (PPA)
 - General Information

Selling the Sun: Establishing Value for Solar PV Homes

- Financing
- Liability
- Benefits and Challenges
- Review of Module III
- Module III Quiz

Approximately 20 Minutes

Module IV: Part 1. Listing a Solar PV Home

In this module you will learn how to list solar PV homes in the MLS. We will present the PV system characteristics to highlight in the MLS and how to use the MLS features to your advantage. Real estate professionals with this knowledge will be able to highlight the benefits of a solar home while reducing their risk of liability. After this module you be able to:

1. Describe the system characteristics of a solar PV home in an MLS listing accurately and thoroughly
 2. Collect listing information about solar PV systems that will help appraisers accurately and properly value a solar home
- Introduction
 - Standardizing the MLS
 - Solar-Specific Data Fields
 - Benefits to the Real Estate Transaction
 - Industry Spotlight: California Regional MLS
 - Solar Fields in Your MLS
 - System Characteristics in the MLS
 - Qualities of System Characteristics
 - Finding the System Characteristics
 - The Importance of System Characteristics in MLS Listings
 - MLS Listing Remarks
 - Effective and Safe Remarks
 - Activity

Approximately 20 Minutes

Module 4: Part 2. Listing a Solar PV Home

1. Understand the risk and liability associated with inaccurate performance claims for a PV system
- Attachments on Listings
 - Residential Green and Energy Efficient Addendum
 - Industry Spotlight: The Green MLS Toolkit

Selling the Sun: Establishing Value for Solar PV Homes

- Review of Module IV
- Module IV Quiz

Approximately 20 Minutes

Module V: Part 1. Establishing a List Price for a Homeowner-Owned Solar PV Home

In Module V you will learn the key concepts and tools that can help you establish a list price for a home with a homeowner-owned PV system. After this module you will be able to:

1. Identify the information needed to establish the contributory value of a homeowner-owned PV system
- Introduction
 - Key Concept: Contributory Value
 - Approaches to Establishing Value
 - Real Property or Personal Property

Approximately 15 Minutes

Module V: Part 2. Establishing a List Price for a Homeowner-Owned Solar PV Home

You will also learn what information you will need to collect in order to use an online valuation tool to assist homeowners in transactions that involve homeowner-owned solar PV systems.

1. Use an online tool to establish the contributory value of a homeowner-owned PV system
- Ei Value®
 - Ei Value® Demo
 - Don't forget the Performance-Based Incentives
 - Practitioner Spotlight
 - Review of Module V
 - Module V Quiz

5 Minutes

Conclusion

Total Course Time: 180 Minutes

Credit Hours: 3

Student Final Exam Instructions

Students must agree to the following exam instructions before proceeding through the course.

Selling the Sun:
Establishing Value for Solar Homes



ABOUT **INSTRUCTIONS** **RESOURCES** **HELP**

Selling the Sun: Establishing Value for Solar PV Homes **TABLE OF CONTENTS**

Module I Quiz

The solar market is growing, in part, due to incentives at the _____ level.

- federal
- state
- county
- all of the above

Select the correct answer.



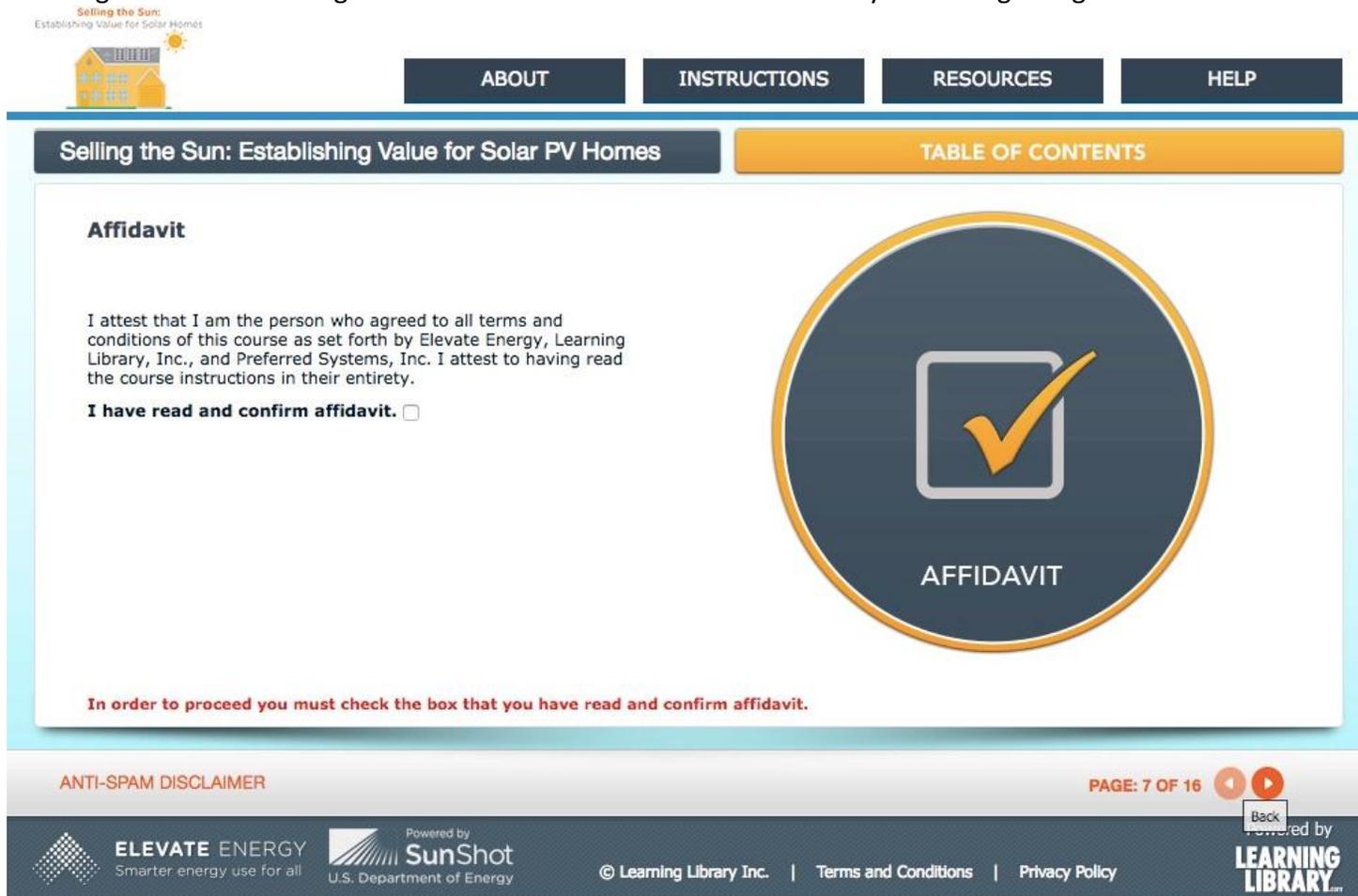
QUIZ

Instructions:
In order to proceed to the next section, you must answer 75% of the questions correctly. If you fail, you will be taken to the beginning of the quiz to try again. You can review the module of the course by clicking on the Course Menu and selecting that module.

