NorthWestern Energy E+ Renewable Program 11 East Park Street Butte, MT 59701-1711

Email: <u>E+Programs@northwestern.com</u>

The earliest photographs of Missoula show a little wooden church, its simple steeple presiding over a scattering of downtown homes and businesses. Outlined against the flanks of Mount Jumbo, the sanctuary built by Jeannette Rankin's father provided testimony to the Methodists' faith in – and commitment to – the frontier town's future.

Now First United Methodist Church has an opportunity to once again inspire community faith and action with the installation of 66 solar panels atop our roof. This array would provide a visible symbol to our neighbors in downtown Missoula that, with renewable energy, we can be 21st century pioneers.

That's why we are writing to you today, and are so appreciative of the opportunity to present this action plan.

Attached is our proposal for a 28.8 kW Alternating Current (AC) nameplate capacity solar PV system at Missoula First United Methodist Church. Total cost of the project is \$66,175, for which we are requesting an incentive through Universal System Benefits dollars of \$46,322. We have secured 30% matching funds from our congregation, the Methodist Church's Mountain Sky Conference and SBS Solar.

We began this process by working with ClearSky Climate Solutions and Climate Smart Missoula on an analysis of First UMC's carbon footprint, using pre-pandemic energy usage stats (FY 2019). On-site energy use accounted for 84% of our church's greenhouse gas emissions, or 91.63 metric tons of CO2e per year. We started building a plan to reduce those emissions.

As part of a building-wide renovation, we achieved significant energy conservation measures. Forty drafty, wooden single-pane windows were replaced with double-pane vinyl windows. Storm panes were fitted behind all stained-glass windows. We installed new high-efficiency toilets, auto shut-off sinks in the restrooms, motion-sensed and auto-off lights, and six solatubes for passive lighting. The old unzoned steam boiler was replaced with a hot water system that is zoned and includes a second "pony boiler" for low-demand periods.

That conservation work continues. On April 20, a volunteer crew replaced all 180 lightbulbs in First Church's sanctuary with new-generation LED bulbs that burn just 13.5 watts of electricity but provide the illumination of 100-watt incandescent bulbs. We are in the process of applying to NorthWestern's E+ Commercial Lighting Rebate program to help offset the cost. We'll seek out more conservation projects in the months to come.

Over the past three years, climate action has become integral to Missoula First UMC's mission, culminating in our congregation's unanimous adoption in November 2021 of a Climate Covenant that guides all our actions. (See the full Covenant here.) This proposed solar installation – and our congregation's remarkable support for the project (a 30 percent match raised in four months) – reflect the Covenant's commitment to education, communication and direct action.

We strongly believe in NorthWestern's focus on education and outreach as part of the USB grant program, and have a lively – and yes, ambitious – plan to use our project to foster a deeper community understanding of solar energy and inspire other, similar installations. Our detailed plan is included as Attachment E. You'll find that it builds upon our downtown location, which brings thousands of Missoula residents and visitors into and past our building each month. We are across the street from the Missoula Public Library, a block north of a new high-rise housing development, a block east of the complex that will soon house Missoula's city and county offices – and, of course, we're surrounded by downtown businesses. Additionally, members of our congregation visit this building an estimated 9,000 times a year, while members of the public account for another 15,000 annual visits. Our reach is strong and diverse; we'll use it to our advantage in spreading the word about solar power and this project.

First Church's solar array will contribute to Missoula city and county efforts to achieve 100 percent clean electricity for the urban area by 2030. It will allow us to partner with NorthWestern Energy as the company moves toward carbon neutrality by 2050. We will be advocates and workmates for similar installations at downtown businesses, government agencies, churches and residences.

The first generation of Missoula Methodists set up shop on this downtown corner in 1871, filing the 11th plat in the town's first record book. Their pioneering spirit and faith in the future continues in 2022, with this solar project.

Complete project details are provided in this proposal.

Please contact me, Sherry Devlin, by phone at 406-546-1016 or by email at sherrydevlin@gmail.com if you have any questions.

Thank you so much for considering this proposal. We look forward to working with NorthWestern Energy.

