



Home Innovation
NGBS GREEN CERTIFIED

**COMPLETING THE GREEN
APPRAISAL ADDENDUM FOR AN
NGBS GREEN CERTIFIED HOME**

Tips



Home Innovation
NGBS GREEN CERTIFIED

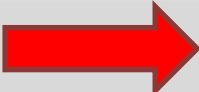
- Start completing the Addendum early, especially if appraisal will happen before final certification is issued.
- Complete with all known information; not all fields will apply.
- Attached relevant documents:
 - NGBS Green Certificate
 - Energy Performance Reports
 - HERS Report
 - Etc.

Property Information

- [Client File #] and [Appraisal File #] fields are to be completed by the appraiser.
- The [Client] field should recognize the party requesting the appraisal.
 - If the home is new, insert the name of the builder.
 - If a remodeling project is being completed, insert the name of the current homeowner.
- The [Subject Property] fields should reflect the physical address of the home, as it would be listed in a property listing.
 - Unacceptable = Lot #
 - Unacceptable = Intersection



Green Features: Certification

Certification 	Year Certified: 2015	Certifying Organization: <input checked="" type="checkbox"/> Home Innovation Research Labs (ICC-700) <input type="checkbox"/> USGBC (LEED) <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Verification Reviewed on site	<input checked="" type="checkbox"/> Certification attached to this report
Rating	Score:	<input type="checkbox"/> LEED Certified: <input type="radio"/> LEED Silver <input type="radio"/> LEED Gold <input type="radio"/> LEED Platinum <input type="checkbox"/> ICC-700 <i>National Green Building Standard</i> Certified: <input type="radio"/> Bronze <input type="radio"/> Silver <input type="radio"/> Gold <input type="radio"/> Emerald Green Certifying Organization URL (website)		

- For [Year Certified], insert the year that the NGBS Green certificate was received.
- Check both [Verification Reviewed on Site] and [Certification Attached to this report].

Green Features: Rating

Certification	Year Certified:	Certifying Organization: <input type="checkbox"/> Home Innovation Research Labs (ICC-700) <input type="checkbox"/> USGBC (LEED) <input type="checkbox"/> Other:	<input type="checkbox"/> Verification Reviewed on site	<input type="checkbox"/> Certification attached to this report
	Rating	Score: N/A	<input type="checkbox"/> LEED Certified: <input type="radio"/> LEED Silver <input type="radio"/> LEED Gold <input type="radio"/> LEED Platinum <input checked="" type="checkbox"/> ICC-700 <i>National Green Building Standard</i> Certified: <input checked="" type="radio"/> Bronze <input type="radio"/> Silver <input type="radio"/> Gold <input type="radio"/> Emerald Green Certifying Organization URL (website) www.homeinnovation.com/ngbsgreenstats	

- Write “N/A” for Score.
- Check [ICC-700 National Green Building Standard Certified] and the appropriate certification level.
- For [Green Certifying Organization URL], write www.homeinnovation.com/ngbsgreenstats
- If certification is in-process, complete with expected certification level.

Additions

Additions	Explain any additions or changes made to the structure since it was certified: 400 sq. foot den added to back of the home in 2014. Addition was part of a remodeling project that earned the home an NGBS Green remodel certification.
	Do changes require recertification to verify rating is still applicable? <input type="radio"/> Yes <input checked="" type="radio"/> No

- Complete this section only if relevant.
- Describe how addition fit into NGBS Green remodel project.
- Do changes require recertification to verify rating is still applicable?
 - Select NO

Green Features – Comments

- Items to Include:
 - (1) Local market conditions
 - (2) Location attributes
 - (3) Green features not included on the Addendum
- **Tip:** Highlight independent verification and third-party certification.
 - If a builder is building to a rating system but not certifying, they will explain that here.



Green Features – Comments

Comments

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.

Green certified homes should lower operating costs, enhance indoor air quality, and increase durability. Two inspections were conducted to confirm green features. Home received Bronze level certification to the NGBS from Home Innovation Research Labs. This is the first home certified to the NGBS in this city, so comparable properties may not be readily available.