OK

Exam Proctor/Monitor Instructions

All exams must be completed within the learning management system in order to receive credit for completing the course. Students must agree to the following statement in order to confirm their identity at the beginning and end of the course:



Selling the Sun:
Establishing Value for Solar Homes

ABOUT INSTRUCTIONS RESOURCES HELP

Selling the Sun: Establishing Value for Solar PV Homes TABLE OF CONTENTS

Affidavit

I attest that I am the person who agreed to all terms and conditions of this course as set forth by Elevate Energy, Learning Library, Inc., and Preferred Systems, Inc. I attest to having read the course instructions in their entirety.

I have read and confirm affidavit.



AFFIDAVIT

In order to proceed you must check the box that you have read and confirm affidavit.

ANTI-SPAM DISCLAIMER PAGE: 7 OF 16

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Student Version of Final Exam and Course Materials

The student version of all course materials and final exam can be accessed at the following website:

<http://learninglibrary.com/Elevate/A/Account/Login>

Username:

California@preferrededucation.com

Password:

Test123

Incremental Assessments:

Students are required to pass incremental assessments at the conclusion of each module with a score of 75% or higher. The learning management system randomly creates a five-question incremental assessment from a test bank composed of fifteen questions.

Upon successful completion of the course, the student will have been prompted to answer a total of thirty incremental test questions from a test bank of ninety questions.

Correspondence/Internet Course Information

1. Method of control to protect the integrity of an exam administered via the internet.

1. security measures:

a. We have hired Rackspace security team to monitor our servers and provide network and device monitoring as well as breach remediation.

b. Data includes only basic student data and results thus not high level security concern. However we still take great care to store, back up and monitor for breaches

2. Procedures controlling the participant's navigation through the course content to ensure the completion time is appropriate for the number of clock hours for which the course is approved.

Participants must click through the course in order that the course is presented. Students are not able to skip to subsequent sections of the course without first completing all course activities and earning at least a 75% on all end-of-module assessments. While the Learning Management System does not mandate seat time, it does track the amount of time each student spends completing all required components of the course. When a student logs onto the system the LMS records the date and time of the session. The system then records the duration of the session. The system automatically bookmarks the participant's last spot in the course. Every time a student launches a course the system tracks the date and time until the student completes the course.

3. A method of control that protects the integrity of the exam, ensured by a statement, signed under penalty of perjury that the participant enrolled is the person completing the course.

Students are required to respond to the following prompt before accessing course materials at the beginning of the course and before accessing the end of course exam:

I attest that I am the person who agreed to all terms and conditions of this course as set forth by Learning Library, Inc., Elevate Energy, and Preferred Systems, Inc. I attest to having read the student manual in its entirety, completed all course materials, and completed all course assessments and activities to the best of my abilities.

4. The final examination is protected by restricting access to one-time, cannot be printable or downloadable, and must time-out after the maximum amount of time authorized for completion has lapsed.

Participants must agree to the following final exam rules before beginning the exam:



Selling the Sun: Establishing Value for Solar PV Homes

TABLE OF CONTENTS

Module V Quiz

An appraiser can only consider _____ PV systems when developing the value of a solar home.

- third-party owned
- fully operational
- homeowner-owned
- utility verified

Select the correct answer.



Instructions:

In order to proceed to the next section, you must answer 75% of the questions correctly. If you fail, you will be taken to the beginning of the quiz to try again. You can review the module of the course by clicking on the Course Menu and selecting that module.

OK



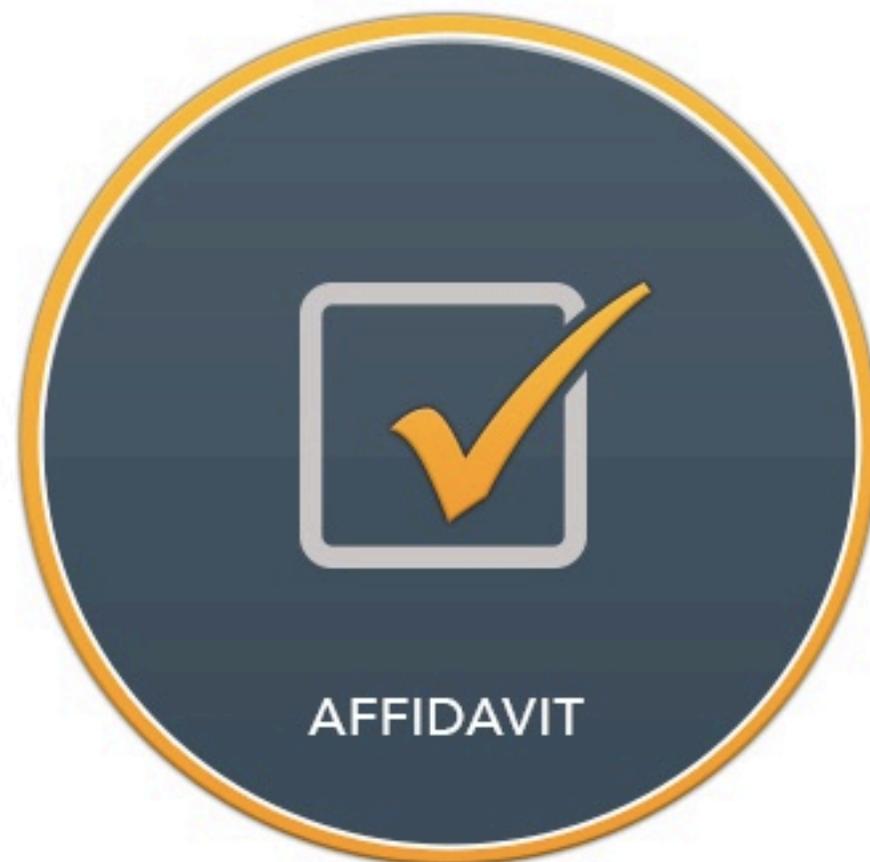
In order to successfully complete the course, participants must complete all module exams with an 75% pass rate on each. The Learning Management System will present the participant with a Certificate of Completion upon submission of final passed assessment. Participants may not spend more than one minute on each test question. The Learning Management System does not allow for end-of-module quizzes to be downloadable or printed.