Sincerely,

Sherry Devlin, Green Team member Missoula First United Methodist Church

NorthWestern Energy E+ Renewable Custom Incentive Proposal

Organization:

Missoula First United Methodist Church

Proof of nonprofit status: Attachment A

Project Description:

Missoula First United Methodist Church will contract with SBS Solar to install 66 410-watt solar panels; 27,060-watt DC, 28.8 kW AC. The array will be ballast-mounted on the low-pitch portion of the roof, and flush-mounted on the sloped portion of the roof.

Project location:

Missoula First United Methodist Church 300 East Main Street Missoula, Montana 59802

Project Parts List and Costs:

Please see attached bid sheet from SBS Solar for complete list of components and costs: Attachment B.

Project Design Costs: \$1,500

Project Labor Costs: \$12,700

Project total costs: \$66,175

Amount of incentive requested: \$46,322, or 70 percent of project costs

Other sources of funding: Missoula First United Methodist Church has secured \$18,353 from our congregation and the Methodist Church's Mountain Sky Conference, and a \$1,500 donation from SBS Solar – for 30 percent of total project costs.

Past projects: Missoula First United Methodist has not previously received USB funding.

Nameplate capacity of system: 28.8 kW AC

Projected system capacity factor: The project will offset approximately 80% of the church's annual electrical consumption, and will max out the available space on the roof.

Projected yearly output of system: The system's annual production will be approximately 34,000 kWh per year, as per PVWatts calculator.

Projected life expectancy of system: 25 years

Projected lifetime output of system: During the system's lifetime, it will produce approximately 850,000 kWh.

Will this system be used in tandem with any other source of generation or storage: No.

Describe monitoring and verification plan for the technology: The inverter includes a monitoring app which reports power produced both instantaneously and cumulatively. We also have included the hardware to bring this data online, so visitors to the church, church staff, the public and SBS Solar can monitor the system's health and production.

Describe the system warranty and plan in place for system maintenance: The solar panels have 25-year power production warranties. The power optimizers have 25-year warranties. The inverter has a 12-year warranty and can be extended, if desired. System maintenance will be performed by SBS Solar on an annual maintenance contract. Five years of this annual fee is included in the proposal cost. This contract can be extended.

What permits and permit jurisdictions are applicable to this project? We will obtain a City of Missoula electrical permit.

Identify the customer group the project will most benefit: General public. Pastor John Daniels reports 9,000 annual visits to the building by church members, plus 15,000 annual visitors who are from the larger community. See Attachment C for a description of the building's diverse users and importance as a gathering place.

List environmental impacts of the project: This project directly contributes to Missoula city and county governments' pledge of 100 percent clean electricity by 2030. It also coincides with NorthWestern Energy's commitment to achieve carbon neutrality in its electric and natural gas operations by 2050. With this installation, First UMC's CO2 emissions will be reduced by 53,121 lbs. per year, or 1,328,025 lbs. over 25 years, if all conventional electricity were generated via coal-powered combustion power plant. These calculations utilize 2.0 lbs. of CO2 per kWh. For more information on the environmental benefits of this installation, see Attachment D.

NorthWestern Energy Renewable Energy Qualified Installer:

SBS Solar 620 Fish Hatchery Road Hamilton, MT 59840 (406) 370-1049

Education and Outreach Plan: Please see Attachment E for Missoula First United Methodist's detailed education and public outreach plan, including projected costs, estimated number of people reached, target audience groups, and means of verifying success.



Internal Revenue Service

Washington, DB 20224

Date:

in reply refer to

Council on Finance and Administration of the United Methodist Church, a/k/a the United Methodist Church and Its Affiliated Organizations 1200 Davis Street Evanston, Illinois 60201

Attention: R. Bryan Brawner

Dear Applicant:

This refers to the information submitted for use in determining your status and the status of your affiliated religious organizations, on the list you submitted, as being exempt from Federal income tax under section 501(c) (3) of the Internal Revenue Code.

