



# PROJECT SUNSHINE



## BACKGROUND

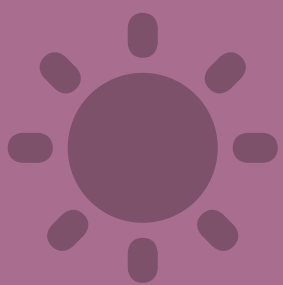
CSU is known for creating a sustainable environment for its residents. It's no secret that CSU works hard to maintain its Platinum Star. Everywhere on campus are byproducts of sustainable project like our first ever covered bike rack with solar off Pitkin and East Dr. That installation was a catalyst to this project because the potential solar has is phenomenal. CSU has many potential spots for solar which is one goal for this independent project.



My goals for this project was to gather information on the importance of solar power to the residents on campus. Along with creating connections and being a part of the solar implementation process.

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The cost will vary because it depends on where the solar panels are located and how much area they cover. However CSU uses a lease system with different companies where the companies buy the area for solar and work on it until the lease is up. Once the lease is up CSU owns the panels but the downside is the panels are usually at the end of their lifespan.



## SIGNIFICANCE

The significance of this project was understanding what goes into putting up solar panels around campus while also gathering the opinions of residents on the importance of solar.



## IMPACT FOR THE FUTURE

Since CSU is always evolving, projects like these help slowly pave the way to a more sustainable community. These projects can also provide information for other universities or communities to better improve their spaces. It shows that anyone can make tangible sustainable changes at any level, whether it's at an university or simple everyday tasks at home.

## BENEFITS & CONCERNS



There are many benefits to having solar around campus like maintaining sustainable practices, however there will always be some concerns. Having solar pushes us towards carbon neutrality but paying extra for solar to cover a bike rack that no one uses is a waste. Having feedback from the students is key to achieving the most affective placement for solar. Finding that balance between adding more solar but finding the best spot is critical.

## PROGRESS

This project is still an ongoing, however these spots were chosen because they're near the main vein of campus so everyone can see the steps CSU takes to be more sustainable. They hope to set some panels up sometime soon.



This data was collected from

Ph.D Mecahnical Engineer Hailey Summers and the website PV Watts

### Red Dot:

- LSC West Bike Rack
- High exposure
- \$87,317 installation cost
- Generates 39,221 kWh/yr
- Saving \$3,137/yr

### Black Dot:

- Hartshorn Roof
- Med exposure
- \$32,343 installation cost
- Generates 40,711 kWh/yr
- Saving \$4,885/yr

These data points were going off assumed inputs:

- Size: 29.4kW
- Module Type: Standard
- Array Type: Fixed
- Array Tilt: 15°
- Array Azimuth: 180°

## QUESTIONS

These are some questions that I wasn't able to answer but are still good to think about:

- How can we make the structure aesthetically pleasing but meet all the structural requirements?
- How will a covered bike rack be monitored so everyone can equally use it? Will there be a premium required to use it?