Affidavit

I attest that I am the person who agreed to all terms and conditions of this course as set forth by Elevate Energy, Learning Library, Inc., and Preferred Systems, Inc. I attest to having read the course instructions in their entirety.

I have read and confirm affidavit.



In order to proceed you must check the box that you have read and confirm affidavit.





Selling the Sun Test Bank

Module 1

1. There are currently _____ PV solar installations in the United States.
 - a. Around 500,000
 - b. Under 100,000
 - c. Over 1 million
 - d. Around 3 million

Answer: C

Objective 2

The answer is OVER 1 MILLION. In early 2016, the growing renewable energy market reached an important milestone - one million PV systems had been installed in the United States.

2. The number of solar PV installations is expected to grow _____ in the coming years.
 - a. Exponentially
 - b. At a steady pace
 - c. A small amount
 - d. In the sunshine states

Answer: A

Objective 2

The answer is EXPONENTIALLY. The Solar Energy Industry Association (SEIA) predicts that 1 million new residential solar PV systems will be installed by 2018.

3. Americans are seeing _____ because of the growth in installations of solar PV systems.
 - a. More new roofing companies
 - b. Job growth
 - c. More real estate transactions
 - d. A decrease in job opportunities

Answer: B

Objective 2

The answer is JOB GROWTH. More Americans have jobs installing solar panels than mining coal or extracting oil and gas.

4. Growth in the number of residential solar PV systems is happening across _____.
- The states with the most number of sunny days per year
 - Suburban communities
 - The mid-Atlantic and southern states
 - All states

Answer: D

Objective 2

The answer is ALL STATES. Some states have more installations than others, but the growth in installations is happening all over the United States.

5. The solar market is growing, in part, due to incentives at the _____ level.
- Federal
 - State
 - County
 - All of the above

Answer: D

Objective 1

The answer is ALL OF THE ABOVE. Supportive incentives and policies and the federal, state and local levels help make solar a cost-effective and smart investment across the nation.

6. The _____ is a federal policy that provides a 30% tax credit to solar PV system owners.
- Solar Installation Tariff Credit
 - Sun Improvement Tax Credit
 - Solar Investment Tax Credit
 - Solar Income Tax Charge

Answer: C

Objective 1

The answer is SOLAR INVESTMENT TAX CREDIT. The Solar Investment Tax Credit allows homeowners to take a one-time 30% tax credit on their tax payment.

7. The Database of State Incentives for Renewables & Efficiency (DSIRE) compiles information on _____.
- Solar PV system incentives and policies
 - The number of solar PV installations
 - Regulated solar PV system installers
 - The benefits of installing solar PV systems

Answer: A

Objective 2

The answer is SOLAR PV SYSTEM INCENTIVES AND POLICIES. Funded by the U.S. Department of Energy (DOE), the Database for State Incentives for Renewable Energy (DSIRE) is the most comprehensive source of information on incentives and policies that support renewable energy and energy efficiency in the United States.

8. Fifty six percent of _____ are looking at installing solar panels within a 5-year time span
- Millennials
 - Those 35 and older
 - Those 55 and older
 - Homebuyers

Answer: A

Objective 2

The answer is MILLENNIALS. Millennials see solar as an environmentally sustainable technology to lock in energy costs, providing a hedge against future energy price increases.

9. The cost of installing solar PV system installations is _____ across the United States.
- Holding steady
 - Rising
 - Dropping
 - Fluctuating

Answer: C

Objective 1

The answer is DROPPING. The clear trend has been a lowering of costs for PV systems. According to the Solar Energy industry Association, the average pricing for residential rooftop systems declined by nearly 30% from 2014 to 2016.

10. A _____ home is one that needs fewer resources to operate.
- Green

- b. Smaller
- c. Grid-tied
- d. Resource-efficient

Answer: D

Objective 2

The answer is RESOURCE-EFFICIENT. A resource efficient home is needs fewer resources, like electricity, natural gas, and water, in the course of a day.

11. A contributing factor to the growth of solar PV installations could be _____.
- a. Elimination of solar taxes
 - b. Homeowner concern about their utility bills
 - c. Falling electricity prices
 - d. Low cost do-it-yourself PV system packages

Answer: B

Objective 1

The answer is HOMEOWNER CONCERNABOUT THEIR UTILITY BILLS. Rising and volatile electricity costs have helped spur interest in solar energy. PV systems harvest a free resource and may help reduce monthly electric bills.

12. When considering the ____, homeowners should consider property taxes, utility costs, and mortgage payments.
- a. Property listing
 - b. Neighborhood
 - c. Total cost of home ownership
 - d. Mortgage term

Answer: C

Objective 1

The answer is TOTAL COST OF OWNERSHIP. The asking price of a property is just one piece of information to consider. Prospective buyers should consider taxes, the condition of the property, its proximity to work and school, and other factors that go into the costs of owning and living in the property, including utility expenses.

13. A residential solar PV system _____.
- a. Produces hot water for domestic use.
 - b. Captures sunlight and turns it into electricity.
 - c. Requires at least 600 sq. ft. of roof space.
 - d. Should face north

Answer: B

Objective 2

The answer is CAPTURES SUNLIGHT AND TURNS IT INTO ELECTRICITY. Every home is in fact a solar home. All homes are bombarded by sunlight every day. The difference is that the solar PV system captures the sun's energy and turns it into electricity.

14. A homeowner who installs solar PV panels, could be interested in the benefit of _____.
- Harnessing the moon's energy.
 - Covering up a leaky roof.
 - A lower electric bill.
 - A lower cable bill.

Answer: C

Objective 1

The answer is A LOWER ELECTRIC BILL. PV systems generate electricity on-site and reduce the amount of electricity needed from the electric utility.

15. Only homeowners concerned about the environment install solar PV systems.
- True
 - False

Answer: B

Objective 1

The answer is FALSE. Solar is an attractive technology for homeowners looking to reduce their electric bill. Some homeowners also install battery systems to provide backup power if the electric grid goes out.

16. According to the National Association of REALTORS® 2016 Profile of Home Buyers and Sellers _____.
- Home buyers are not thinking about utility costs.
 - Home buyers think there is nothing they can do about high utility bills.
 - 54% of home buyers think energy prices will decrease.
 - 84% of home buyers identify utility costs as a concern when buying a home.