For the purposes of this group ruling, your affiliated religious organizations include The General Conference, Judicial Council; General Agencies, Commissions, Committees, their divisions and departments thereof, and, other related organizations; Jurisdictional Conferences and Affiliated Agencies, Commissions, and other organizations; Annual Conferences and divisions and departments thereof; Annual Conference Agencies, Commissions, Committees, and affiliated organization; Local Churches and Local Church Agencies, Commissions, Commissions, Commissions.

Based on the information supplied, we rule that you and your affiliated religious organizations, on the list you submitted, are exempt from Federal income tax under section 501(c)(3) of the Code.

We have further determined that you and the affiliated religious organizations you operate, supervise, or control, and which are covered by your notification to us, are not private foundations within the meaning of section 509(a) of the Code, because you and your affiliated religious organizations are organizations described in sections 170(b)(1)(A)(i) and 509(a)(1) of the Code.

Council on Finance and Administration of the United Methodist Church, a/k/a the United Methodist Church and Its Affiliated Organizations

Organizations that are not private foundations are not subject to the excise taxes under Chapter 42 of the Code. However, they are not automatically exempt from other Federal excise taxes.

You and your affiliated religious organizations are not required to file the Return for Organizations Exempt From Income Tax, Form 990, as you come within the exception contained in section 6033(a)(2)(A)(i) of the Code.

You and your affiliated religious organizations are not required to file Federal income tax returns unless you are subject to the tax on unrelated business income under section 511 of the Code. If you or your affiliated religious organizations are subject to this tax, you must file an income tax return on Form 990-T. In this letter we are not determining whether any of your present or proposed activities, or those of your affiliated religious organizations, is unrelated trade or business as defined in section 513 of the Code.

You and your affiliated religious organizations are not liable for social security (FICA) taxes unless you file a waiver of exemption certificate as provided in the Federal Insurance Contributions Act. You and your affiliated religious organizations are not liable for the taxes imposed under the Federal Unemployment Tax Act (FUTA).

Donors may deduct contributions to you and to your affiliated religious organizations as provided by section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to or for your use, or to or for the use of your affiliated religious organizations, are deductible for Federal estate and gift tax purposes under section 2055, 2106, and 2522 of the Code.

If you change your purposes, character, or method of operation, please let your key District Director know so he may consider the effect on your exempt status. Also, please keep him informed of any changes in your name or address.

Council on Finance and Administration of the United Methodist Church, a/k/a the United Methodist Church and Its Affiliated Organizations

You should advise each of your affiliated religious organizations of the provisions of this ruling, including the requirements for filing Federal tax returns.

Each year, within 45 days after the close of your annual accounting period, please send the following to the Director, Internal Revenue Service Center, 11601 Roosevelt Boulevard, Philadelphia, Pennsylvania 19155, Attention: EOR Branch:

- A statement describing any changes during the year in the purposes, character, or method of operation of your affiliated religious organizations.
- Lists of the names, mailing addresses, including Postal Zip Codes and employer identification numbers, of your affiliated religious organizations that during the year:
 - a. changed names or addresses;
 - b. were deleted from your roster; or
 - c. were added to the roster.
- 3. For affiliated religious organizations to be added attach:
 - a statement that the information upon which your present group exemption letter is based applies;
 - a statement that each has given you written authorization to add its name to the roster;
 - a list of those to which the Service previously issued exemption rulings or determination letters; and
 - d. a statement that none of the affiliated religious organization are private foundations as defined in section 509(a) of the Code.

Council on Finance and Administration of the United Methodist Church, a/k/a the United Methodist Church and Its Affiliated Organizations

4. If applicable, a statement that your group exemption roster did not change during the year.

This ruling supersedes our ruling letter of November 20, 1945. In addition, this ruling letter supersedes our group exemption letters to your affiliated Annual Conferences and Conferences and to the individual determination or ruling letters issued to your affiliated churches and other affiliated religious organization.

Please be sure to enter your employer identification number on all your tax returns and in your correspondence with the Internal Revenue Service.

This ruling is not applicable to your affiliated foreign religious organizations.