In addition to features noted in this document, the home’s interior paints and stains were selected for their low emissions. Attached garage is sealed to reduce air contaminants.

Outdoor landscaping includes low-maintenance native vegetation. Low-volume irrigation system will reduce water demand.



Energy Efficient Items: Insulation

- [Insulation type]: review notes from verification of 701.4.3.1.
- [Basement Insulation]: see 701.4.3.2(2).
- [Insulation Grade]: see 703.1.2.
 - Check box.
 - Write R-Value to the right.
- [R-Value]: review notes from verification of 701.4.3.1

Insulation	<input type="checkbox"/> Fiberglass Blown-In <input type="checkbox"/> Foam Insulation <input type="checkbox"/> Cellulose <input type="checkbox"/> Fiberglass Batt Insulation	R-Value:
	<input checked="" type="checkbox"/> Other (Describe): Icynene Sprayed Soy Based Insulation Foam	<input checked="" type="checkbox"/> Walls R-13
	<input checked="" type="checkbox"/> Basement Insulation (Describe): Owens Corning EcoTouch R13 wall insulation	<input checked="" type="checkbox"/> Ceiling R-40
	<input checked="" type="checkbox"/> HERS Insulation Installed Rating: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (See Glossary)	<input type="checkbox"/> Floor



Energy Efficient Items: Envelope

- [Envelope Tightness]: complete section if blower door test was conducted.
 - Check [Envelope Tightness based on Blower Door Test]
 - To the right, add a note about the max air leakage. See points claimed under 703.1.5.
 - Select ACH50 for unit

Envelope	Envelope Tightness:	Unit: <input type="checkbox"/> CFM25	<input type="checkbox"/> CFM50	<input checked="" type="checkbox"/> ACH50	<input type="checkbox"/> ACHnatural
	<input checked="" type="checkbox"/> Envelope Tightness based on Blower Door Test	max leakage rate = 4			



Energy Efficient Items: Water Efficiency

- [Reclaimed Water System]: select if applicable. See 802.1.
 - If greywater reuse system, see 802.1(1).
 - Check the appropriate box.
 - Note the cistern size (# of gallons).
 - **Note:** The NGBS awards points based on the # of fixtures/appliances, cistern size does not need to be included on verification report.
 - Note the location of the cistern.
- [WaterSense® fixtures]: select if applicable. See 801.3, 801.4, 801.5.
 - WaterSense® label is not required by the NGBS per se, but the specified flow rates align with WaterSense requirements.
- [Rain Barrels Provide Irrigation]: select if applicable. See 801.7.



Energy Efficient Items: Water Efficiency (Example)

Water Efficiency	<input type="checkbox"/> Reclaimed Water System (Explain):	<input type="checkbox"/> Cistern - Size: Gallons	Location of cistern:
	<input type="checkbox"/> Greywater reuse system		
	<input checked="" type="checkbox"/> WaterSense® fixtures	<input checked="" type="checkbox"/> Rain Barrels Provide Irrigation	



Energy Efficient Items: Windows

Review manufacturer's window label.

- [ENERGY STAR®]: Most NGBS Green projects will apply. NGBS fenestration requirements align with ENERGY STAR labeling requirements. See 703.1.6.
- [Low E]: Select if applicable. Low-e glass not required by NGBS, except for skylights.
- [High Impact], [Storm]: May be applicable in hurricane-prone areas, but not required by the NGBS. Select if applicable.
- [Double Pane]/[Triple Pane], [Tinted]: Not required by the NGBS. Select if applicable.
- [Solar Shades]: Automatic shading is included under NGBS 703.6.2. Non-automated shading may also be noted in this field.



Energy Efficiency: Daylighting

- [Skylights]: Enter the # of skylights in the home. See 704.2.2.
- [Solar Tubes]: aka “TDDs.” Enter the # of solar tubes in the home. See 704.2.2
- [Other]: If the home’s lighting is controlled by occupancy sensors (704.2.1), make a note here.
- [ENERGY STAR® Light Fixtures]: 703.5.1 awards points based on a percent of fixtures that qualify as ENERGY STAR. Select box on Addendum if any ENERGY STAR fixtures exist within the home.



