

Green Building Rating Systems

<u>Energy Ratings</u>	<u>Features</u>
Old Code 2003 or 2006 IECC (depending on jurisdiction) energy performance	Generally poor
Energy Star www.energystar.gov	
New Code 2009 IECC (soon to be adopted in Montana) energy performance over previous code – better than Energy Star.	Significant improvement in
2030 Challenge www.architecture2030.org in performance aimed at reaching Carbon Neutral by 2030.	Incremental increases
Passive House www.passivehouse.us energy performance standard results in homes with 90% better energy performance than current standard.	Rigorous
Net Zero Energy Not a rating system but one of the ultimate goals of Green Building is for every building to produce at least as much energy from renewable sources over its life as it consumes.	

<u>National Green Building Ratings</u>	<u>Features</u>
LEED www.usgbc.org respected. Administered by the US Green Building Council (USGBC). Numerous LEED rating systems covering New Construction, Existing Buildings, Core and Shell, Commercial Interiors, Neighborhood Development, Homes, Schools, Retail, etc. See below for more on LEED for Homes.	Widely know and
National Green Building Standard www.nahbgreen.org become very widespread. Administered by the National Association of Home Builders (NAHB). See below for more details.	Relatively new but likely to
Environments for Living www.environmentsforliving.com constructing energy efficient homes using the principles of building science. Points awarded for Energy Efficiency, Durability, Indoor Environmental Quality, and Water Efficiency.	Designed to assist builders in

<u>Northwest Area Green Building Ratings</u>	<u>Features</u>
Built Green www.builtgreen.net	
Earth Advantage www.earthadvantage.com	

Introduction to LEED for Homes

- To begin scoring a home under the LEED for Homes® program go to www.usgbc.org/homes, scroll down and click on “LEED for Homes Project Checklist” on the left hand side.
- Open the checklist and save it to your computer as an Excel spreadsheet.
- Click on the “Summary” tab at the bottom of the spreadsheet and fill in as much of the “Project Information” as you can. This information is used to populate cells in other worksheets. If you don’t know the answer put your best guess for now. You can always go back and re-enter it later. The number of bedrooms and the floor area determine the “Home Size Adjustment”. This is the number of points that is added to or subtracted from the total number of points required for certification. Smaller than average homes will require less points for certification and larger ones will require more points.
- Click on the “Checklist” tab at the bottom and you will see some of the information you just entered in the “Checklist” at the top of the page including the builder name, team leader, building type, project type, number of bedrooms, and floor area. Next to floor area you will see the “Adjusted Certification Thresholds” these show the number of points required to reach each of the certification levels (Certified, Silver, Gold, Platinum). These have been automatically adjusted based on the size of the house and the number of bedrooms. If your design changes you can go back and change the floor area and the number of bedrooms at any time.
- Now, beginning with the first section entitled “Innovation and Design Process”, carefully work you way through the spreadsheet starting with “1.1 – Target performance tier”. It is not critical whether or not your design achieves the level you set here as the target so you can put in whatever you like here.
- Moving to “1.2 – Integrated Project Team”, notice that there is a small red triangle in the top left corner of the title field. If you hover the cursor over this triangle a box will appear with more information about the point. It is helpful to scroll the screen down so that the title of the point is near the top of the screen. That way you can be sure you can read all of the information in the box that appears. After reading the information, if you think that you can earn the point, check each of the boxes that outline the requirements. Then notice the points columns. The first column on the left shows the maximum number of points available for each item. The next one is titled “Y/Pts” meaning “Yes Points”, this is where you claim the points that you want to attempt. To claim points you hover the cursor over the “Yes Points” column and a drop down menu should appear from which you can select the number of points you want. If you’re not sure whether or not you can earn the points you can put a number in the next column, the “Maybe” column. Or, if you’re sure that you can’t earn the points put an “N” in the “No” column (if you hover over the “No” column a drop down menu appears that allows you to choose an “N” to put here).
- If there is not enough information hidden under the red triangle to enable you to make a decision go back to usgbc.org/homes and click on “LEED for Homes Rating System” in the left

hand column. This will open a lengthy PDF file that describes the program and the requirements for each of the points in detail.

- Once you have made your decision, move on to the next point, and remember that you can always go back and change things later.
- You will notice that some points are prerequisites. Obviously these are mandatory for certification, not optional.
- When you get to the end, go back to the top and you will find the total number of preliminary points and maybe points listed in the grey box. Below that you will find the Preliminary Certification Level. If you're actually certifying a project the final points total and certification level will depend on the providing the requisite proof to the USGBC. For the purposes of student projects this is as far as you need to go.

Introduction to the National Green Building Standard

- To begin scoring a home using the National Green Building Standard, go to nahbgreen.org and click on "Green Scoring Tool" on the top line.
- On the next page you will need to either sign in (if you have already registered) or sign up for an account if you haven't. Look for the green "Sign In" box on the left hand side. If you don't have an account yet, click on "Not yet Registered? Sign Up" and follow the steps to create an account, then sign in.
- On the next screen click on "Go To National Green Building Standard Scoring".
- Then, on the left click on "Create New Project"
- Choose whether it is a "Green Building" or a "Green Subdivision" (the latter sounds a bit like an oxymoron to me) then click "Next"
- Select "New Construction", "Renovation", "Addition", or "Renovation with Addition" as appropriate (the scoring is slightly different for each one). For the purposes of this introduction I'm going to assume you've chosen "New Construction".
- Select "Single Family Home" or "Multi-unit Building" (I'm going to assume the former) then give the project a name, a brief description, and a square footage, then click "Next". (Don't worry if you don't know the exact size to start with. You can come back later and change this as needed. If your project is over 4000sf you have to score more points. The bigger it gets, the harder it gets to score well which seems appropriate to me except I'd make it anything over 1500sf.)
- Then click "Finish" once you're happy.

- The next screen gives you instructions on how to use the scoring tool including a table showing how many points you need to score to reach each of the target levels, Bronze, Silver, Gold, and Emerald. To save me reprinting them here, please read through these instructions and watch the video (click on the link in the second last paragraph) then click on “Start Scoring”.
- Having read the instructions and watched the video you will now know exactly what to do to score your project. The nice thing about this tool is that you can simply work your way through it from start to finish by going through each screen, making the required entries, and then clicking on “Continue” at the bottom. Or, if you want to go back (or forward) to a different section there is a very easy to use navigation tool on the left hand side.
- At any time, if you want to see how your score is accumulating you only need to click on either the “Chapter Status” or “Project Status” tab in the bottom left hand corner.
- In general this is a very user-friendly scoring tool. I even find it quite fun to score projects with but that may just be a measure of how much of a Green Building geek I really am.

Should I use LEED or the National Green Building Standard?

It really doesn't matter to me. I find the NGBS to be a lot easier and more enjoyable to work through. So my advice would be to use it unless you have a particular interest in the inner workings of the LEED program (or you are a grad student and are required to compare two different programs).

IMPORTANT: Whichever one you choose, you will want to start compiling a list of the Green Building Strategies you wish to employ in your project as soon as you begin to work through the scoring. This way, as you decide which points you want to go for, you can keep track of the things that you are incorporating in the building. Remember that the list of Green Features will be a required part of your final project.

And please remember that I don't care whether or not you get a high score in either of the rating systems, or even if you pass at all. I want you to go through the process so that you have a clear idea of what is involved in certifying a Green Building. And I want you to think about the things that the people who designed these programs have decided constitute a “Green” building. Do you agree with them or not? If you find something that you disagree with please make a note of it and let's talk about it in class.