

**2A.** The purpose of the Tesla Powerwall is to work as a battery system to store energy from the sun for use at night. How it works is that the solar panels turn the sun's energy into a direct current (DC), which is stored in the battery, then the stored power is sent to an inverter where it converts DC to an alternating current (AC) which is what your home uses, that power goes directly into the home's main utility panel. This battery that is stored in the battery can also be used when the city grid power is unavailable.

**2B.** I used Google Drawing to create the picture of my artifact. I wanted to create a group of pictures that represents how the solar panel harnesses electricity and sends it through your home. I chose pictures off the internet that represented how the Powerwall function to power your home. I also got pictures of the Tesla Powerwall app and explained how it works together with your power wall to help regulate the amount of electricity that is used from the power wall. It also gives you statistics to show how much of your electricity is being used from the city grid and how much is used from the solar panels on your home. I also added a graph at the bottom to show the price of the energy you use depending on which battery company you use.

**2C.** It has a great effect on society by creating a sustainable energy source, economy-wise it would affect electrical companies by making them gain less profits. On the other hand, Tesla could benefit greatly from the sales of the solar panels and power walls so it might balance out. The environment would also benefit greatly because of the clean energy that's being produced, instead of the electrical companies producing energy in not so clean ways. If everyone were to use at least solar panels, the amount of pollution would go down dramatically due to less fossil fuels being used for power.

**2D.** The Tesla Powerwall collects energy and has data to tell you how much has been collected and how much your home is using. It can send that data to your phone, where you can choose to use the solar power or the city grid power. You can decide to use the energy stored in the battery or you can save it up for power outages and you can sustain yourself off of it for a pretty good amount of time. This power can last, depending on your usage, usually around 5-7 days. This data can also be sent to Tesla themselves, so they can review how much of their power is being used and.

<https://www.tesla.com/powerwall>

<https://www.tesla.com/support/powerwall/faqs>

<http://www.businessinsider.com/how-teslas-powerwall-works-2016-12/#as-mentioned-before-the-powerwall-can-store-electricity-that-is-generated-by-solar-panels-during-the-day-to-use-later-in-the-evening-it-can-also-serve-as-a-backup-power-supply-in-case-there-is-an-outage-2>

<https://www.wired.com/2015/05/teslas-batteries-will-power-home/>