As longtime renters, Jordan and Jessica Sager were excited to purchase their very first home. Given that Jordan works for UCSB on energy efficiency and sustainability projects, they knew that they wanted to get a Home Energy Assessment to get an understanding of its efficiency. The Sagers chose to work with emPower participating contractor Allen Energy. “After conducting the assessment, Allen Energy gave us a lot of options to choose from, providing us the flexibility to do the project we wanted,” said Jordan.

“A big reason why we decided to do air sealing and insulation was the comfort aspect. We replaced the water heater for both aesthetic and energy efficiency reasons. The vent for the old gas water heater ran along the side of the front door and just looked horrible. By replacing the water heater with an electric heat pump unit we were able to remove the vent altogether and improve our indoor air quality as well.” The Sagers knew that by switching from a gas water heater to an electric one their electricity bills would be a bit more expensive. To offset this increase and hedge against future energy price increases, they decided to install a 2.04 kW solar electric system.

“Our electric bill wasn’t very high, so looking at it from a purely economic perspective, the payback is longer than something we would normally invest in, but with impending time-of-use utility rates for residential customers, we think the economic outlook will improve over time.”

One of the benefits of the program that the Sagers particularly enjoyed was the fact that their contractor took care of packaging everything for them. “We really didn’t have to do anything. Allen Energy put together options for us to choose from and did all the paperwork for the incentives for us. All we had to do was apply for the loan, and financing all this at 3.9% is pretty awesome.”

After their experience with the emPower program, the Sagers have some advice for other homeowners: “Get a home energy assessment. There’s no risk, and it will tell you a lot about how your home operates.”
The following steps were taken for the Sager Family's home upgrade. By taking these steps in order, they saved money and resources.

1. **Home Energy Assessment**

   Jordan and Jessica Sager worked with Allen Energy to conduct a "whole-house" home energy assessment. This type of assessment uses diagnostic tools like a blower door to help pinpoint areas for improvement and identify safety issues like gas leaks or equipment that isn’t operating properly. The results of the assessment helped the Sagers determine which upgrade measures would be most beneficial.

2. **Air Sealing**

   Did you know that if you added up all the little cracks and crevices in your house it likely adds up to a hole the size of a hula-hoop? It’s no wonder that a typical homeowner could save 20% on their heating and cooling costs just by air sealing their home. Sealing is one of the least expensive upgrades that you can make to improve comfort and efficiency.

3. **Insulation**

   Insulation levels are specified by R-Value. R-Value is a measure of insulation's ability to resist heat traveling through it. The higher the R-Value, the better the thermal performance of the insulation, which the Sagers have now experienced firsthand. “Now that we’ve been through some cold weather we definitely noticed the difference. All we have to heat the house is one small gas fireplace but it’s been more than enough to keep the house warm with the added insulation” said Jordan.

4. **Hybrid Electric Heat Pump Water Heater**

   The energy efficiency of hot water heaters has improved greatly over the last few years. That’s good news considering that hot water usage accounts for 25% of each energy dollar spent. The Sagers chose a system that reduces heating costs by up to 66%. This innovative system generates heat through heat pump technology instead of the heating elements most standard water heaters use. “An unexpected benefit of the heat pump water heater is that it cools down our crawl space and keeps the basement nice and dry so we don’t have to worry as much about mold issues.”

5. **Solar Electric System (2.04 kW)**

   The Sagers were smart. They completed energy efficiency upgrades like insulation and air sealing before they began generating their own energy through a solar electric system. This reduced the size of the system they needed and therefore their overall costs.