



Interfaith Power & Light

A Religious Response to Global Warming

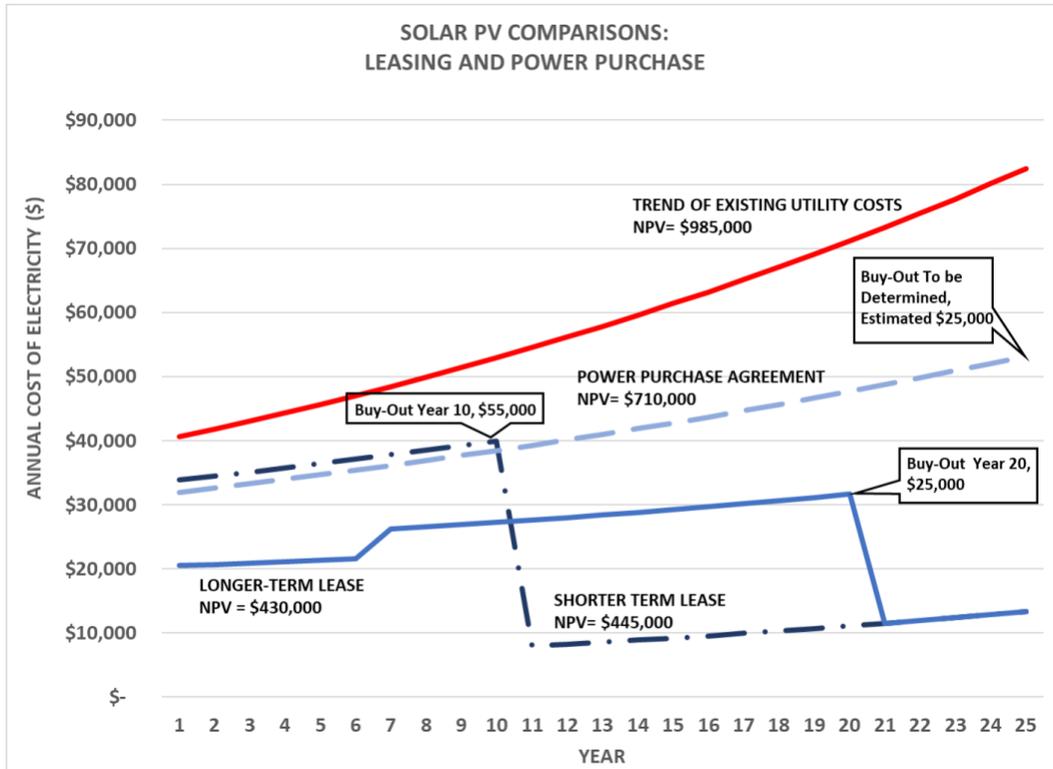
SOLAR FINANCING FOR CONGREGATIONS

Introduction and Summary

Interfaith Power and Light (IPL) has identified proclamations and commitments from most major faith traditions in support of action to safeguard earth's climate as respect for creation. Action in support of these commitments can take many forms; it can be broadly focused such as supporting local, state or national actions through advocacy efforts, and/or congregationally-focused with actions such as reducing waste, reducing carbon dioxide (CO₂) emissions through energy efficiency improvements, and replacing CO₂-intensive forms of energy with renewable sources. To over 1000 congregations of all faith traditions in the United States, installation of solar photovoltaic (PV) panels to provide electricity has become a visible statement of faith and stewardship.

In almost all cases, congregations have found that an added benefit of doing good is that they are able to lower their electricity costs with the solar PV system—in the words of one financial officer, “we’re doing well by doing good.” Figure 1 illustrates the attractive opportunities a PV system (with several financing alternatives) provided one San Francisco Bay Area Congregation. The top line is the forecast of continued, annually increasing grid (utility)-supplied electricity (assuming the current level of consumption remains the same). The annual costs of a PV system with alternative means of financing (including the cost of any remaining utility-purchased electricity) are also indicated. As illustrated, even with the buy-out (balloon) payments at the end of the lease or power purchase agreement, this congregation can save substantial funds annually with a PV system.

Figure 1.
PV Saving Opportunities for a San Francisco Bay Area Congregation (2021)



Unfortunately, many congregations initially view a solar PV investment as a fundraising challenge; when this is the case, the effort seems more daunting and is deferred to some “better time.” Yet this is by no means the case for many houses of worship! This post describes the means used by hundreds of congregations to finance PV systems over time, resulting in monthly and annual savings typically with no front-end costs. These savings provide flexibility to constrained budgets and frees funds for congregational needs beyond “keeping the lights on” (which apart from salaries is often a congregation’s largest expense item).

