

## **KFOI Radio - Shasta Environmental Alliance Program Nov. 16, 2018**

Today's KFOI Radio's Shasta Environmental Alliance Program. This is a weekly program that starts at this time every week. Today for our news stories, we will interview Tom O'Mara to discuss what he did to reduce his greenhouse gas emissions by installing solar panels on his house, driving a plug-in Prius Prime, and recharging it with solar power, as well as various passive solar features that he built into his home.

Shasta Environmental Alliance is a nonprofit organization which has 14 supporting groups. You can see our website at [ecoshasta.org](http://ecoshasta.org), and we have a Facebook page at [facebook.com/shastaenvironmentalalliance](https://facebook.com/shastaenvironmentalalliance). We also have a newsletter we send out which goes out about every one to three weeks; if you would like to receive it, send your request to [ecoshasta@gmail.com](mailto:ecoshasta@gmail.com).

Before we start, I want to talk to you about money—specifically money to run KFOI Radio. This station is run by volunteers to bring you music, news, and interviews that you might not find elsewhere. It takes money to run a station: electricity for broadcasting, rent, fees to run some of our syndicated shows, and other costs. So take a moment and go to our website at [kfoiradio.org](http://kfoiradio.org), look for the donate button, and donate what you can afford. A monthly donation can easily be made through the website with PayPal, or you can donate just once. We want to keep this community information asset on the air and we need your help.

### **Community Announcements & Environmental News**

**Field Trips:** The Shasta Chapter of the California Native Plant Society will be having a field trip on Trail 58 and the Middle Creek Trail on Thursday, November 29th, starting at 9:00 AM. Meet at the Holiday Market parking lot on Placer Street near CVS at 9:00 in the morning to carpool to the trailhead. Call John Springer at 917-0567 for more information. The Sierra Club will also have a field trip along the Clear Creek Greenway Trail on Saturday, November 24th. This is a three-mile walk which will include a talk about the natural history of the area and the restoration of salmon in Clear Creek. Meet at the Clear Creek Gorge parking lot, five miles west of Hwy 273, at 10:00 AM. For more information, call 356-8847.

**Costco Environmental Hearing:** The Redding Planning Commission will consider the final environmental impact report on the proposed Costco Shopping Center at Pacelli Lane and South Bonneview Road on Wednesday, November 27th. This report will consider all comments submitted by the public and governmental agencies. If approved, it will be sent to the Redding City Council in about a month. The hearing starts at 4:00 PM and the public is encouraged to comment.

**Climate Change and Global Warming:** The National Oceanic and Atmospheric Administration (NOAA) reported that the global average atmospheric carbon dioxide level in 2017 was 405 parts per million. CO2 levels today are higher than at any point in at least the past 800,000 years. In June of 2018, CO2 emissions reached 410 parts per

million. The last time CO2 levels were this high was 3 million years ago, when temperatures were 3.6 to 5.4 degrees higher and sea levels were 50 to 80 feet higher than today. NOAA states the annual rate of increase over the past 60 years is about 100 times faster than previous natural increases. Scientists predict levels will exceed 900 parts per million by the year 2100. For more information, go to [climate.gov](http://climate.gov).

**Land and Water Conservation Fund:** The California Wilderness Coalition (Cal Wild) is asking people to write to Congressman Doug LaMalfa to support the Land and Water Conservation Fund. The US government earns billions from oil and gas royalties on public lands, and \$900 million of these are typically put into this fund for national parks, trails, and wildlife protection. On September 30th, Congress allowed the fund to expire. A bill to reauthorize the program, HR 502, must pass before the end of the year. Go to [calwild.org](http://calwild.org) for more information.

## **The Economics of Residential Solar**

The cost of residential solar energy has been going down over the years and in Redding, it is remarkably affordable. For an average home using 1,000 kilowatt-hours (kWh) per month, a 7-kilowatt system would be needed. Without tax credits, the cost is between \$23,000 and \$28,000 with a payback period of seven to nine years. With the 30% federal tax credit, the cost drops to between \$16,000 and \$20,000 with a payback of five to six years.

I also spoke with Eric Olson, sales manager at **Top Hat Energy Systems**, which has been installing solar in Redding since 2003. Olson provided estimates for an 8-kilowatt system. The cost would be \$20,000 to \$24,000 before credits, or \$14,000 to \$17,000 after tax credits. Factors like roof type or ground mounting can affect the price. Most of his customers see a payback period of five to seven years.