Answer: D

Objective 2

The answer is 84% OF HOME BUYERS IDENTIFY UTILITY COSTS AS A CONCERN WHEN BUYING A HOME. Energy performance affects affordability and prospective buyers consider utility costs when evaluating the cost of home ownership.

17. To find the solar PV incentives in my state, I would go to _____.

- a. My municipal government's website.
- b. There is nowhere to find this information.
- c. www.solarincentives.net
- d. www.dsireusa.org

Answer: D

Objective 2

The answer is WWW.DSIREUSA.ORG. The Database of State Incentives for Renewable Energy contains comprehensive information on incentives at the federal, state and municipal levels.

18. The _____ website is a good resource for learning about renewable energy resources and the latest government sponsored research and activities in advancing renewable

- a. Solar Energy Studies Group's
- b. Solar Cell Consortium's
- c. National Renewable Energy Laboratory's
- d. Renewable Energy's

Answer: C

Objective 2

The answer is NATIONAL RENEWABLE ENERGY LABORATORY'S. The National Renewable Energy Laboratory (NREL) provides solar maps showing potential kWh by location, time of year, and type of equipment: <http://www.nrel.gov/gis/solar.html>

Module 2

1. Which are not parts of a standard residential solar PV system?

- a. Solar panels
- b. Storage tanks
- c. Inverters
- d. Performance monitoring systems

Answer: B

Objective 1

The answer is STORAGE TANKS. Storage tanks are not part of a residential solar PV system.

2. Solar cells convert _____ into _____

- a. Electricity, light
- b. Heat, electricity
- c. Sunlight, electricity
- d. Sunlight, silicon

Answer: C

Objective 1

The answer is SUNLIGHT, ELECTRICITY. Solar panels need sunlight to create electricity, not heat.

3. Solar panels can be found on the ___ of a home.

- a. Roof
- b. Grounds
- c. Chimney
- d. Both A and B

Answer: D

Objective 1

The answer is BOTH A AND B. A home's unshaded roof or ground are typically good locations for solar panels.

4. PV panels need ____ to produce electricity.

- a. Heat
- b. Indirect sunlight
- c. Direct sunlight
- d. Both B and C

Answer: D

Objective 1

BOTH B AND C. PV panels need direct or indirect sunlight to generate electricity. Shading dramatically reduces electrical output.

5. All solar panels, no matter the type, degrade over time.

- a. True
- b. False

Answer: A

Objective 1

The answer is TRUE. While a variety of factors contribute to PV module degradation, most manufacturers guarantee that after 25 years the panels will not lose more than 10 – 20% of their power output capacity.

6. The _____ warranty for a solar panel covers how much electricity the panel will produce over time.

- a. Inverter
- b. Performance
- c. Product
- d. Homeowner's

Answer: B

Objective 1

The answer is PERFORMANCE. The performance warranty covers how much electricity the panels will produce over time. The solar panel industry standard for performance warranties is 20-25 years. This is a guarantee that the panels will not lose more than 10 – 20% of their power output capacity over the useful life of the system.

7. The inverter converts ____ power to ____ power that can safely be used in your electrical panel.

- a. Solar, hydro
- b. Solar, battery
- c. Thermal, electrical
- d. DC (direct current) to AC (alternating current)

Answer: D

Objective 2

The answer is DC (DIRECT CURRENT) TO AC (ALTERNATING CURRENT). The inverter converts solar energy into electricity in a form can safely be used in a home.

8. A string inverter in a solar PV system works best when the panels are _____.

- a. Facing different directions
- b. In a northern location
- c. Not shaded at all during the day
- d. Under warranty

Answer: C

Objective 2

The answer is NOT SHADED AT ALL DURING THE DAY. A string of solar panels will only produce as much electricity as its least productive panel – if one or more of the solar panels are shaded during any part of the day, the power output from that entire string would be reduced to its level.

9. _____ inverters are best for installations where one or more panels may be shaded.
- Micro
 - String
 - Macro
 - Solar

Answer: A

Objective 2

The answer is MICRO. Micro-inverters can help ensure that the PV system produces a substantial amount of power even if one or more panels are shaded.

10. A _____ allows homeowners to store energy for future use.
- Storage tank
 - Monitoring system
 - Battery
 - Smart meter

Answer: C

Objective 1

The answer is BATTERY. Battery back-up allows a homeowner to use electricity generated by the PV panels at a later time, such as nighttime or on cloudy days, or in the event of a power outage.

11. String inverter warranties are usually _____ than the solar panel warranties.
- Shorter
 - Longer
 - About the same
 - More complicated

Answer: A

Objective 1

The answer is SHORTER. String inverter warranties are often much shorter than solar panel warranties. String inverter warranties range from 5 to 10 years; string inverters are likely to break down before solar panels do. Micro-inverters have the same warranty as the solar panel itself as they are integrated in the solar panels.

12. Panels are installed with a ground mount system, may be _____ .
- Safer in a windstorm
 - Easier to take down
 - Able to move

- d. Under a longer warranty

Answer: D

Objective 1

The answer is ABLE TO MOVE. Solar panels that are installed with a ground mount can be designed to “follow” the sun’s position as it changes.

13. When a homeowner would like to know how much electricity their solar system is producing per month, they can check their _____.

- a. Performance warranty
- b. Utility bill
- c. Bi-directional meter
- d. Performance monitoring system

Answer: D

Objective 1

The answer is PERFORMANCE MONITORING SYSTEM. A monitoring system provides detailed information about the performance of a solar PV system. The monitoring system allows system owners to measure and track the amount of electricity the system produces on an hourly, monthly and annual basis.

14. When a homeowner receives bill credits by exporting excess solar electricity back to the utility company, they are taking advantage of a billing mechanism known as ____.

- a. Gross metering
- b. Net metering
- c. Net marketing
- d. Renewable energy crediting

Answer: B

Objective 1

The answer is NET METERING. If over a given billing period the home owner has produced more electricity than used, the customer may receive a credit for the surplus electricity.

15. Net metering policies are _____.

- a. Set by the municipality
- b. Different state by state
- c. Nationally mandated
- d. Enacted by Congress

Answer: B

Objective 1

The answer is DIFFERENT STATE BY STATE. Net metering policies vary from state to state. You can visit the DSIRE's website www.dsireusa.org for the most up to date net metering policies in your market.

16. A battery could allow a homeowner to _____.
- a. Monitor the performance of a PV system
 - b. Extend Wi-Fi range
 - c. Store excess electricity generated by their solar PV system.
 - d. Reduce natural gas use

Answer: C

Objective 1

The answer is STORE EXCESS ELECTRICITY GENERATED BY THEIR SOLAR SYSTEM. Batteries offer energy storage for the excess electricity for use later when the PV system does not produce power (e.g. at night or on cloudy days).

