

## **Summary Recommendation re: UUFCO Solar Panels**

The Environmental Justice Team and the Finance Committee recommend that the UUFCO Board:

- 1) Approve the contracting for and installing of solar panels with capacity of 129.96 kW on the church roof, supplying an estimated 69% of our annual electric power consumption, with a net cost not to exceed \$250,000; system details and cost information are below.
- 2) Approve Sunbridge Solar LLC as the installation contractor.
- 3) Approve Collective Sun as the system owner for the first six years, if necessary with current and pending Federal tax law.
- 4) Approve the initiation of a Capital Campaign to pay for the installation, backed by our reserves as necessary.
- 5) Plan for a congregational vote on the project as early as September.

## **Background and Details**

### **History**

Solar panels were considered when the building was constructed, along with the many other environmentally friendly features included in the building. Although they were not included at that time, the roof was designed to accommodate solar power. The Environmental Justice Team, led by Anastacia Compton, initiated a new effort to explore the solar option starting in 2021. They have included numerous other members and committees of the congregation, including Building and Grounds, Aesthetics and Finance. They reached out to numerous outside contacts, including importantly, Lou Stagnitto of the Oregon Interfaith Coalition. Lou initially connected us with the non-profit Oregon Clean Energy Co-operative, with the expectation that the Co-op could help us find tax investors who could use the Federal tax credits available for solar installations, and thus pass on some or all of those credits to UUFCO, to reduce our costs. The conversations with the Co-op did not come to fruition, and Lou then connected us with Collective Sun.

### **Collective Sun**

Collective Sun (<https://collectivesun.com>) is a San Diego-based for-profit company whose mission is: Making Solar a Reality for Non-Profit Organizations. Under Federal tax law as it exists

now, we would expect them to be the system owner for at least six years. We would sign a Power Purchase agreement with them, and the system ownership would transfer to UUFCCO after six years.

Collective Sun has a pool of investors who can use the current 26% Federal tax credit for solar installations, and that is the source of a 13% discount to the total cost; the rest is how they make a profit. They also provide solar engineering and project management expertise to help non-profits through the selection and development process. In addition, they assist non-profits in finding the financing for projects, although we are not recommending that we use them for that service. Collective Sun has been very helpful as we have considered our alternatives.

Collective Sun has strict requirements for the installers they will use, and they have used them to advise successful examples of commercial-scale installations like ours. They led us to Sunbridge.

With the passage of clean energy and tax legislation by the U.S. Senate last week, it may not be necessary to use Collective Sun as the system owner. If the legislation does receive final passage, we may be able purchase the system from Sunbridge Solar directly on terms that would be even more favorable to UUFCCO. More detail on that is below.

### **Sunbridge Solar**

Sunbridge (<https://sunbridgesolar.com/about>) is based in Washougal, Washington. It was founded in 2010 and has made over 10,000 installations. They do both commercial and residential installations. Sunbridge is a certified B Corporation (<https://www.bcorporation.net/en-us/certification>), demonstrating its commitment to social, environmental and employee values. The panels they are recommending are manufactured in Bellingham, Washington, providing U.S. jobs and alleviating concerns about potential supply chain issues. Sunbridge is booked through the remainder of 2022, so installation would begin in the first half of 2023, although they believe they can complete enough preliminary work to qualify our installation for the Federal tax credit as it exists today.

We had some difficulty finding a reliable solar installer who would take on our project. We contacted five installers and received two bids. The original supplier suggested by the Oregon Clean Energy Co-op was new and untested and did not follow up when the Co-op seemed unable to provide promised investors. Two reliable and experienced local installers declined to bid. They may have had trouble meeting Collective Sun's requirements for commercial installations, as they focus on residential systems.

Sunbridge provided us with quotes for a 99.96 KW system and our preferred 129.76 kW system. We received a quote for a 100kW system from Sunlight Solar, an experienced and well-regarded local installer. It was almost exactly equal to the Sunbridge quote for the 99.96 kW system, giving us confidence that we have a competitive bid from Sunbridge.