The key District Director, Internal Revenue Service, Chicago, Illinois, which is your key district for exempt organization matters, will be furnished a copy of this letter. Please keep this ruling in your permanent records.

Thank you for your cooperation.

Sincerely yours,

Chief, Rulings Section 1 Exempt Organizations Branch



Harness the Power of the Sun

First Methodist, Solar System 300 E Main ST, Missoula, MT 3/9/2022

66 Module, 27,060-watt Minimum, Solar Array with SolarEdge grid tied inverter system. Generating approximately 34,000 kWh per year, or approximately 80% of annual consumption

System Description:

- 66 each Solar Modules, Canadian BiHiKu CS3W Poly Crystalline, Minimum of 410 watts each, Bloomberg Tier 1 manufacturer. Positive performance tolerance -0/+5 Wp, 25 year warranty, Standard test conditions production minimums - Voc 47.6, Vmp 39.1 Isc 10.61, Imp 10.49, Module efficiency average 18.6%, 72 cell module, anodized aluminum frame, 54.9 lbs each, 83" tall by 41.3" wide by 1.5" deep.
- Two SolarEdge Grid tie Inverter, Model SE14.4KUS, 14.4 kW continuous output, 208 VAC, Maximum DC input of 19,400 watts capable, transformer less, ungrounded system for maximum 98 % efficiency and safety, Nighttime power consumption of less than 2.5 watts, Arc fault protected, rapid shutdown compliant, NEMA 3R protection for indoor or outdoor installation, UL 1741 standard utility compliance, 30.5" tall by 12.5" wide by 10.5" deep, 12 year standard warranty
- 33 each SolarEdge Optimizers, Model P-860, DC to DC converters located behind each set of two
 modules to maximize performance of each individual module and provide individual module monitoring. 400 watt compatible, 25 year warranty
- Monitoring Production Data displaying current and cumulative energy production, connection into owner provided household router cable for full data monitoring via internet portal
- All associated DC wiring, overcurrent protection, grounding, conduit and fittings to National electric code standards
- <u>Utility Interconnect Net Metering Permit</u> assistance, required first responder AC disconnect
- One year warranty on entire installation



Harness the Power of the Sun

- <u>Ballasted roof mount structures</u>, Aluminum bay with stainless steel hardware, includes concrete
 pavers for ballast, 10 degree tilt angle, Uni-Rac system, designed to withstand 100 mph wind, eliminates roof penetrations for solar module mounting.
- Licensed electricians time and materials for AC connection work with utility grid
- City of Missoula electric permit

System Cost		\$66,175
SBS Donation		-\$1,500
	Subtotal	\$64,675
USB Grant 70% of system total		-\$46,322
Net System Cost		\$18,353

I agree to the terms and conditions herein

Deposit of \$3,000 places your project on our work schedule. Remaining balance due at time of installation completion. Electrical inspection and net metering permit can take up to 4 weeks after installation. Please check with your tax consultants to verify tax credit applicability.

Attachment C

Missoula First United Methodist Church

Groups Benefiting from this Solar Installation

Our 151-year presence in downtown Missoula not only makes First United Methodist Church a historic icon, but provides our congregation with the ideal location to serve a wide cross-section of the community.

From the start, the Methodists at 300 East Main Street have been leaders in Missoula's religious, social service and civic practices and progress.

"The doors of the church were opened to those of every social level, every economic strata and each geographical section," the founding families reported. "The edifice has always been in demand for a meeting place, and not alone to Methodists. The church has welcomed all who felt the need for its ministry."

Midway through our second century, First Church members continue to build upon that legacy.

Passing through our doors week to week are refugees from Afghanistan, Eritrea, Congo and Syria; members of eight Alcoholics Anonymous and Alanon groups; Boy Scouts from one of Missoula's oldest troops; Easter Seals employees, volunteers and clients; homeless families and individuals seeking food, shelter and funds; and all manner of community groups hosting concerts, films, community conversations, planning meetings, fundraisers and potluck dinners.