17. A residential solar PV system's _____ is measured in watts or kilowatts.
- a. Performance
 - b. Energy
 - c. Monitoring performance report
 - d. Capacity

Answer: D

Objective 3

The answer is CAPACITY. A residential solar PV system's capacity (or size) is measured in watts (W) or kilowatts (kW)

18. One thousand watts (W) is the same as _____.
- a. 1 kilowatt (kW)
 - b. 4 kilowatts (kW)
 - c. 1 kilowatt-hours (kWh)
 - d. 10 kilowatts

Answer: A

Objective 3

The answer is 1 KILOWATT (kW). One thousand watts is equal to one kilowatt. A kilowatt means 1000 watts (W).

1. Using a solar loan to purchase a residential solar system allows a homeowner to _____.

- a. Benefit directly from state and federal incentives.
- b. Power a home in a blackout.
- c. Avoid the responsibility of maintaining the system.
- d. Improve the environment.

Answer: A

Objective 2

The answer is BENEFIT DIRECTLY FROM STATE AND FEDERAL INCENTIVES.

Purchasing a solar panel system with cash, or financing a purchase with a solar loan, is a homeowner's best option when they would like to take advantage of state and federal tax incentives.

2. Purchasing a solar panel system with cash, or financing a purchase with a solar loan, is the best option when the owner _____

- a. Wants to maximize the financial benefits of installing a solar panel system.
- b. Can claim the federal investment tax credit.
- c. Wants to increase her home market value by installing PV
- d. All of the above

Answer: D

Objective 2

The answer is ALL OF THE ABOVE. A homeowner can claim multiple benefits by purchasing a system outright or financing through a loan.

3. TPO stands for _____.

- a. Total PV Orientation
- b. Two Party Organization
- c. Twin Passive Optimization
- d. Third-Party Owned

Answer: D

Objective 2

The answer is THIRD-PARTY OWNED. TPO stands for Third-Party Owned. TPO models have made PV accessible to households that may not be able to outlay the upfront capital needed to purchase a PV system.

4. The two most common types of _____ are solar leases and power purchase agreements.

- a. Warranties

- b. Third party ownership arrangements
- c. Loans
- d. Net metering policies

Answer: B

Objective 2

The answer is THIRD-PARTY OWNERSHIP ARRANGEMENTS. Solar leases and power purchase agreements are the two most common third-party ownership arrangements.

5. One of the benefits of a solar lease is the elimination of _____.

- a. Utility bills
- b. Paperwork
- c. Most or all of the upfront cost of a system
- d. Taxes related to the system

Answer: C

Objective 2

The answer is MOST OR ALL OF THE UPFRONT COSTS OF A SYSTEM. The benefits of a solar lease include elimination of most or all of the upfront cost of a system and, if indicated in the contract, transferring operations and maintenance responsibilities to a qualified third-party owner.

6. PPA stands for _____.

- a. Power purchase agreement
- b. Proactive purchase agreement
- c. Planned packaging adjustment
- d. Power performance agreement

Answer: A

Objective 2

The answer is POWER PURCHASE AGREEMENT. PPA stands for power purchase agreement. Under a residential solar PPA, a solar finance company buys, installs, and maintains a solar system on a homeowner's property.

7. What is the difference between a solar lease and a power purchase agreement?

- a. With a solar lease, homeowners can take advantage of federal tax incentives. With a solar PPA, homeowners agree to take care of all system maintenance costs.
- b. With a solar lease, homeowners pay a fixed monthly lease payment. With a solar PPA, homeowners pay for the power generated by the system at a set per-kWh price.

- c. With a solar lease, homeowners immediately recoup the financial benefits of their solar system. With a solar PPA, homeowners agree to purchase the power generated by the system at a set per-kWh price.
- d. With a solar lease, homeowners agree to pay an escalating monthly lease payment. With a solar PPA, homeowners agree to purchase the power directly from their utility.

Answer: B

Objective 2

The answer is WITH A SOLAR LEASE, HOMEOWNERS PAY A FIXED MONTHLY LEASE PAYMENT. WITH A SOLAR PPA, HOMEOWNERS PAY FOR THE POWER GENERATED BY THE SYSTEM AT A SET PER-KWH PRICE. With a solar lease, homeowners agree to pay a fixed monthly “rent” or lease payment, which is calculated using the estimated amount of electricity the system will produce, in exchange for the right to use the solar energy system. With a solar PPA, instead of paying to “rent” the solar panel system, homeowners agree to purchase the power generated by the system at a set per-kWh price.

- 8. If the system is leased, the solar lease payment is included in the expense side of the debt-to-income ratio.
 - a. True
 - b. False

Answer: A

Objective 1

The answer is TRUE. When securing a Fannie Mae mortgage loan on a solar PV property, a solar lease is viewed differently than a power purchase agreement. If the system is a lease, the solar lease payment is included in the expense side of the debt-to-income ratio. Since the power purchase agreement involves utility payment, this is not included on the expense side of the debt-to-income ratio.

- 9. It can be a good idea for a buyer to hire _____ to make sure a lease agreement is in their best interest.
 - a. A solar installation expert
 - b. An attorney
 - c. A real estate professional with residential solar system
 - d. A banker with a background in solar loans

Answer: B

Objective 1

The answer is AN ATTORNEY. Solar PV leases or PPAs must be reviewed thoroughly, preferably with the help of the buyer's attorney, to determine if the lease agreement is in the buyer's best interest.

10. Solar leases may cover _____.

- a. Closing costs
- b. Maintenance costs
- c. Roof repairs
- d. Extended warranty cost

Answer: B

Objective 1

The answer is MAINTENANCE COSTS. Solar leasing companies typically handle operations and maintenance at no additional out-of-pocket costs to the homeowner.

11. According to Fannie Mae guidance, _____ may not be included in the appraised value of the property.

- a. Third-party owned systems
- b. Homeowner-owned systems
- c. Batteries and inverters
- d. Residential solar systems

Answer: A

Objective 1

The answer is THIRD-PARTY OWNED SYSTEMS. Homeowner-owned systems may have equity that should be accounted for in the real estate transaction and in the appraisal process. However, according to Fannie Mae guidance, third-party owned systems may not be included in the appraised value of the property.

12. Solar leases may last _____ years.

- a. 1 to 5
- b. 1 to 10
- c. 5 to 10
- d. 15 to 25

Answer: D

Objective 2

The answer is 15 TO 20. Solar leases may last 15-25 years. Solar leases are long term arrangements that coincide with the PV system lifespan.