This post provides a summary of the major financing options followed by a description of their individual strengths and drawbacks. These are based on our efforts supporting the analyses of dozens of congregations in states from coast to coast. Yes, congregations can reduce costs with PV systems, but there are a number of “it depends” to be considered. This post focuses on financing alternatives to fund- raising and paying cash; but there are other considerations—primary of which is which (if any) of the financing alternatives discussed are allowed in your state; not all states permit all these alternatives (as will be later discussed). Checking with your [state’s Interfaith Power & Light affiliate](#) , your state Solar Industries Association or with a local installer will inform you what is permitted in your location.

Also important are your cost of electricity and the status of Net Energy Metering (NEM) in your state. Electricity costs vary from about 7¢ per kilowatt hour in Louisiana and Arkansas, to 13 – 18¢ in the Northeast and California, to 29¢ in Hawaii (2019 data). PV installation costs vary also, but not to this extent. The amount you receive as credit when your meter runs “backward” (while you’re producing solar electricity) is known as Net Energy Metering. Some states credit the same amount for each kilowatt hour as you pay when you are using utility-supplied energy, but other states only credit a fraction of the amount. It is much harder to make an economic case for a PV system in these states that credit less for the solar-generated electricity produced than the amount you pay when it’s consumed. In total, about 40 states permit some form of Net Energy Metering.

All these concerns should be factored into any proposal from a potential PV installer who has examined your electric usage, determined how large a PV system is suitable, and the costs and savings of such an installation. This post focuses on the next step if the results are favorable, “how do we pay for it?”

Financing Options

We’ve encountered four major methods by which congregations fund PV systems. Briefly, these include outright purchase, leasing the system, entering into a power purchase agreement (PPA), or financing through a Property-Assessed Clean Energy (PACE) loan. Key benefits and drawbacks of each are provided in the following Table 1 **from the perspective of a non-profit congregation**; these options, their benefits and drawbacks, and variations are discussed more fully in the text following. Note, this is **not** the same list as would be created for an individual homeowner!

Direct Purchase

For those congregations who have funds “in the bank” whether from savings, investments or bequests, choosing to purchase a system outright is logistically the easiest path. California IPL has recently worked with Lady of Guadalupe Church in Hermosa Beach and the Martin de Pores food kitchen in San Francisco which were both able to utilize this approach to acquire their systems.

If a congregation has the ability to pay cash for a PV installation, most lease financing (and we understand PPA) providers will discount the cost due to the tax and investment benefits a pre-pay provides them. Expect a 10% or greater discount off any installer’s estimate if a congregation is able to pay for a PV installation using a lease or PPA agreement!

**Table 1.
Key Benefits and Drawbacks of PV Finance Options for Congregations**

Type of Financing	Benefits	Drawbacks
Direct Purchase	<ul style="list-style-type: none"> - Lowest (Net Present Value) cost of electricity - Minimizes future payments - Most effectively avoids future cost increases - Pride of ownership - May be able to generate revenue through Solar RECs - Cost reduction of greater than 10 % if financed with lease or PPA) 	<ul style="list-style-type: none"> - No capture of tax credit benefits (resulting in higher cost than alternatives) unless combined with Lease or PPA - Need to obtain complete funding up-front - Responsible for maintenance of non-warranted items
Lease	<ul style="list-style-type: none"> - Reduced annual cost (Otherwise not competitive) - Pricing certainty - Fixed monthly and annual costs - Captures partial tax credits - No operating risk during lease term - Shorter term than PPA (can be 6 years) - Lowest long-term cost and lowest net present value (20 year) if pre-paid 	<ul style="list-style-type: none"> - Annual cost increases as part of contract - Balloon payment at end of lease - Possibly more front-end paperwork - Responsible for maintenance of non-warranted items following end of lease - A lease arrangement may complicate sale of the property
Power Purchase Agreement (PPA)	<ul style="list-style-type: none"> - Reduced annual cost (Otherwise not competitive) - Pricing certainty (depends on contract terms) - Reduced variability of annual costs - Captures partial tax credits - No (or minimal) maintenance responsibility for term of agreement 	<ul style="list-style-type: none"> - Typically, long term (20-25 years) - Life-time cost often higher than Lease - Fluctuation in monthly payments during the year - Annual cost increases as part of contract - Responsible for maintenance following end of PPA - A PPA arrangement may complicate sale of the property
Property Assessed Clean Energy (PACE)	<ul style="list-style-type: none"> - Traditional measures of credit worthiness aren't applied; can benefit congregation's ability to secure loan - Spreads cost of system over life of system (longer term) - May be able to generate revenue through Solar RECs * 	<ul style="list-style-type: none"> - Typically, long term (20-25 years) - Fails to capture either environmental tax credits or interest payment deductibility - Adds interest costs to installation costs - Interest rates may be higher than alternatives - Often promoted by contractor who receives a financial benefit - Large biannual payments can be a shock - Loan terms may complicate sale of the property

* Renewable Energy Credits

It's not common, however, that funds are immediately available. The alternative, fundraising, is often dreaded due to the time and effort required to implement such a program. But congregations have been successful and become creative with this approach. "Sponsor a Panel" appeals have been used with congregant names listed in a public location. One congregation we know that adopted this approach is the United Church of Christ in Claremont, California.

