

Designing the Future

There are vast changes being made to everyday designs of commercial and residential construction. As natural resources slowly decline there is a big push for the use of renewable energy sources being incorporated into modern construction. There is extensive research and development being done globally to produce more efficient methods for using renewable energy in construction to enable buildings to be self sufficient in their consumption of energy. In many cases schools are adding windmill farms, businesses are incorporating solar and geothermal is being used in a wide range of construction.

Common trends in futuristic designs include:

- Earth Friendly Designs
- Prefab Homes
- Adaptive Reuse
- Healthy Home Design
- Storm Resistant
- Flexible Floor Plans
- Outdoor Rooms
- Eastern Ideas Incorporated

Your goal for this extra credit assignment is to design a commercial or residential building that utilizes 3 forms renewable energy to be self sufficient for the needs of power. This includes lighting, heating, cooling, water, and electrical. Choose 3 areas of the previous list to focus your design around. Research will be vital for this project to be successful.

Method of creating design:

Google Sketchup

Time Frame:

Due 1 week before the end of the semester, no extensions and the date will be posted on my website and in the classroom.

Building Requirements:

- a. 3 forms of renewable energy used and identified
- b. a completed design is turned in
 - i. $\frac{1}{3}$ of the roof must be in place, the remaining $\frac{2}{3}$ of the roof can be left out to show the inside of the design
- c. the interior of the design must include all aspects of everyday living (ie. furniture, kitchen neccessaties and any other convieneces you deem necessary.
- d. windows and doors are a must, your choice on design features
- e. labels identifying parts of the house utilizing renewable energy

Landscape:

- a perimeter of approximately 20' on the sides, 30' in the back and 25' in the front should be used. However, if you choose to make your landscaped area larger that would be fine.
- trees, shrubs and other foliage should be included
- ground cover is your choice, such as rocks, grass, or others

Resources:

[18 Incredible Small Green Home's](#)
[Reconditioned Use of Shipping Containers](#)
[Green Furniture](#)

Grading

	15	10	2	Points
Building	The building contains all 5 components	The building contains only 4 of the components	The building contains only 3 of the components	_____
Landscape	The landscaping contains all 3 components	The landscaping contains only 2 of the components	The landscaping contains only 1 of the components	_____
Over Design	20	10	5	
Visual appeal	The overall design is very pleasing and interesting to view	The overall design has some interesting components included	The design has just a few interesting design components	_____
			Total points earned	_____

Standards addressed:**Standard 2**

Students will demonstrate an understanding of the benefits and limitations of construction design.

Objective 1

Identify design factors in Energy.

Objective 2

Identify design factors in Geography.

Objective 3

Identify design factors in Materials.

Objective 4

Identify design factors in Material available.