13. Homeowners with a solar lease _____ know how much money they will save on their electric bills.

- a. Always
- b. Do not
- c. Are advised to estimate
- d. Occasionally

Answer: B

Objective 2

The answer is DO NOT. Although homeowners who enter into a lease pay a set price for the equipment (and sometimes maintenance), they do not know for sure how much electricity the solar panels will produce, so cannot know exactly how much money they will save on their electric bills.

14. Ideally the monthly payments for a leased solar system will _____

- a. Be less than the electric bill savings
- b. Be less than the cable bill
- c. Occur via automatic debit
- d. Go to the solar installer

Answer: A

Objective 1

The answer is BE LESS THAN THE ELECTRIC BILL. If the electric savings are greater than the monthly payments the lease is a cash-positive transaction.

15. In a solar Power Purchase Agreement the homeowner is responsible for _____

- a. Paying for the PV system maintenance
- b. Warranty provisions
- c. Upgrading the electrical service
- d. Paying for the electricity supplied by the PV system

Answer: D

Objective 2

The answer is PAYING FOR THE ELECTRICITY SUPPLIED BY THE PV SYSTEM. Under a PPA the homeowner pays for all electricity supplied by the PV system.

16. The homeowner should closely consider the _____ of the PPA to make sure it is not out of line with projected utility rate increases.

- a. Term
- b. Golden parachute clause

- c. Escalation rate
- d. Warranty provisions

Answer: C

Objective 1

The answer is ESCALATION RATE. The homeowner should look for PPA electric rates that are lower than or competitive with grid supplied power.

17. As with a solar lease, under a PPA any applicable state and federal tax credits _____.

- a. Go to the system owner
- b. Are unused
- c. Can be donated to a charity
- d. Can be claimed immediately

Answer: A

Objective 1

The answer is GO TO THE SYSTEM OWNER. Because the homeowner does not own the system, any applicable state or federal tax credits go to the system owner, namely the solar leasing company or PPA provider.

18. _____ is a good resource for checking to see if a particular state allows PPAs.

- a. The utility company
- b. The DSIRE website
- c. A solar installer
- d. The local municipality website

Answer: B

Objective 2

The answer is THE DSIRE WEBSITE. To see which states allow PPAs you can view the PPA map available through the DSIRE website at www.dsireusa.org.

Module 4

1. _____ may be the best place to put information about the characteristics of a solar system.

- a. The attachment section of the MLS listing
- b. The remarks section of the MLS listing
- c. An open house
- d. A designated webpage

Answer: B

Objective 2

The answer is THE REMARKS SECTION OF THE MLS LISTING. An MLS listing's remarks section offers real estate professionals a place to put information about the characteristics of a solar system.

2. If an MLS does not have specific fields for solar PV system characteristics, real estate professionals should _____.
- Leave that information out of the listing.
 - Put that information in the listing's remarks section.
 - Put the information out at the open house.
 - Pass the information along to the potential buyer.

Answer: B

Objective 2

The answer is PUT THAT INFORMATION IN THE LISTING'S REMARKS SECTION. Most MLSs do not have solar-specific fields. Real estate agents working with MLSs without specific fields can use the "Remarks" section of their MLS.

3. Solar system characteristics should be included in an MLS listing because they are _____ and _____
- Subjective, observable
 - Static, numerical
 - Observable, objective
 - Stationary, objective

Answer: C

Objective 1

The answer is OBSERVABLE, OBJECTIVE. System characteristics have two qualities in common: they are observable and objective.

4. _____ are crucial for appraisers because they use them to establish the contributory value of the system.
- System characteristics
 - Ownership models
 - System statistics
 - Utility bills

Answer: A

Objective 2

The answer is SYSTEM CHARACTERISTICS. System characteristics are static (they do not change over time) and verifiable.

5. Which of the following is a solar system characteristic that does not need to be included in an MLS listing?
- Ownership
 - System capacity
 - Year installed
 - Number of solar panels in the array

Answer: D

Objective 1

The answer is NUMBER OF SOLAR PANELS IN THE ARRAY. The system characteristics that should be included in an MLS are: type of ownership, system capacity (or size), year of installation, and estimated power production

6. A system's _____ is important to indicate in an MLS listing because it impacts the procedures an appraiser must follow when determining the value of a system.
- Type of ownership
 - System capacity
 - Installer
 - Array

Answer: A

Objective 1

The answer is TYPE OF OWNERSHIP. An appraiser can only consider a solar PV system in the appraisal when the system is owned by the homeowner.

7. Systems that are _____ by the home seller are typically considered real property in an appraisal.
- Leased
 - Owned
 - Installed
 - Valued

Answer: B

Objective 2

The answer is OWNED. Systems owned by the home seller are typically considered real property and transfer with the other real property at the time of sale.

8. Systems that are _____ are considered personal property in an appraisal.
- Owned

- b. Under five years old
- c. Covered by a power purchase agreement
- d. Have a low capacity

Answer: C

Objective 2

The answer is COVERED BY A POWER PURCHASE AGREEMENT. Systems that are leased or covered by a PPA are typically considered personal property and cannot be included in the appraisal.

9. The size of the solar system, or the "capacity", indicates how much power the system can produce _____.

- a. Under standard condition
- b. Yearly
- c. Daily
- d. On sunny days

Answer: A

Objective 1

The answer is UNDER STANDARD CONDITIONS. The size of the solar system, also known as the "capacity" indicates how much power the system can produce under standard conditions.

10. Systems that have the same capacity but were installed in different years can have different _____.

- a. Electricity loads
- b. Contributory values
- c. Production thresholds
- d. Warranty options

Answer: B

Objective 1

The answer is CONTRIBUTORY VALUES. The date the system was installed is an important feature to establishing contributory value. PV systems typically lose efficiency over time. Knowing if the system was installed 10 years or a couple of years prior to the transaction will affect the value of the system.

11. The amount of energy produced by a solar PV system can be influenced by the _____ and _____.

- a. Size of the system, the color of the panels

- b. Installer, geographic location
- c. Age of the system, geographic location
- d. Monitoring system, the color of the panels

Answer: C

Objective 1

The answer is AGE OF THE SYSTEM, GEOGRAPHIC LOCATION. The amount of energy produced by a solar PV system can be influenced by age of the system, its geographic location, and several other factors including its size and efficiency.