Thus, for most congregations, finding some means to finance a PV system over time becomes the focus of those promoting such an installation.

Lease

A Lease involves paying a fee (typically monthly) to another party (lessor) for use of the system (including its energy output). Monthly lease payments are commonly structured to rise annually (as would your utility electric bill), but typically at a lower rate. A lease agreement involves three parties—the congregation, the lessor and the installer. The lessor pays the installers fee, manages the installation for the duration of the lease and guarantees a minimum annual electricity production. The congregation makes its monthly payment to the lessor for use of the system (located on the Sanctuary roof, other building such as school or office, or over a parking lot or other open space.)

For a lease to be economical, the average monthly lease payment (plus any payments for residual utility supplied electricity) should be less than the Congregation's current (and forecast) average monthly electric bill. As illustrated in the example summarized in Figure 1, the leasing options provided the lowest Net Present Value (value over a 25-year service life); the longer-term lease appears slightly more favorable, but they are close enough that terms offered by another (shorter-term) lessor might change these results. The lessor benefits by retaining the tax credits that the congregation can not use, splitting these with the congregation (through relatively more favorable lease terms) and the lessor's investors.

Not illustrated in Figure 1 is the effect of a "Pre-Paid Lease" option offered by many lessors as described above in the "Direct Purchase" description. In this case, the congregation pays the full amount of the lease in advance at lease signing. As this reduces the risk to the lessor (and its investors) and provides them working capital, lessors will often discount the lease by 10% or more, effectively providing a 10% or greater discount on the installers quoted price to the congregation.

The amount for which the asset (PV system) is to be bought-out (purchased) at the end of the lease period is also negotiated as part of the Lease Agreement. This results in the "Buy-out" payments identified in Figure 1. In this example (and in most cases with which we are familiar) the Buy-out is less than the annual savings accumulated during the years before the Buy-out is due. If prepared for, savings could be set-aside each year as a sinking fund (earning interest) to make the Buy-out payment. Finally, maintenance of the system is the responsibility of the leasing firm for the duration of the lease agreement.

Congregant Leases. We have recently encountered a number of cases in which congregants have combined to form a Limited Liability Company (LLC) to install and lease the solar PV system to the congregation. This has financial advantages for the congregants (who benefit from the tax credits and from participating in a socially and emotionally beneficial investment) and for

the congregation (terms are usually more favorable than standard commercial leases). Seven Houses of Worship in Southeast Michigan have utilized this approach as have a few in other states. As with any new, evolving contractual arrangement, we don't have long-term experience to see how these agreements address disputes that may arise over time. Despite this reservation, this approach appears to provide a financially-attractive alternative that strengthens the connection between congregants and their House of Worship. (More details on these can be obtained from Michigan Interfaith Power and Light as a congregation in Ann Arbor has pioneered this approach and has offered to make their agreements available to other congregations.)

Power Purchase Agreement (PPA)

A PPA is another three-way agreement between the financing firm, congregation and installer by which a PV system is installed on the congregation's property. In this case, the congregation enters into an agreement with the financing firm to purchase electricity per kilowatt-hour at a price less than what the congregation would pay to the local utility. The PPA financing firm provides the funding (utilizing the tax benefits), and undertakes (or contracts) design, permitting and installation of the PV System to an installer. The PPA financing firm pays the installer and sells the resulting electrical energy (at the contracted price per kilowatt-hour) to the congregation for the designated number of years. In this case, the congregation has no tie to the PV system itself beyond the fact it is located on their property (roof, parking lot, etc); they are merely purchasing the power. Maintenance of the system is the responsibility of the financing firm for the duration of the PPA agreement.

As with leases, PPAs usually have a provision that allows the congregation to purchase (Buy-out) the system for a nominal amount after a specified period of time. And again, as with leases, the congregation may arrange to bank all or part of its annual savings to fund the buy-out payment.

Leases and Power Purchase Agreements appear to be permitted in approximately 30 states, though terms vary widely and some states may permit one, but not the other. Sources report varying numbers of states allowing these financing options. Checking with a local installer or your state IPL affiliate is suggested as part of your due-diligence.

