How solar works:

Once solar is installed, the sun will hit the panels and it will create energy. This energy is in DC form, which needs to be converted to AC kWhs for the church to utilize. This is done by inverters, which will be sized to match the amount of solar panels installed. From the inverters, we tie into your electrical system which gives the church TWO sources of electricity; PSE&G (aka grid) as well as solar. Solar will always have priority though 100% of the time. During the course of the year, there will be four scenarios that will happen to your church on solar.

- 1. When you create enough power at that given time with solar, your church is running on the sun! Your electrical meter, which normally would be spinning, stands still as you are NOT buying any power from PSE&G.
- 2. When a cloud comes overhead, for example, you may not be creating ALL the power you need, but a certain percentage of it. For this example, let's say 80% of the church's power is run by solar but you still need more. At that point, your electrical panel will go out to the grid and take that extra 20% from PSE&G. This will cause the meter to spin, but obviously very slowly since you only need a small amount of power.
- 3. During the Spring and Summer, you will generally create MORE power than the church needs. First, you will use all the power the church needs and all the EXTRA power that is being created gets sent back to PSE&G. At this point, your meter will literally spin backwards and you are getting a credit at <u>full retail price</u>. Now, PSE&G has become your storage facility by holding the power for you. When night time comes and you aren't creating solar power, then you will be taking back the power you gave PSE&G earlier (at no charge) and using it. Essentially PSE&G becomes your power storage facility and they can't charge you for it.
- 4. The last scenario is if PSE&G goes down for any reason, such as a storm. If the grid is down, the solar system will shut down. This is a Federal law. There are many reasons for this, but mostly it's a safety issue. Once the grid comes back up, your solar system will automatically power back up again, so there's no need for any interaction with the system.

Once the system has paid for itself, which is guaranteed, ALL the electricity that solar provides is completely FREE! In only 10 years, you will save over \$73,000. In 20 years, the savings more than triples to \$245,000! Without solar, you will be giving all that money to PSE&G.