Dozens from ours and other congregations meet in our building on Saturday mornings to make 200 sack lunches for the Poverello Center's clients. Upstairs, the decades-old Methodist Men's Group meets for food and fellowship. Three days a week, refugee-clients of United We Eat use our commercial kitchen to prepare ethnic meals for sale to hundreds of take-out diners who stream into the church on Tuesday evenings. Each noon hour, our sanctuary is host to a prayer vigil open to all of Missoula.

"We are a downtown church," says Pastor John Daniels. "Every year, about 9,000 people from our own membership use the building in different committees and groups and worship. But then about 15,000 people from outside our church use this building for their needs. I love that we almost have twice as many people from outside our fellowship who use this building."

All who come through First UMC's doors will benefit from our solar installation. With significant savings on our monthly electric bills, we can keep rents low and stable for the groups and nonprofit agencies housed in our building. And we can continue providing free space for hundreds of community meetings, events and fundraisers.

We also believe this solar panel project will deepen our community ties and presence.

By placing a solar array in the very heart of Missoula – atop the first Protestant Church built between Helena and Walla Walla – we hope to become a 21st century icon. We will contribute to Missoula city and county efforts to achieve 100 percent clean electricity for the urban area by 2030. We will partner with NorthWestern Energy as it moves toward carbon neutrality by 2050. We will be advocates and workmates for similar installations by downtown businesses, government agencies, churches and homeowners.

Every one of our 66 heat-collecting panels will shout out this congregation's commitment to climate action and a livable world. Ours will not be a passive presence. We will actively share what we have learned during this project, as detailed in our Education and Outreach Plan. We expect those efforts to reach thousands of Missoula residents – as they walk through our doors for meetings and events, or pass on the sidewalk en route downtown; or as they attend one of our renewable energy presentations in the church, at a downtown service club, at a Saturday morning farmers market, or during Sunday School and worship. (Please see Attachment E.)

The first generation of Missoula Methodists set up shop on this downtown corner in 1871, the 11th plat filed in the newborn town. Their pioneering spirit and faith in the future continues in 2022, with this solar project.

Here is a roster of some groups that will benefit from the installation:

Partial List of Community Groups That Regularly Use Missoula First United Methodist Church

Easter Seals (offices are in the building)

United We Eat (refugee chefs use First UMC's commercial kitchen to prepare weekly meals for public sale)

Poverello Center (sandwich prep/brown bag lunches)

International Rescue Committee and Soft Landings Missoula (secure meeting rooms for attorney-client meetings as Afghan refugees seek asylum)

Boy Scouts

Counters

High Noon AA

Women's AA Group

Step Study Al-anon

Solutions AA

Al-anon

Legacy Al-anon

SOS Al-anon

Alateen

Partial List of Community Groups That Occasionally Use Missoula First United Methodist Church

Hope Rescue Mission (Thanksgiving and Christmas dinners)

Project Community Connect

Voices 4 Housing/Missoula Interfaith Collaborative

Family Promise

Housing Advocates

Islamic Society

Climate Smart Missoula

Missoula Interfaith Collaborative

Common Good Missoula

Recycling Works

Faith & Climate Action Montana

Housing Advocate Network

Missoula Handbell Choirs

Partial List of Congregational Groups That Regularly Use Missoula First United Methodist Church

Sunday worship

Faith & Justice Sunday School

First United Methodist Youth

Sunday School

United Women in Faith and three Fellowship Groups

Methodist Men's Group

Jubellation Handbell Choir

First UMC Chancel Choir

International Rescue Committee Refugee Mentor Teams

Covenant Group

Lectionary Bible Study

Tuesday Bible Study

Men's Emmaus

Green Team

First UMC Trustees

First UMC Administrative Council

First UMC Finance Team

Staff Parish Relations Committee

Recommended System Option

80%

Consumption Offset

\$81,172

Lifetime Electricity Bill Savings \$66,175

Net Cost of this solar system

\$14,997

Estimated net savings over system lifetime



Your Solution

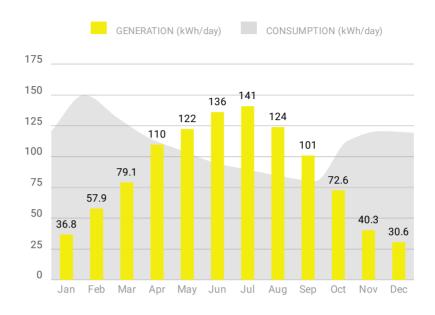
Solar Panels

CSI Solar Co Ltd (Canadian Solar)
27.060 kW Total Solar Power
66 x 410 Watt Panels (CS3W-410PB-AG)
32,024 kWh per year

