

Powerwall Proposal

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Mission Statement

Our mission is to harness the power of the sun and store it to be more efficient and keep the school running during a blackout

Statement of Need

Our school needs to be able to store the energy it produces from solar panels and be more efficient. The school will sell the energy that gets produced back to the grid, wasting that potential. My group and I hope to address this problem by introducing multiple TESLA powerwalls around the school to store some of the energy produced by the solar panels. This will save the school money by not having to pay as much for energy because they have some energy offhand, the powerwalls will also sustain the school if the power goes out keeping the school productive.

Goals and Objectives

Our objective is to get solar storage for our school specifically a TESLA powerwall.

- One of our goals is to get at the minimum 3-4 powerwalls installed at our school as that will last the school enough power to last for at least an hour which will help the school stay in working condition for an hour longer.
- The second part of that goal is to get at the maximum 13 powerwalls, this will last the school for 7 hours which is about one school day.
- My group and I's final goal is to save the school money by adding powerwalls which will make the school an even better place to be.



Project Activities

This project will likely be a year long thing because of the large amount of panels. However, the installers will not need to work inside the school, only where the powerwalls are going and where the solar panels are.

This will take about 11 years total to get the powerwalls installed and to get the expenses paid off. After they are paid off though, it will save the school about 18,000 dollars annually.

TESLA will be the corporation hired both to acquire the powerwalls and to install them.

Data Collection

We studied and collected data on powerwalls and our needs. We found that one power wall holds 13.5 kWh and the school will use 168 kWh for one school day (7 hours) therefore we would need 13 TESLA powerwalls to sustain the school for one school day because 13 powerwalls would hold 175.5 kWh. If that is not possible we would need 2 powerwalls as that would then make 27 kWh and the school uses 24 kWh, this would last the school one hour. That is why we need 3-4 powerwalls at the minimum seeing as though it would 54 kWh which would last the school two hours which is still better than one. If we had the minimum amount of powerwalls it would give the school the power to either call for someone to come help or get the students to a safe place if the situation is that dire.

Cost Share

To pay for these powerwalls we can use school budget and acquire grants.

For all 13 powerwalls it will cost about \$127,400 for all powerwalls, the installation price, and supporting equipment.



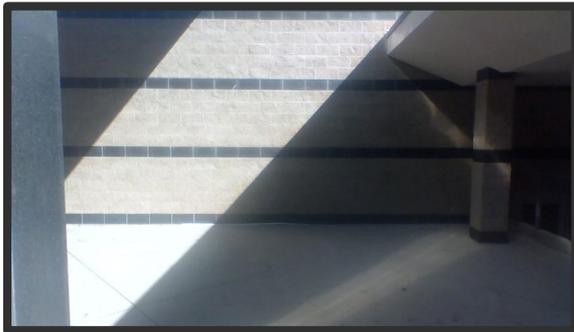
Impact Analysis

Because this project will only take one year to complete once the people have been hired and payments have been paid this proposal will continue itself. When the school gets new/fixed solar panels they will be automatically connected to the powerwall. After we graduate this will continue and ten years afterwards the school will be getting money savings of about 18,000 dollars a year. This is a worthwhile and nearly permanent project.

Potential Powerwall Locations



All of these places are not easily accessed by students but easily accessed by staff.



Citations

<https://www.energysage.com/solar/solar-energy-storage/tesla-powerwall-home-battery/>

[Carson-MS-Fall-Energy-Bill.pdf](#)

[Carson-MS-NVE-Commercial_School-Bill-WK-AK \(1\).docx](#)

[Carson-MS-Summer-Energy-Bill.pdf](#)

[Carson-MS-Spring-Energy-Bill.pdf](#)

[Carson-MS-Winter-Energy-Bill.pdf](#)