**How does a solar panel work?**

Solar panels take energy from the sun and convert it into energy for everyday use. Each panel is made up of smaller cells called photovoltaic cells. When sunlight strikes a cell, it knocks electrons free from atoms. These electrons become a flow of electricity that is harnessed and converted to a current that can be used in home and other buildings.

**Why use solar energy?**

In one 40 minute period, the solar energy that reaches Earth could fulfill all human needs for an entire year. This means it is not only an abundant resource, but a renewable one because we will never run out of sunlight.

**How much energy are we creating?**

This solar garden alone houses 11,250 solar panels and can produce up to 3 megawatts of energy each year. In other words, it can power:

* Up to 600 homes per year
* Over 1,100 days of non-stop TV- that’s more than 3 years!

**Common Energy Sources**

Currently, coal, natural gas, and petroleum are most commonly used as sources of energy. These are materials found beneath Earth’s surface that take millions of years to form from plant and animal material that decomposes. These sources are processed and used to power homes, automobiles, industry, and even make products like candles and laundry soap.

**Why should be use less traditional sources?**

Traditional sources are finite, meaning they will eventually run out, and are already becoming increasingly difficult to find and extract from the Earth. They also have negative impacts on the environment such as:

* Air Pollution
* Groundwater Pollution, and
* Increases in greenhouse gases that heat the Earth leading to other problems worldwide.

**Why is Solar Energy Better?**

Solar Energy is renewable (won’t run out) and leads to significantly less pollution overall. Over the course of 25 years, 12 solar blocks (average number of blocks a typical home would use) will offset CO2 emissions by 192 tons. This is equivalent to planting 144 trees and eliminating 60 tons of landfill waste.

**Is solar energy the only renewable energy available?**

No, there are many different kinds of renewable energy, each with their own advantages!

* Wind energy comes from harvesting the power from the wind by turbines.
* Geothermal energy is from the heat that is found below the earth’s crust.
* Hydroelectric energy, which is produced from the movement of water, is the largest renewable energy source in the US and the world.

**Solar energy for Grand Valley State University and YOU.**

Grand Valley has subscribed to use 500kW, or about 80 homes worth of energy, each year. But they’re not the only ones who can make a difference. YOU can subscribe to solar energy, too! Any Consumers Energy customer can subscribe to up to 12 solar blocks to use for their home.

Call 1 800- 241-3368 to find out how!

**Alternative Project(s):**

1. Postponed Landscaping maintained by a volunteer source i.e. Farm Club or community member
2. Large Message Center in lieu of individual signage that incorporates graphic design students

**Prototype Costs:**

Seating Area: $3044.44

8 requested signs: pending quote

Landscaping: pending contract bid request

**Alternative/Future Project Costs:**

XL Message Board: $1552.85

Seating Area: $3044.44

Landscaping: pending request for contract bid

**Contact Information:**

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LED TV Power Consumption and Electricity Cost. (n.d.). Retrieved June 09, 2016, from http://www.rtings.com/tv/learn/power-consumption-and-electricity-cost

This site provides information on the energy consumption of various electronic devices and was used to put the Solar Garden's electricity production capacity into the context of hours of television.

Petroleum Products. (n.d.). Retrieved June 05, 2016, from http://www.aapg.org/about/petroleum-geology/petroleum-technology/petroleum-products

This page serves as an informative source for the uses of petroleum products in addition to providing information such as explanations for the processes behind petroleum extraction and the current economic facet of the petroleum industry. The source is designed for use by professionals, but shares information usable for providing a well-rounded picture of energy sources for our prototype signage.

Solar Gardens. (n.d.). Retrieved June 05, 2016, from https://new.consumersenergy.com/residential/renewable-energy/solar-gardens?utm\_source=solargardens

The Consumer's Energy site provides basic information about solar energy and specific information about GVSU's solar garden. This information was used to put the solar garden's production capacity into the context of television hours. The contact information is also helpful for providing a direct resource to interested persons about receiving solar energy.

Also: Lib 322 W16 Student Presentations: Solar Garden Brochure and Presentation