Warranties: 12 Year Panel Product Warranty, 30 Year Panel Performance Warranty

System Performance

80% Energy From Solar



System Performance Assumptions: System Total losses: 18.5%, Inverter losses: 3.5%, Optimizer losses: 0%, Shading losses: 2.7%, Performance Adjustment: 0%, Output Calculator: System Advisor Model 2020.02.29.r2. Panel Orientations: 32 panels with Azimuth 201 and Slope 21, 34 panels with Azimuth 203 and Slope 10.

Environmental Benefits

Solar has no emissions. It just silently generates pure, clean energy.



Each Year 80% 18 tons

Avoided CO₂ per year

Of CO₂, SO_x & NO_x

328,772 3,404
Car miles avoided Trees planted

Over System Lifetime

379 Long haul flights avoided

53,121 Pounds v of Carbon Dioxide (CO₂) equivalent

This is equivalent to greenhouse gas emissions from:

5.2 gasoline-powered passenger vehicles driven for one year ?



https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#vehicles>

59,809 miles driven by an average gasoline-powered passenger vehicle ?



https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#miles>

This is equivalent to CO₂ emissions from:

2,711 gallons of gasoline consumed ?



https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gasoline

2,367 gallons of diesel consumed ?



https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#diesel

26,659 pounds of coal burned ?



https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#lbscoal

0.319 tanker trucks' worth of gasoline

? https://epa.gov/energy/greenhouse-gases-equivalencies-calcula calculations-and-references#tankers>



3 homes' energy use for one year

? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#houseenergy



4.7 homes' electricity use for one

year ? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#houseelec



0.133 railcars' worth of coal burned 🧖

https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#railcars



55.8 barrels of oil consumed ?

https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#oil



984 propane cylinders used for home



0 coal-fired power plants in one

year ? https://epa.gov/energy/greenhouse-gases-equivalencies-calculations-and-references#coalplant



0.0001 natural gas-fired power plants in

one year ? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gasplant



2,931,004 number of smartphones charged

<https://epa.gov/energy/greenhouse-gases-equivalencies-calculatorcalculations-and-references#smartphones>



This is equivalent to greenhouse gas emissions avoided by:

8.3 tons of waste recycled instead of

landfilled ? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#recycle



1.2 garbage trucks of waste recycled

instead of landfilled ? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#gtrucks>



1,043 trash bags of waste recycled



0.007 wind turbines running for a year

? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#wind>



913 incandescent lamps switched to

LEDs ? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#lights>



This is equivalent to carbon sequestered by:

398 tree seedlings grown for 10 years

? https://epa.gov/energy/greenhouse-gases-equivalencies-calculator calculations-and-references#seedlings>



28.5 acres of U.S. forests in one year

? https://epa.gov/energy/greenhouse-gases-equivalencies-calculatocalculations-and-references#pineforests



0.163 acres of U.S. forests preserved from conversion to cropland in one year?



https://epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#deforestation>

// // //

Attachment E

Missoula First United Methodist Church

Solar Education and Outreach Plan

With the installation of rooftop solar, First United Methodist plans a lively, multigenerational education and outreach program for our congregation, our building's thousands of other users and the larger Missoula community. We will be rigorous in verifying this program's success. At each event, we will track the number of participants, record their comments and questions, and follow up with any who ask for help launching their own project. We will succeed if our solar installation inspires others to do the same at their homes and businesses; we will be their advocates and workmates. Success will also be measured by the impact of this installation on our building's carbon footprint, and by the number and results of new conservation projects we undertake.