12. The amount of energy a solar PV system produces per year is measured in _____.

- a. Time divided by production
- b. The utility bill
- c. Watts (W)
- d. Kilowatt hours (kWh)

Answer: D

Objective 1

The answer is KILOWATT HOURS (kWh). The power produced by a solar PV system is measured in kilowatt hours (kWh) per year. This number can be actual or estimated.

13. Other than the remarks section in an MLS listing, there are no other places to market a home's PV solar system.

- a. True
- b. False

Answer: B

Objective 2

The answer is FALSE. Alongside the remarks section, the attachments section of a home listing offers an additional marketing opportunity.

14. Real estate professionals should keep their remarks _____ in order to reduce the potential of liability.

- a. Vague
- b. Subjective
- c. Objective
- d. Brief

Answer: C

Objective 3

The answer is OBJECTIVE. Best practice in writing the remarks section for a PV system is to provide factual information, i.e. observable and objective statements.

15. It can be _____ to use the gallery to feature a homeowner's low energy bill.

- a. A marketing opportunity
- b. Risky
- c. Time-consuming
- d. Ill advised

Answer: A

Objective 2

The answer is A MARKETING OPPORTUNITY. A utility bill could be included in a listing to show energy production of the PV system to potential buyers.

16. Offering a _____ of a utility bill in an MLS listing could put a real estate professional at an increased liability risk.

- a. Printable PDF
- b. Copy
- c. Photo
- d. Guarantee

Answer: D

Objective 3

The answer is GUARANTEE. Remarks that offer guarantees of free electricity or specific electric bills are not recommended.

17. The _____ can provide information on actual energy production on a daily, monthly, and annual basis.

- a. Inverter
- b. Performance monitoring system
- c. Utility company
- d. Production information report

Answer: B

Objective 2

The answer is PERFORMANCE MONITORING SYSTEM. Typically, PV installations include a performance monitoring system that provides information on actual energy production on a daily, monthly, and annual basis.

18. Real estate professional Joey advised her colleague Jason to remove the statement “Brand new solar panels on the rear roof provide the future homeowner about a 30% reduction on the electric bill” from his MLS listing remarks section. Why did Joey give this advice?
- Joey is competitive and thought this statement could put her own listing at a disadvantage.
 - Joey thinks the savings is actually much higher.
 - Joey knows that this type of guarantee could put her colleague at an increased liability risk.
 - Joey thinks that mentioning the solar panels in the listing could turn off potential buyers.

Answer: C

Objective 3

The answer is JOEY KNOWS THAT THIS TYPE OF GUARANTEE COULD PUT HER COLLEAGUE AT AN INCREASED LIABILITY RISK. Although this statement does not directly state a specific amount that the potential buyers should expect, the promise of a 30% reduction in utility costs could misguide the new homeowner and set expectations that may not be realized.

Module 5

1. Determining the contributory value of a PV system can be challenging _____.
- Using the sales comparison approach.
 - When the system is third party owned.
 - If the system is over 10 years old.
 - Using the income approach.

Answer: A

Objective 1

The answer is USING THE SALES COMPARISON APPROACH. Comparable properties must match similar size and features of the solar home, and the agent must also find a host-owned solar PV system of similar size and age.

2. Which answer is true about the website www.eivalue.com?
- It is endorsed by the Appraisal Institute.
 - It is approved by the FDA.
 - It is a tool for establishing the contributory value of a TOP solar PV system.
 - It should not be referenced in the appraisal of a home with host owned solar PV.

Answer: A

Objective 2

The answer is IT IS ENDORSED BY THE APPRAISAL INSTITUTE. The Appraisal Institute, the nation's largest professional association of real estate appraisers, supports Ei Value®®, an online tool that assists appraisers and others seeking to establish the value of a property's solar-powered features.

3. The valuation of a PV system with Ei Value® is done using the _____.
- Azimuth of the solar field.
 - Cost accounting method.
 - Income approach.
 - Balance sheet.

Answer: C

Objective 2

The answer is INCOME APPROACH. Ei Value® estimates the value of the electricity produced (income) by the PV system.

4. The _____ calculated in Ei Value® can be used for estimating _____.
- Discount rate, PV production
 - Income projections, contributory value
 - Degrade rate, PV longevity
 - Tax rate, payback period

Answer: B

Objective 2

The answer is INCOME PROJECTIONS, CONTRIBUTORY VALUE. Ei Value®® determines a range of income projections to establish contributory value.

5. Degradation of a PV system refers to the _____ over time.
- Atmospheric system soiling
 - Loss of efficiency of solar panels
 - The tendency of panels to sag
 - Loss of value

Answer: B

Objective 2

The answer is LOSS OF EFFICIENCY OF SOLAR PANELS. Solar PV panels become less efficient over time. Panels produced in 2000 and before would lose about 1% per year. Newer panels lose about .5% per year.

6. An appraiser can only consider _____ PV systems when developing the value of a solar home.
- a. Third-party owned
 - b. Fully operational
 - c. Homeowner-owned
 - d. Utility verified

Answer: C

Objective 1

The answer is HOMEOWNER-OWNED. Solar PV systems that the home seller owns (host-owned) are usually considered real property which adds contributory value and can be included in the appraisal.

7. _____ is a free tool that can help determine the value of a PV system in real estate transactions.
- a. PV Watts
 - b. Project Sunroof
 - c. Solar Census
 - d. Ei Value

Answer: D

Objective 1

The answer is Ei Value®. Ei Value® is a free online tool that can help determine the value of a new or existing PV system installed on properties.

8. To determine contributory value you will need to collect all the following information except _____.
- a. PV interconnection date
 - b. Inverter size
 - c. PV ownership
 - d. Array tilt

Answer: A

Objective 1

The answer is PV INTERCONNECTION DATE. Inverter size, PV Ownership, and array tilt are all input fields in Ei Value® used to estimate contributory value. PV interconnection date does not factor into the analysis.

9. If your client tells you she has a 5.2kW system she wants valued in her home list price, you should enter _____ in the "System Size" field in Ei Value®.

- a. 5.2 (watts)
- b. 52 (watts)
- c. 520 (watts)
- d. 5200 (watts)

Answer: D

Objective 2

The answer is 5200 (WATTS). Ei Value® requires system size to be entered in watts. You should enter 5200 W (Watts). 5.2 kW (kilowatts) is equivalent to 5200 watts.

10. A client is looking at a house with a PV system that was installed in 2000. The appropriate value for the "Degradation" field is _ % in Ei Value®.

- a. 0.25
- b. 0.5
- c. 1
- d. 1.5

Answer: C

Objective 1

The answer is 1. Panels produced in 2000 and before would lose about 1% per year. Newer panels lose about .5% per year.