## The System

We considered both the 129.76 kW system and a 99.96 kW system. After discussion of our existing power usage and our financing alternatives, we recommend the larger system. That system would include:

- 264 Silfab 490 Watt commercial panels. Silfab (<https://silfabsolar.com/>) is based in Mississauga, Ontario, Canada, with U.S. operations in Bellingham and Burlington, Washington.
- A single SolarEdge string inverter and 132 SolarEdge power optimizers, unlike residential systems that use micro-inverters for every two panels. Sunbridge has provided us with the dimensions of the inverter, and we believe it will fit in our utility room. If it does not, it can be placed outside with a simple protective shelter.
- Ballasted racks placed on the roof. The only potential roof penetration would be a single spot to transfer the power into the building.
- Panels tilted at a 5 degree angle. A steeper angle would create a risk of creating “sails” in high winds.
- All parts, labor, design, permits, inspections, monitoring of the set-up, post-install support and warranties.
- Warranties for the panels, optimizers and racking are for 25 years, for the inverter 20 years (extended from the standard per our request), and for workmanship and roof penetrations 10 years.

We have reviewed the roof’s capability to support a ballasted system with Jon Walker, the structural engineer who was involved in the original construction, and he confirms that it will support a ballasted system of 8 lbs. per square inch or less. He has agreed to review plans from Sunbridge as they are developed.

Sunbridge estimates that the 129.76 kW system will generate 132,152 kWh in power annually. That is 69% of our 2019 usage (we are using 2019 because that was the last year we were fully in the building). We believe the Sunbridge estimate is conservative, and we could generate more power than their estimate.

The system would use a reversible meter with Pacific Power. Each March, Pacific Power will true up the amount of power our system has generated in the last year with the amount we used. If we generate more than we use, Pacific Power keeps it and donates it in some form to charities. Even if the Sunbridge estimates are very conservative, it is unlikely that we will generate more than our usage, especially because the building is being used even more fully during the week for rentals than it was in 2019.

## Cost

The gross cost for the installation is \$303,420. We expected to be eligible for a commercial incentive from the Energy Trust of Oregon, which is capped at \$20,000. If we proceed with

Collective Sun under existing tax rules, they would purchase the system at a 13% discount. That means our net system cost would be \$243,975.40.

We understand that the legislation passed by the Senate on August 7 would increase the Federal tax credit to 30%, and it may include a direct cash payment of that credit to non-profit entities. If that is the case, our net system cost could be \$212,394. The legislation is apparently expected to be voted on in the House by August 12, and President Biden could sign it during the week of August 15. We don't know at this point what the specific rules are that would be created from the legislation, and what the implementation timeline would be.

Collective Sun is monitoring the legislation carefully and should be able to tell us the details promptly. If there is a direct payment to non-profits, we would not need to have Collective Sun purchase the system and find tax investors to use the tax credits. If that is the case, they have said, "Then we would just part as friends." We may want to continue to use Collective Sun for their expertise on implementation and would therefore expect to pay them on a fee basis.

We also expect to incur legal costs for the review of contracts. If Collective Sun is involved, the review would cover a Power Purchase Agreement with them. If they are not, it would be a review of the Installation contract with Sunbridge.

We anticipate that our insurance costs may increase minimally because of the increased value of the building. There is no specific insurance required for solar systems. We expect some modest maintenance costs aside from the warranties, but that is expected to be less than \$1,000.

Using Sunbridge's hopefully conservative estimates of the power generated by the system, we expect to save \$14,495 in utility costs in the first year. That leads to a payback on the capital cost of 13.2 years if we go with Collective Sun, assuming a 4% annual increase in utility rates. If the direct-pay 30% credit is possible, the payback would be 11.2 years.

### **Funding Alternatives**

We have considered external and internal funding alternatives. Externally, we looked preliminarily at debt possibilities and chose not to pursue them because we believe our internal opportunities are more attractive. Collective Sun referred us to a church financing firm that offers relatively attractive rates, but the terms were short and the rates are floating. Deschutes County has implemented a Federal environmental incentive program called CPACE, but their rates are 1-2% higher than conventional mortgages.

Internally, we considered using our existing Building Reserve, which is intended for improvements to our facility. As of June 30, 2022, it totaled \$242,926, almost equal to the \$243,975.40 cost if we used the Collective Sun discount and somewhat above the \$212,394 if the new 30% direct-pay turns out to be possible. The idea would be to use the approximately \$14,495 in annual savings to replenish the building reserve back to its current level in 13.2 (or 11.2) years.

**While our Building Reserve could be used to cover the entire cost, we were uncomfortable with using up so much of our reserves.**

We believe a capital campaign for \$250,000 implemented this fall has the potential for a high degree of success. The purpose of the campaign would be very clear and specific to potential donors, and there is strong interest in the community to live our values and improve our environmental stewardship. The average contribution per member would need to be approximately \$750 to fully cover the cost of the system, and some members are capable of more than that. We could also build community by encouraging smaller donations from those that do not have the capacity for a larger donation, but want to know they are part of this environmental initiative. We could conduct the campaign in the fall to separate it from the annual Stewardship campaign and make it clear that the campaigns are separate. If a capital campaign does not fully cover the cost of the system, we would still have the option to draw from part of our Building Reserve.