Energy Efficient Items: Windows

Windows	<input checked="" type="checkbox"/> ENERGY STAR®	<input type="checkbox"/> Low E	<input type="checkbox"/> High Impact	<input type="checkbox"/> Storm	<input type="checkbox"/> Double Pane <input type="checkbox"/> Triple Pane	<input type="checkbox"/> Tinted	<input type="checkbox"/> Solar Shades
Day Lighting	<input checked="" type="checkbox"/> Skylights - #: 2	<input type="checkbox"/> Solar Tubes - #:	<input checked="" type="checkbox"/> Other (Explain): Outdoor lighting w occupancy sensors				<input checked="" type="checkbox"/> ENERGY STAR Light Fixtures



Energy Efficient Items: Appliances

- [ENERGY STAR® Appliances]: Select the appropriate appliances. See 703.5.3.
- [Water Heater]:
 - The NGBS has many more water heating options than are included in the Addendum.
 - Solar: 703.4.5
 - Heat Pump: 703.4.1(4)
 - Tankless: not recognized by NGBS. Select if appropriate.
 - Coil Gal.: aka “indirect-fired.” See 73.4.4
- [Appliance Energy Source]: Record energy source for water heater
- If the water heater is connected to a back-up generator, note that in the [Other] section.

Appliances	ENERGY STAR® Appliances: <input checked="" type="checkbox"/> Dishwasher <input checked="" type="checkbox"/> Refrigerator <input checked="" type="checkbox"/> Other: Washing machine	Water Heater: <input type="checkbox"/> Solar <input type="checkbox"/> Heat Pump <input checked="" type="checkbox"/> Tankless <input type="checkbox"/> Coil Gal. Size: Gal.	Appliance Energy Source: <input type="checkbox"/> Propane <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Other (Describe): 20 Kilowatt propane automatic back-up generator
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Energy Efficient Items: HVAC

HVAC:

- Complete as much information as you are able.
- NGBS awards points based on AFUE. See 703.2.
- SEER and Efficiency rating will be included in Yellow Energy Guide label.

Heat Pump

- See 703.2.3, 703.2.6

HVAC (Describe in Comments Area)	<input checked="" type="checkbox"/> High Efficiency HVAC SEER: 19 Efficiency Rating: % AFUE* % *Annual Fuel-Utilization Efficiency	<input type="checkbox"/> Heat Pump Efficiency Rating: COP: HSPF: SEER: EER:	<input type="checkbox"/> Thermostat/Controllers	<input type="checkbox"/> Passive Solar (Defined in Glossary)
	<input type="checkbox"/> Programmable Thermostat	<input type="checkbox"/> Radiant Floor Heat	<input type="checkbox"/> Geothermal	



Energy Efficient Items: Energy Rating

- Complete if the home is pursuing any energy ratings or certifications.
- ENERGY STAR® and HERS are included.
 - ENERGY STAR info can be found under 701.1.3. Be sure to include version.
 - HERS Score is not required for NGBS, but HERS info is include on Energy Performance Report.
- Other programs to include:
 - DOE Challenge Home
 - Net Zero Energy Ready
 - PassivHaus

Energy Rating	<input checked="" type="checkbox"/> ENERGY STAR ®Home - Version:
	<input type="checkbox"/> Other (Describe):
	Home Energy Score (HES) (Score range 1-10): 55
	<input checked="" type="checkbox"/> Certification Attached



Indoor Air Quality

- If pursuing Indoor Air PLUS label, select that option. Air PLUS is not an NGBS requirement.
- If the home includes an Energy Recovery Ventilator or Whole-Building Ventilation System, select that option. See 902.2.
- The NGBS awards points for both the development of an Integrated Pest Management Plan (503.5(8)) and the installation of a Termite Barrier (902.1.5). If either practice is selected, check [Non Toxic Pest Control].

