ARCH ELECTRIC INSTALLS 84-PANEL SOLAR PROJECT ON PORT WASHINGTON CHURCH

SLG corporate member, Ed Zinthefer of ARCH Electric, Plymouth, was chosen by the First Congregational Church in downtown Port Washington to assess and install an 84-Panel Solar project at the church this past August, 2010. Sustainability Committee Chairman, Cathy Jones, from the church and Ed shared inspiring information about the year-long project at SLG's Oct. 5, 2010, monthly meeting in Sheboygan.

Cathy Jones agreed to provide more detailed written answers about the project and her church's selection of Arch Electric to do the work. It is hoped that these questions and answers will be a good resource for businesses, groups and individuals who are contemplating their own future solar projects as a way to increase their sustainable living practices and cut future utility bills.

Here are the questions and answers regarding the largest solar-electric project to date in neighboring Ozaukee County at First Congregational Church, 131 N. Webster Street, Port Washington, Church office: 262-284-2022 Arch Electric,LLC (Ed Zinthefer), W4499 Sumac Road, Plymouth, Office: 920-893-8388, www.archelectricllc.com info@archelectricllc.com Installation and Design

Date (approximate month and year) when the project was first talked about? Sept/October 2009

Date (approximate month and year) when the Sustainable Committee was formed? August 2009

About how many people, including yourself, were on the committee? about a dozen

A couple of ways you gathered info:

We conducted a building energy assessment, took inventory of energy conservation measures already in place over the years, attended sustainability kinds of events like MREA (their Energy Fair and Solar Tour), and just talked within our group. One family had added solar hot water and another family added solar electric over the last year to their homes. Some committee folks were engineers, others worked for companies doing energy kinds of things. Many had developed an informal personal-educational base, and they were able to share their ideas/thoughts/reference materials with all of us.

For our use at the church, we decided it was most effective for us to look at ways to impact our electricity usage, rather than our hot water, so our solar panels are just to help us offset our electricity bill. Ed really helped us understand what solar is, what it can/can't do, and helped us understand different options for us to consider based on the specifics of our church. Part of Ed's process is having a structural engineer look at the building to see if the roof can even support panels on it, so that helped us learn more too. We participated in other learning exchanges as we found out about them.

Approximate dates (month and year) for following:

When did the church board first look at the concept of this project? Fall of 2009.

Our church board is called our church council - we were very fortunate as 3 members of our council were so interested in the idea of our new sustainability committee, that they signed up to participate on the committee and offered to share information back on our progress with the council from our beginning.

When did the 50-year shingles for roof enter the picture?

The solar panels are expected to last at least 30 years (and more likely a lot longer than that.) Our roof had 10 or less years left to it so we knew we needed to replace it. We looked into a metal roof vs 50- year shingles. It turned out that either way, based on the type of solar panels we were going to have installed,

we'd need to put penetrations into the roof. Since it was less expensive to put on a shingled roof, we went that route.

When did you find Ed Zinthefer of Arch Electric?

Several members of our committee had personally attended MREA Energy Fairs over the last several years and had gathered information/resources. I knew that in order to get funding to help pay for an energy building audit and a solar site assessment (for solar electric or solar hot water), we needed to pick vendors that were approved by MREA/Focus On Energy. There is a link on MREA's site for the directory.

Our sustainability committee has a focus to promote and support local business when/where possible as part of our sustainability initiative, and to that end, when we looked through solar electric site assessors, Arch Electric was the closest provider. Once we started looking into Arch Electric, we realized Ed was very highly recognized in his field.

Ed came to several of our committee meetings and provided education to our group on renewable energy in general as well as information and direction on how we could consider a solar project at the church.

When did the church council give the final go-ahead?

Once we received word that we had received grant approval from both WE Energies and Focus on Energy, we went to the church council to ask if we could move ahead with the project. For our church, this meant calling a special congregational meeting where we presented the entire project to the congregation. A vote was taken and approved for us to move forward. This was in the Spring of 2010.

When did the roof shingles replacement begin to take place?

We picked a roofer who was also local (from Grafton) and who has a wonderful reputation for quality workmanship. The owner of his company, Paul Crandall and Associates, worked hand-in-hand with Ed to time the re-shingling process so that the footings for the solar panels could also be added as the roof was going up, so the companies did a little bit together and the roof was completed the day before the solar panel installation went up. This is a real compliment to both companies as I understand it's not usual to find such an easy transition of companies working together like this.

When did Ed's company, Arch Electric, begin to install the 84 panels? in Aug 2010

When was the project completed?

WE Energies "commissioned" the project the beginning of September,2010. They came out and actually shut off the power, and then turned it back on to make sure the solar panels-meter is successfully running too.

When did you contact MREA about getting on the Solar Tour?

Since the mission of our sustainability committee is to promote the education and awareness of sustainability practices in our community, participating in MREA's solar tour was something we wanted to do from the beginning. MREA actually has a sign-up form on their website as it gets closer to the day, for home owners, businesses and non-profits to sign up for the open house tours. This year's date was Saturday Oct 2.

When did you first contact MREA about anything to do with your church project, if you did? When we were looking for a solar site assessor.

Any other info you would voluntarily want to list briefly: listing grants, fund-raising ideas, estimated costs, final costs, getting investment back (think you said in 9 years, it would pay for itself?)

There are many things that need to happen before implementing a solar project:

- have a building energy assessment completed;
- gather your old energy bills to see what you are spending/how much energy you are currently using;

- get folks to outline all the behavioral energy saving things they currently do. (We were doing so many great things; it's just we didn't collectively know how long the list was!)

From not using steroform, to having motion-sensitive lighting, we were doing a lot of things already that allowed us to start our process with a great solar project that is going to have a pay back of less than 9 years ! So, make sure you figure out where you are at for a base line.

Then see what things you can change to improve the bottom line. It might include some very simple, almost no cost things that folks didn't think about at first. Then go from there.

There are basically two grants for renewable energy projects that people look at: Focus on Energy and your local utility company, for us that was WE Energies.

Any other info you want to list or share -- such as covering 65 percent from solar, for electric heating, lighting and other needs for electricity?

As part of the solar site assessment, a projection is made to identify what kind of alternative energy a building can hope to generate. We have a full southern facing roof that has a 45 degree angle to it with practically 0 obstruction of trees or shading (making for a wonderful spot for the panels). We had a big enough space on the roof that allowed us to put up 84 panels, which allowed for projection to say we can expect to harvest at least 65% of our current annual electricity usage.

Over the last several years we had been making several updates to our lighting system. It was great to confirm that what we had been doing was right on target. The building energy assessment did help us document a couple of more improvements that'd we've added to "the list" to continue making changes.

(Submitted by SLG member Joyce Jordan who wrote Cathy Jones the initial set of questions)
See personal note to Cathy Jones from Joyce below:

Cathy, I would like to have this info as a resource for SLG (perhaps for a short resource article) to interest others and give SLG corporate member Arch Electric (Ed's company) also some extra informative publicity, and your church, too, as an example of what a church can do.
So glad, Cathy, that you and I met at the LTC Alternative Energy Panel and wind-power tour (Sept. 28th) right at the end, and also learned about the church's connection with Ed, too. Wow! Thanks again for coming, Joyce