Here's an outline of First UMC's education and outreach plan:

Installation Day media: We will invite Missoula media and NorthWestern Energy representatives to watch as the 66-panel array is lifted onto First Church's roof. The event will provide needed photographs and video for TV and print/online media – and will give us an opportunity to talk about our congregation's 151-year presence downtown, the benefits our community will reap from the installation, how solar power and net metering work, the assistance we received from NorthWestern Energy, SBS Solar and our congregation, and how we hope our project will inspire others downtown and across Missoula. We'll also have several posterboard-size graphics and take-home pamphlets about the project and solar energy available along the front sidewalk, as the event is sure to attract many passers-by. The media will be provided with news releases highlighting details of the installation and its financing. Our congregation includes two longtime Missoula journalists, so we feel confident in attracting a strong media presence. We expect this event and its coverage to reach thousands of local and regional residents. There is no cost, as all educational materials and media coverage will be free of charge.

Celebration Sunday: Once the solar panels are fully operational, First Church will host a Sunday celebration. We'll give thanks and sing praises during our 10:30 a.m. worship service, then take the festivities outside for a community celebration and potluck. That event will feature project leaders describing the yearlong process that brought solar to First Church, thanking NorthWestern Energy, SBS Solar and our congregation for their financial support and expertise, and describing some of the cool features of our panels. They generate electricity from the front AND back sides! A sensor on the back of each panel shifts production from one to the other as the shadow of our church tower moves across the roof each day, maximizing electric generation! A special structure holds our panels atop the roof, so they can withstand even the 100 mph Hellgate Canyon winds! We'll also have all our posterboard graphics on easels spaced around the lawn, and will have tables filled with information on solar energy — and how to bring the sun's power to

your own home or business. This special day will also feature the debut of a computer monitor displaying our solar array's real-time power generation stats. (See explanation below.) As on Installation Day, we will reach out to Missoula media for coverage of the historic event. Again, there are no costs associated with this event, thanks to volunteers and donations.

Real-time tracking/display of solar power generation: In the Narthex of First Church, we will install a live display showing how much energy our solar array is producing. The wall-mounted computer monitor will show data from the SolarEdge inverter via our building's WiFi. A table in front of the monitor will provide the thousands of Missoula residents who visit our church each year with information to help launch their own solar projects, as well as a pamphlet on First Church's project. (See explanation below.) A rotating series of educational posterboards will engage visitors with explanations of our solar array, net metering, how solar power works, reductions in CO2 emissions, etc. A pair of permanent displays mounted alongside the monitor will 1. Explain what the monitor shows and 2. Thank NorthWestern Energy, SBS Solar and our congregation for making this solar project possible.

Our budget for the solar monitor is below. We hope to greatly reduce this cost by utilizing existing/donated equipment, wherever possible:

0	27" Acer monitor:	\$350
0	Lenovo IdeaPad 114 Laptop:	\$285
0	Power Strip with Surge Protector:	\$30
0	Timer for Monitor (Lowe's):	\$10
0	Best Buy Essentials wall mount for monitor:	\$40
0	HDMI cord, connectors, etc.	\$30
0	Storage cube for laptop	<u>\$20</u>

TOTAL: \$765

Educational/informational pamphlet: We will produce a simple pamphlet about the project that explains why we decided to go solar, components of the array, how much electrical energy our building uses in an average year, how much electrical energy we expect the array to produce, how much money this will save the congregation, examples of ways we can use the savings to further our church's mission, and acknowledgement of those who helped us fund the installation. This pamphlet will be produced by volunteers and with donations.

Sunday School/Youth Group curriculum: A longtime Missoula schoolteacher who is a member of our congregation is developing a Sunday School curriculum that will teach our First Church children and teens about solar power and the new system providing

our building's electricity. The curriculum will cover one or two sessions, depending on the age of the children. In part, we would make use of the terrific resources provided on solarfuturestoolkit.com, which cover solar and renewable energy, energy efficiency and conservation, and career paths. The youngest children will enjoy the coloring pages and stories. Teens will learn about career and entrepreneurial options and the science behind our own church's electric generation. We will bring in guest speakers, where that is appropriate. And, of course, every age group will get a chance to go outside and see the solar panels on our roof, look at the net meter, and see our real-time power generation numbers on the Narthex computer monitor.