Indoor Air Quality	<input type="checkbox"/> Indoor Air PLUS Package	<input checked="" type="checkbox"/> Energy Recovery Ventilator Unit or Whole Building Ventilation System	<input checked="" type="checkbox"/> Non Toxic Pest Control
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Energy Efficient Items: HERS Information



Uniform Energy Rating System					Energy Efficient				
1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

HERS Index: 61

General Information
 Conditioned Area: 1210 sq. ft. HouseType: Single-family detached
 Conditioned Volume: 13570 cubic ft. Foundation: Conditioned crawl space
 Bedrooms: 2

Mechanical Systems Features
 Heating: Fuel-fired hydronic distribution, Natural gas, 95.0 AFUE.
 Water Heating: Integrated, Natural gas, 0.76 EF, 40.0 Gal.
 Duct Leakage to Outside: NA
 Ventilation System: Exhaust Only: 35 cfm, 8.0 watts.
 Programmable Thermostat: Heating: No Cooling: No

Building Shell Features
 Ceiling Flat: R-49 Exposed Floor: NA
 Vaulted Ceiling: NA Window Type: Low E .34 /.29***
 Above Grade Walls: R-23, R-18 Infiltration:
 Foundation Walls: R-21.0 Rate: Htg: 616 Clg: 616 CFM50
 Slab: R-0.0 Edge, R-0.0 Under Method: Blower door test

Lights and Appliance Features
 Percent Fluorescent Pin-Based: 0.00 Clothes Dryer Fuel: Electric
 Percent Fluorescent CFL: 90.00 Range/Oven Fuel: Electric
 Refrigerator (kWh/yr): 469.00 Ceiling Fan (cfm/Watt): 0.00
 Dishwasher Energy Factor: 0.73

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.95
 This information does not constitute any warranty of energy cost or savings.
 © 1985-2011 Architectural Energy Corporation, Boulder, Colorado.

Rating Number: 10072
 Certified Energy Rater: Matt Wright
 Rating Date: 12/14/2011
 Rating Ordered For: Poplarhouse LLC

Estimated Annual Energy Cost

Use	Confirmed Rating		
	MMBtu	Cost	Percent
Heating	54.6	\$609	41%
Cooling	0	\$0	0%
Hot Water	15.4	\$170	12%
Lights/Appliances	14.5	\$452	31%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$240	16%
Total		\$1471	100%

This home meets or exceeds minimum criteria for all of the following:
 EPA ENERGY STAR Vers 6.2
 EPA ENERGY STAR Vers 6.2
 2004 International Energy Conservation Code
 2006 International Energy Conservation Code
 2009 International Energy Conservation Code

EnergyLogic Inc
 1-800-315-0459
 HERS Rater:
 High Country Conservation Center
 www.highcountryconservation.org
 970-668-5703



Certified Energy Rater

Energy Efficient Items: HERS Information

HERS Information	Rating: 5 Stars	Monthly Energy Savings on Rating: \$ 122.58	Date Rated: Dec. 14, 2011
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Energy Efficient Items: Utility Costs

- While utility cost estimates may be derived from the NGBS Performance Report and HERS Report, this section is really looking for ACTUAL costs from residents.
- If remodel project, utility costs may be estimated calculated using utility bills and the % reduction in energy.
- Calculate monthly expenditure.
- Add # of occupants.

Utility Costs	Average Annual Utility Cost: \$ 122.58	per month based on: Avg / 1 yr bills	# of Occupants: 4
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Energy Efficient Items: Energy Audit

- Interpret “energy audit” as an energy inspection of existing homes to identify retrofit opportunities.
- Attach infrared photos, if available.
- If remodel project, select [Yes] and include detailed information in the Comment box below.
- If a new home, select [No.] You will still have the opportunity to comment on the home’s expected performance.



Energy Efficient Items: Comments

- Summarize energy audit results, if applicable, and any other relevant energy information.
- Recognize the non-energy benefits of insulation and energy-efficient appliances within the home.

