

Sun City Challenge: The Gardner Hotel



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INTRODUCTION



In 1922 by Preston E. Gardner opened the Gardner Building at 311 East Franklin Ave. The hotel was sold to William McMurray in 1930, who sold it to Joseph George Nebhan later, (son of George Nebahn) John Nebhan, ran it as a retirement hotel from 1962-1983. The current owner, Joe Nebhan (son of John Nebhan), took over management of the hotel in 1981. To this day the Gardner Hotel still operates as a hotel in half of its rooms. The other half operates as El Paso International Hostel.

Gardner Hotel has a lot of history but most notably, on Jan. 9, 1934, bank robber John Dillinger and two members of his gang checked into the Gardner Hotel. Dillinger signed the name John D. Ball on the registry and stayed in room 221. Since Dillinger didn't break any laws during his stay, the El Paso Sheriff's Department did not arrest him. Dillinger checked out a few days later but was captured Jan. 25, 1934, in Tucson after being recognized by firefighters who had saved his heavy luggage from a burning hotel there.

A large sculpture of a flower, where the petals are made of solar panels. The word "PLANS" is overlaid in yellow text in the center of the flower. The sculpture is set outdoors in a park-like setting with trees and a pond in the background.

PLANS

Plans

- Add solar panels to the top of the building to add an alternative power source.
- Add charging infrastructure that uses solar power for electric vehicles.
- Decrease electricity usage by using lower power L.E.D. lights and changing windows

Electric Transportation

The way that the usage of electric vehicles will be encouraged in the area is by incorporating a charging station on the parking lot of the Gardner Hotel which will attract people with electric vehicles to stroll in the area while their vehicles charge and thus increasing the traffic to the Gardner Hotel and the surrounding area. The charging station will consist of (insert amount of things) in the Gardner Hotel parking lot and will use photovoltaic cells for the dual use of providing shade to the vehicles that are charging helping the electric battery of the car avoid damage from overheating and also providing the charging stations the electricity to be able to charge the cars creating an overall more eco friendly charging infrastructure.



Estimated number of annual visitors

the hotel has 50 rooms, and people stay often, assuming that people stay at the hotel a majority of the time but some rooms remain empty, roughly 17000 people will stay in the room

Energy consumption and production

The energy consumption for the hotel is 2394 (KWH) per month. The amount of solar panels needed for its required energy consumption are 5 photovoltaic panels that produces 500 KWH each in order to get off the grid completely, less if we only need to decrease energy usage.



Solar System Design

We are using the SmartFlower solar panels due to their efficient source of energy. We will lay them on the roof, and in a position that is best for the El Paso sun.



The flowers take up 16 square of space each so we could fit at most 8 of them.

Feasibility of Implementation of Renewable Energy

One of the greatest concerns about implementing solar energy to the Gardner Hotel is the feasibility of the project and if the investment is worth for the results on energy consumption and energy production. It would cost roughly \$125k to implement all of the eco friendly installations we want. Considering all of the visitors it would ring in and the energy the solar panels could save, while it may be expensive at first, it would be fully worth it.