**UUFCO Reserves**

For perspective on our recommendation of a capital campaign to fund the solar project, it may be useful to review the Fellowship's reserve positions. We are blessed with substantial reserves, and we need to manage them for our long-term health. As of June 30, 2022, we had the following:

- A Building Reserve fund of \$242,926. These are funds that were contributed by the original donors to our wonderful building. While the Board has discretion as to their use, the primary intention is to use the reserve for future enhancements to the facility. This reserve had \$304,204 in it as of June 30, 2021. The primary reason for the change from a year ago was the use of funds for the Sacred Grounds.
- A Capital Replacement fund of \$37,568. These are funds that the Board has set aside from the operating budget in recent years. They are intended to be used for major repairs as they come up in future years, such as the heating system or the roof.
- An Asphalt Maintenance fund of \$8,104.
- An Art Procurement fund of \$48,490, and
- An Operating Reserve fund of \$145,595. These are funds that were contributed by the original donors of the building because they knew the Fellowship was not initially large enough to support the building. The purpose was to fund operating deficits until our growth was sufficient to eliminate deficits. It is now available to fund shortfalls in annual operating results due to unforeseen problems.
- We also have an endowment fund of \$416,405. We could borrow from the endowment with a commitment to repay the funds with the utility cost savings. However, that process would not seem to be consistent with the endowment's long-term goals.

In 2021, Parker Doelling did a remarkable, very detailed review of every piece of equipment and structural feature in the building. In consultation with various suppliers, he estimated what our

replacement costs would be over the next 15 years. Each item had a high, medium and low potential cost. The median total required over the 15 years was about \$300,000. At the time, the Building Reserve was also approximately \$300,000, creating some comfort about our situation. However, if our intention is to use the Building Reserve for enhancements rather than repair and replacement, then the Capital Replacement fund is likely inadequate for our long-run health. One of the hopes of the Finance Committee in 2022 or 2023 will be to allocate funds to perform a formal reserve study to identify what we should be setting aside each year to maintain our magnificent building.

Assuming we have a successful capital campaign and the Sunbridge forecasts of savings are accurate, we should have over \$14,000 of annual savings in our utility bill, growing annually with increases in utility rates. The Finance Committee and the Board will have many priorities to consider for those funds. Strong consideration should be given to using the savings to fund a formal reserve study and to adding to the Capital Replacement fund.

Respectfully submitted,

Fletcher Chamberlin

Anastacia Compton

## Solar Financial Calculator

Solar Installer:	Sunbridge Solar	Sunbridge Solar
Total Project Cost:	\$241,230.00	\$303,420.00
System Size:	99.96	129.36
\$/W:	\$2.41	\$2.35
Utility Incentive Amount:	\$19,992.00	\$20,000.00
CollectiveSun Percentage:	12.00%	13.00%
Projected Year 1 Solar Savings:	\$11,010.00	\$14,495.00

Year 1 projected kWh	101,150	133,152
kWh/kW	1,012	1,029

Annual Utility Rate of Escalation:	4%	4%
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### Positive/Negative Cashflow

<u>Year</u>	<u>\$</u>	<u>\$</u>
1	\$11,010.00	\$14,495.00
2	\$11,450.40	\$15,074.80
3	\$11,908.42	\$15,677.79
4	\$12,384.75	\$16,304.90
5	\$12,880.14	\$16,957.10
6	\$13,395.35	\$17,635.38
7	\$13,931.16	\$18,340.80
8	\$14,488.41	\$19,074.43
9	\$15,067.95	\$19,837.41
10	\$15,670.66	\$20,630.90
11	\$16,297.49	\$21,456.14
12	\$16,949.39	\$22,314.39
13	\$17,627.36	\$23,206.96
14	\$18,332.46	\$24,135.24
15	\$19,065.76	\$25,100.65
16	\$19,828.39	\$26,104.68

17	\$20,621.52	\$27,148.86
18	\$21,446.38	\$28,234.82
19	\$22,304.24	\$29,364.21
20	\$23,196.41	\$30,538.78
21	\$24,124.27	\$31,760.33
22	\$25,089.24	\$33,030.74
23	\$26,092.81	\$34,351.97
24	\$27,136.52	\$35,726.05
25	\$28,221.98	\$37,155.09
Lifetime Savings:	\$458,521.45	\$603,657.44