**Ariane and Gaston Habets, Pleasant Hill**

**Green Home Features**

**Water catchment**

* We have a swale in the front garden in which overflow water from the roof gathers. The swale allows the water to slowly percolate into the water table instead of running off into the storm drain, plus having a swale allowed us to have some different plants in our garden!
* From about half our roof we harvest the rainwater to fill 2 IBC totes, good for about 500 gallons of water. [IBC (intermediate bulk container) totes](https://www.hobbyfarms.com/ibc-intermediate-bulk-container-store-rain-water/) are thin plastic containers inside of a metal cage, which gives the container strength. One good rain shower does the trick!! We have a garden hose connected to a downspout that drains into the totes. Then another garden hose leads the water to a hand pump, where we fill watering pots. We use it to water the vegetable garden and succulent pots that are not on irrigation.

**Solar Energy**

We initially installed 2.5kW solar panels in 2010 and they were used to offset our electrical bill to near zero.

In 2019 when it was time to replace our gas furnace we decided to go with a heat pump, which also gave us AC. We also planned to buy an electric car, so that meant we needed to increase our solar power output. A second 2.5 kW system was installed, this time with a 5 kWh backup battery.

Our household has:

* Heat pump for heating and cooling
* Whole house fan to help with getting rid of the hot air once it cools down outside
* Electric car
* Induction range
* Line drying and electric dryer for when hanging our clothes to dry is not possible
* Mostly LED lighting
* Only appliance left on gas is the high efficient instant water heater

**Electric Car Transition**

How we went from gas powered to **plug in hybrid** to **fully electrical**

In 2015 we decided to move to a **plug in hybrid** car. Plug-in-hybrid-electric vehicles (PHEVs) are the bridge between traditional gasoline vehicles and fully battery-powered electrics. They drive on electricity for the first 20-30 miles and then run like a regular gas hybrid car after that. You can recharge the battery at home but don’t need any special charging plug since the capacity of the battery is not that large and it will fill up overnight. You do still have the regular maintenance of a gas-powered engine.

With our plug in hybrid car, most of our miles were driven on battery. With the range of fully electric cars getting better and better, this made us realize that for all the driving we do it would be easily achieved with a full electric car. In 2021 we bought a Kia Niro, which has a range of ~280 miles. You will need a special charging plug if you want to charge it at home, since charging it on a regular 120 Volt outlet will take too long. (Cost of installing a Level 2 charger depends on your current electrical system, but is roughly between $1500 and $2500.) PG&E gave us a partial credit.

We buy no more gas, very limited maintenance is needed, and we are very happy with the switch. We made it up to Tahoe and Yosemite, although it does take a little more planning to find the lunch place to stop and charge. There are more and more charging stations every day. Applications on your phone (and car) will tell you where the nearest charging station is, and whether there is a charging port available.

And yes, All-Electric and Plug-in-hybrid-electric vehicles are more expensive—but you get a federal rebate of up to $7,500 and California rebate of up to $2,000. It depends on the model of the car and the capacity, so be aware.

Federal: <https://www.fueleconomy.gov/feg/taxevb.shtml>

California: <https://cleanfuelreward.com>

Is it for you? Some thoughts:

* If your household has more than one car, changing one of them out for an electric car is very feasible.
* If you can charge at home every night, you will have easily 250 miles every day to ‘burn’. Pleasant Hill to San Jose is 50 miles , San Francisco is 28, San Mateo is 50 ….