Energy Audit	<input checked="" type="checkbox"/> Infrared Photograph Attached Has an energy audit/rating been performed on the subject property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If yes, comment on work completed as result of audit.
Comments (Include source for information provided in this section) Attach documents or reference them in your workfile The energy element is the most measurable element of green or high performance housing.	Information was provided by: <p style="color: red;">Energy performance testing completed for the NGBS Green Certification indicates that this home is 30% more energy efficient than the typical code-built house in this country. The NGBS Green certificate is attached to this document; detailed energy efficiency information is included in homeowner manual in kitchen.</p> <p style="color: red;">The soy based foam insulation resists moisture, rodents will not eat it, and it will provide additional sound barrier to the sealed envelope.</p> <p style="color: red;">Additional features include low-flow showerheads, Energy Star light fixtures, CFL bulbs, and In Wall Pest Control System.</p>

Solar Panels

- Section covers:
 - Solar Arrays (NGBS 705.5—Renewable Energy Systems)
 - Solar Thermal Water Heating System (NGBS 703.4.5)
- Comment boxes for specific attributes
- Larger Comment box for additional details:
 - Incentives
 - Conditions of current panels
 - Maintenance issues
 - Lease terms
 - Etc.



Solar Panels (cont.)

Fields Required for Addendum:

Arrays

- Description
- kW
- Manufacturer
- Age of System
- Warranty
- Warranty Term
- Location
- Energy Production
- Tilt/Slope
- Utility Company

Solar Water Heater

- Type (Active/Passive)
- Storage Tank Size
- Collector Type
- Back-Up System
- Age of system
- Warranty
- Warranty Term
- Manufacturer
- Solar Energy Factor
- Additional Comments



Location - Site

- Walk Score
 - Visit www.walkscore.com
- Public Transportation
 - Distance to Bus, Train, and Subway in # of blocks
 - See verification notes for NGBS 501.2(1)
- Site
 - Orientation—indicate if front faces east-west or north-south
 - Landscaping (water efficient, natural)—see NGBS 503.5



Location – Site (cont.)

Comment Box:

- Include other information from that would be relevant, including:
 - Community resources (501.2(3))
 - Mixed-Use (505.4)
 - Dedicated paths for biking and walking (501.2(4))
 - Rain gardens (503.4(2))
 - Wildlife Habitat (503.6)
 - Vegetative wind breaks (503.5(6))
 - Heat Island mitigation efforts (505.2)



Location – Site (cont.)

Location - Site			
The following items are considered within the appraised value of the subject property:			
Walk Score	Score: 70	Source: www.walkscore.com (Example: http://www.walkscore.com)	
Public Transportation	<input checked="" type="checkbox"/> Bus - Distance: 4 Blocks	<input type="checkbox"/> Train - Distance: Blocks	<input type="checkbox"/> Subway - Distance: Blocks
Site	Orientation - front faces: <input type="checkbox"/> East/West <input checked="" type="checkbox"/> North/South	Landscaping: <input checked="" type="checkbox"/> Water Efficient <input checked="" type="checkbox"/> Natural	
Comments	<p>House is within walking distance of the X2 bus, which provides regular access to downtown. Dedicated walking/bike paths are located throughout the residential community and provide safe access to downtown community resources. These paths allow a resident to complete errands without using a car.</p> <p>Lot features low-maintenance, native vegetation. A water-efficient drip irrigation system is installed for dry periods.</p> <p>Front of house faces north. The large south-facing windows in the den and office benefit from natural light and solar heating.</p>		

Incentives

- Federal
- State
- Local

- Resources:
 - www.dsireusa.org
 - www.homeinnovation.com/ngbsgreenincentives
 - Your local utility company

- Provide description of incentive provided, terms (if multi-year tax abatement), and amount.



Incentives (cont.)

Local	Niagara County multi-year tax abatement for green certified homes
Source (For example www.dsireusa.org)	www.homeinnovation.com/ngbsgreenincentives http://Niagaracounty.com/realproperty/Services
Comments 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.	Graduated tax exemption as follows: Years 1-3: 100%, Year 4: 80%, Year 5: 60%, Year 6: 40%, Year 7: 20% Incentive percentage is based on achievement of Silver-level NGBS Green certification