11. All of the following factors go into estimating the kWh production of the PV system in Ei Value® except _____.

- a. Discount rate
- b. Array azimuth
- c. PV system size
- d. Array tilt

Answer: A

Objective 1

The answer is DISCOUNT RATE. The discount rate is used to determine the present value of future payments, not kWh production.

12. The "System Loss" field describes _____.

- a. The lower rate used in sub-array calculations.
- b. the loss of power that occurs when the inverter converts DC electricity to AC electricity.
- c. the tendency of PV panels to reduce output in temperatures exceeding 100 degrees Fahrenheit.

- d. the lower credit approval rating resulting from late mortgage payments.

Answer: B

Objective 2

The answer is THE LOSS OF POWER THAT OCCURS WHEN THE INVERTER CONVERTS DC ELECTRICITY TO AC ELECTRICITY. When the inverter converts the direct current (or DC) electricity produced by the PV panels into alternating current (or AC) electricity, some power is lost.

13. PV panels manufactured in 2000 would have a Degradation rate of _____ while most PV panels manufactured in 2015 would have a rate of _____.

- a. 0.5%, 1%
- b. 0.75%, 1%
- c. 1%, 0.5%
- d. 10%, 5%

Answer: C

Objective 1

The answer is 1%, 0.5%. Solar PV panels become less efficient over time. Panels produced in 2000 and before would lose about 1% per year. Newer panels lose about .5% per year.

14. Most residential PV systems are installed at an array tilt that _____.

- a. Is the same as the roof pitch.
- b. Maximizes solar production.
- c. Can be seasonally adjusted.
- d. Makes them easy to clean for homeowners.

Answer: A

Objective 1

The answer is IS THE SAME AS THE ROOF PITCH. Nearly all residential PV systems are mounted to the same pitch as the roof. This results in improved aesthetics and lower installation costs.

15. PV panels that face due south have an array azimuth of _____.

- a. 90 degrees
- b. 135 degrees
- c. 180 degrees
- d. 235 degrees

Answer: C

Objective 1

The answer is 180 DEGREES. PV panels that face due south have an array azimuth of 180 degrees.

16. When using Ei Value®'s final report, in general it is best to use the _____ estimated valuation to add to the list price.

- a. Low
- b. Average
- c. High
- d. Verified

Answer: B

Objective 2

The answer is AVERAGE. Using an average value is less likely to under or over-value the PV system.

17. After completing all input fields, Ei Value® creates a report that includes _____, _____, and _____.

- a. historical PV production, warranty coverage, manufacturer contact information
- b. three valuation scenarios, the projected annual production, input values entered.
- c. utility billing data, inverter exported kWh data, system maintenance costs
- d. system efficiency, tax status, a proforma

Answer: B

Objective 2

The answer is THREE VALUATION SCENARIOS, THE PROJECTED ANNUAL PRODUCTION, INPUT VALUES ENTERED. Ei Value®'s output is a report that can shared with owners, buyers and agents to demonstrate contributory value of the PV system and the method used to arrive at the valuation. The report includes three valuation scenarios, the projected annual production, and input values entered.

18. Solar Renewable Energy Credits can also be included in the valuation where the market allows.

- a. True
- b. False

Answer: A

Objective 1

The answer is TRUE. Solar Renewable Energy Credits are an important revenue stream and should be included in the valuation process as appropriate, though at this time, there is no input field for SRECs in Ei Value®.

Course Evaluation

Selling the Sun: Establishing Value for Solar PV Homes

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Post-class Evaluation Survey

Please take a moment to let us know about your post-class experience and knowledge.

Click on the image to enter a survey.

Click on the image for more information.

Selling the Sun: Establishing Value for Solar PV Homes New Member Orientation Course - Learner Evaluation

Thank you for taking the time to complete this questionnaire. The information you provide will help us to develop online learning experiences that are engaging and relevant to participants. All information you provide will be kept strictly confidential.

Full Name (optional):

Email Address (optional):

Please rate the following elements of the class:

Neither

Selling the Sun: Establishing Value for Solar PV Homes

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Please rate the following elements of the class:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	No Opinion							
1. The content is interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>							
2. The class is well organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>							
3. The downloadable course manual is useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>							
4. After taking this class, how much has your knowledge about solar PV increased?													
Not at all	<input type="radio"/>	A little bit	<input type="radio"/>	Quite a bit	<input type="radio"/>	A great deal	<input type="radio"/>	Not sure	<input type="radio"/>				
5. How likely is it that you will be part of a transaction involving a solar home in the next five years?													
Very unlikely	<input type="radio"/>	Unlikely	<input type="radio"/>	Neither Likely nor Unlikely	<input type="radio"/>	Likely	<input type="radio"/>	Very likely	<input type="radio"/>	I don't know	<input type="radio"/>		
6. After taking this class, how likely are you to take the National Association of REALTORS® Green Designation course?													
Very unlikely	<input type="radio"/>	Unlikely	<input type="radio"/>	Neither Likely nor Unlikely	<input type="radio"/>	Likely	<input type="radio"/>	Very likely	<input type="radio"/>	I don't know	<input type="radio"/>	I already have the GREEN designation	<input type="radio"/>

Please rate the quality of the experience as it applies to the following features:

Introduction

Post-class Evaluation Survey

Please take a moment to let us know about your experience and knowledge.

Click on the image to enter a survey.

Click on the image for more information.

Please rate the quality of the experience as it applies to the following features:

	Low	Medium	High	No opinion	N/A
1. Media elements (audio, video, text, images)	<input type="radio"/>				
2. Activities, quizzes, exercises	<input type="radio"/>				
3. Availability and responsiveness of technical support	<input type="radio"/>				
4. Overall experience	<input type="radio"/>				

Please answer these additional questions

5. Would you take this course if it did not provide CE credits?

Yes

No

What information did you find most helpful in the class?

What can be done to improve the overall quality or experience?

Selling the Sun: Establishing Value for Solar PV Projects

Introduction

Post-class Evaluation Survey

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Click on the image to enter a survey.

Click on the image for more information.

What information did you find most helpful in the class?

What can be done to improve the overall quality or experience?

If you have any questions and would like us to contact you, please provide your email address?

Submit

Reset

Certificate of Completion

This certificate is presented to:

John Doe

For successfully completing:

Selling the Sun: Establishing Value For Solar Homes

September 5, 2018

On-Demand Course

License #



This course has been approved by the New Mexico Real Estate Commission for ___ hours of real estate continuing education. Course #_____. Provider #_____.

Total Course Credit: 3.00 Continuing Education Credit Hours



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