## **Interview with Tom O'Mara**

Today we have with us **Tom O'Mara**, who is trying to do his part to reduce his carbon footprint. With his wife, Alice Wilkinson, he built his two-story home in Happy Valley largely by himself between 1990 and 1993. Tom has a BA in Psychology from UC Berkeley and is a volunteer civil rights advocate for the Redding Police Department. He was also the Executive Director of the Youth Violence Prevention Council of Shasta County and started the "No Room for Racism" signs in our area. Welcome to KFOI Radio, Tom.

**Tom O'Mara:** Thank you, Dave. Good to be with you.

**Interviewer:** Tom, you built your house by yourself, working after work and on weekends. Why didn't you just buy a tract home?

**Tom O'Mara:** From a young age, I always had a thought of building my own house. I'm a tall guy, and you can make it the way you want it when you build it yourself. I was

working 10-hour days for the county, which left me three days a week to work on the house. It took about 2 ½ years to complete.

**Interviewer:** What are some of the passive solar features you designed into the house?

**Tom O'Mara:** We took a whole-house approach. Pointing the windows in the right direction and having a good building envelope are big things. We also have an insulated tile area that gets hit by the sunshine in the winter but not in the summer, and stone planters that act as a "heat sink". The idea is to use materials that absorb heat slowly and give it up slowly to the house. It shaves the length off the heating season; many people start burning wood much earlier than we do.

**Interviewer:** Can you explain how you heat the water in your home?

**Tom O'Mara:** Conservation is first, but solar hot water is next in terms of efficiency. Our total cost for the system was about \$1,800, and it paid for itself in less than five years. We have two panels made by Helio Dine. We also have a loop in our wood stove; anytime we have a fire, a thermosyphon system pumps hot water to the tank without electricity. Less than 5% of our total hot water is from propane; about 75% is solar and the rest is from wood.

**Interviewer:** You have an interesting sleeping room on the second floor for the summer. How does that work?

**Tom O'Mara:** It was my wife's idea—a screened sleeping porch. We have a ceiling fan and a mist system outside that provides evaporative cooling. That water then drips down to the plants on the first floor. We sleep out there from June through September and it makes it so you don't have to air condition the house at night.

## **Solar Power and Electric Vehicles**

**Interviewer:** You eventually installed solar panels to generate electricity. How is that system set up?

**Tom O'Mara:** Our roof is pointed directly south. We did it in three sections and now have a 4.5-kilowatt system. The total net cost was about \$23,000 after tax credits. We are pretty much zeroed out on our electric bills. One year PG&E sent us a check for \$23, and the next they wanted \$30, so it was a net of \$6 over two years.

**Interviewer:** And that includes charging your Prius Prime?

**Tom O'Mara:** Yes, that's been a dream come true. We drive that car about 90% of our total miles on solar electricity. Because we have an electric car, we are entitled to PG&E's "EVA" rate structure, which gives us a very favorable rate for overnight hours. We use that same rate for pumping our water from our 400-foot well. We pump at night at about \$0.12 a kWh, compared to the daytime rate of \$0.45.

**Interviewer:** Why did you go to this effort? Was it financial or environmental?

**Tom O'Mara:** I view it as both an economic and an environmental opportunity. I learned about solar in the mid-70s and wondered why everyone wouldn't do it. I think consumers should have a long-term perspective on operational costs. I remember when SUVs first came out; I chose to continue driving my 1969 Volkswagen and put my money into this instead. It was a good choice.

## **Civil Rights and Final Advice**

**Interviewer:** You also started the "No Room for Racism" signs in the area. Why did you see a need for that?

**Tom O'Mara:** In 1994, there were 20 violent gang-related felonies, including the arson of a Hmong household which drove residents out of Shasta County. I suggested asking elected leaders to put up signs stating our values—essentially what the Constitution says. We offered to pay for them ourselves so it wouldn't take money from libraries or police. There are now 75 signs county-wide.

**Interviewer:** Is there any final thought you want to add about solar?

**Tom O'Mara:** Our well pump is about 30 years old. New technology is three times more efficient, so when it eventually breaks, we will actually have surplus electricity.

**Interviewer:** Thank you for being on KFOI Radio, Tom.

**Tom O'Mara:** Thanks so much, David. Enjoyed being here.

**Interviewer:** This has been David Ledger on KFOI Radio on the Shasta Environmental Alliance program. Thank you for listening.