Then our children will spread all that newfound knowledge to others. Students in each class will design a display to explain our solar project – and solar power – to others. Some classes might choose a poster project or photos to share. Some might make a video. Our teachers and youth leaders will ensure the information is accurate, while encouraging the youngsters to let their creativity flow. The end projects will be displayed to the congregation and public. The intent is that some of these projects will ignite future "green" initiatives at First Church: a new approach to energy or water conservation, for example, or a Sunday morning rideshare campaign to reduce vehicles on the road. We expect the Sunday School curriculum to reach hundreds of families and folks in the larger community. We'll also share our materials with other local churches and across the West via the Methodist Church's Mountain Sky Conference. There is no cost for this outreach.

Adult Sunday School/Worship Service: First UMC's Green Team began its outreach to the congregation during the pandemic. It will continue far into the future. These presentations include weekly Green Notes published in First Church's Sunday announcements (distributed by email, paper copy and online at firstumcmissoula.org). Over the past two years, column topics have included everything from the environmental benefits of clotheslines to local, state and federal legislation. Since last December, though, every Sunday's column has focused on solar energy and our church's quest to install solar panels. We've explored net metering, anchoring a solar array at the mouth of windblown Hellgate Canyon, and compensating for the shadow created by our church tower. We've provided weekly updates on the \$18,353 pledge drive to provide our 30% match of the project costs.

The print columns have been supplemented by a monthly series of very engaging Green Team presentations during our worship service. Since January 2022, those talks have kept our congregation apprised of progress on the solar panel project. "Everything we know, you will know," Green Team co-chair Jim Gillison promised church members. We have kept that promise, and will continue to do so. We believe the in-church announcements were a key to the enthusiastic response to our solar fundraising – and to our congregation's renewed energy as we emerged from the pandemic's isolation.

We look forward to continuing our in-person monthly presentations and our weekly Green Notes columns as the solar project comes to fruition. Already, we've been approached by congregation members interested in installing solar panels atop their

homes. We believe that energy will grow as we report on the church's installation and operation, educational curriculum and community outreach.

Our Adult Sunday School class has been an important part of our outreach effort in recent months, and we'll continue that education in the year ahead. We've watched and discussed videos on climate change, discussed ways to reduce our carbon footprint and increase energy conservation, ways to reduce our vehicle trips around town and beyond, and how to cut back on food waste at home – and at church potlucks! We will include sessions on solar energy to coincide with the installation of our rooftop system.

Solar Fair: First Church's Green Team will host a Solar Fair for the public and our congregation once our rooftop array is in place. This will provide team members with another opportunity to talk about our project with the Missoula community – and to spread our enthusiasm far and wide!

In one area at the fair, we will show videos available from Climate Smart Missoula and Solar-Ease Missoula on "Solar in Montana: Simple Steps to Going Solar" and on "What You Need: Solar Financing and Considerations." Along with the videos, we'll distribute handouts from NorthWestern Energy, Climate Smart Missoula and our own project brochure.

In another area, we will explain our rooftop solar project in detail, with informational posterboards, photographs taken during the installation, and displays created by children and youth in our church as part of our educational curriculum.

Finally, we will show the public the power generation happening atop our church – via the computer monitor in our Narthex. At each of these stations, Green Team members will be available to answer questions and distribute written information.

Other community groups and solar businesses, as well as NorthWestern Energy, will be invited to participate in the Solar Fair with booths or information tables. Initially, we will host a fair at our church – to show off our own solar project. Then we will offer to replicate the event at other venues – in the lobby of the Florence Hotel before a meeting of City Club Missoula, for example; or at one of downtown's farmers markets; or one Monday night before a City Council meeting; or at one of the Documentary Film Festival venues. We will use our downtown location to advantage, reaching out to organizations that attract a diverse cross-section of Missoula residents. We believe these Solar Fairs can reach thousands of people. There is no cost, as all planning and presentation will be provided by volunteers.