Property-Assessed Clean Energy (PACE)

Until recently, obtaining a loan has been a non-starter for many congregations as banks could not evaluate their credit worthiness using traditional criteria. However, the expanding adoption of Property Assessed Clean Energy (PACE) programs first in California and now nationwide has opened a new means for funding energy efficiency, renewable energy and similar property enhancements with loans secured by a lien on the property rather than by dependence on the income of the borrower. Funds are borrowed from a PACE lender, then repaid over 10- or 20-years with an assessment on the congregation's (existing or newly created) property tax bill. Though each situation needs to be assessed individually, the idea is that the annual payment on a loan to finance a PV system would be less than the annual savings on energy costs. For non-residential entities such as houses of worship, C-PACE (Commercial PACE) programs have been developed and are authorized in about 35 states and the District of Columbia.

The website www.pacenation.us provides additional details on this approach and a map of participating states (see PacePrograms tab on their home page).

C-PACE's primary benefit is that credit-worthiness requirements are more flexible; we don't see a clear benefit to C-PACE funding if a congregation has sufficient credit-worthiness that it can obtain either a Lease or PPA financing offer directly. C-PACE alone doesn't allow a congregation to benefit from any PV-related tax benefits while the lender's interest rates are at standard commercial levels. This program is likely more useful for other congregational purposes (such as funding energy efficiency improvements), but the ability of Leases and PPAs to capture (and pass-through to the congregation) tax benefits appear more attractive for PV investments.

Hybrid and Other Alternatives

PACE+Lease Combination. While we are not familiar with a specific example, it is feasible to combine C-PACE with another financing alternative (such as a lease). In this case, a C-PACE loan might be used to pre-pay a third-party lease (which arrangement leads to capture of tax benefits by the lessor), resulting thereby in a 10% or greater discount in the cost of the system for the congregation relative to outright purchase. This reduction in the principal to be borrowed and the resultant C-PACE loan payments should reduce monthly costs below what they would be if the C-PACE loan were used on the sole financing mechanism.

We are aware of at least one PV leasing company, CollectiveSun, that has combined with a PACE provider to create a "CollectivePACE" program. The advantage of the CollectivePACE program is that the financing structure captures the tax benefits that the C-PACE program itself does not (but which third-party leases and PPA do capture). A congregation would need to calculate if the added interest payment on the C-PACE loan save (or cost) more than the front-end cost-reduction benefit.

Funding from Denomination Sources. We have recently seen a several solar PV systems supported by denomination-specific sources. If you know of others, please let us know here at IPL!

Catholic Energies, <https://www.catholicenergies.org/>, a program of the Catholic Climate Covenant, identifies a number of parish and other PV systems they have assisted on their website. They focus primarily on solar and energy efficiency, reducing the financial burden of high and uncertain energy costs. Catholic Energies states that in many cases they can fund the system without any upfront cost to the Catholic organization.

The Presbyterian Investment and Loan Program, <https://pilp.pcusa.org/>, provides financial support that can be used to finance Solar PV installations. As example, Mt. Auburn Presbyterian Church in Cincinnati recently developed a PV system using this funding. As a loan, however, a congregation may not capture tax benefits; they may find financial benefit to leasing. This trade-off should be investigated in each individual case.

Community PV. Approximately 20 states allow "Community PV" systems; these are local solar facilities (typically not on-site at a congregation) shared by multiple subscribers who receive credit on their electricity bills for their share of the power produced. The largest of the faith-based community systems we're aware of is the share of a 5-megawatt system purchased by the Roman Catholic Diocese of Albany (NY) on behalf of its Parishes. Despite widespread enabling legislation, only Minnesota, New York, Massachusetts and Colorado have realized a significant

number of installations; size and geographic restrictions, fees, terms by which PV-generated electricity is credited to a shareholder's bill, and slow permitting by utilities appear to be contributing to the low adoption rate. We do not have sufficient experience to confirm the economic benefits of this approach, but are aware that these have been pursued by congregations in the states with favorable enabling legislation. Developments of this option can be followed at the website <https://ilsr.org/national-community-solar-programs-tracker/> .

Cost Reduction if Located in an Opportunity Zone. Qualified Opportunity Zones were created as part of the Tax Cuts and Jobs Act of 2017; there are 8,764 such zones in the United States. They are generally an economically distressed community where new investments, under certain conditions, may be eligible for preferential tax treatment. While not a source of funding, a project located in one of these zones obtains tax advantages that can lower lease or PPA costs relative to a similar project not so located—a congregation would need to discuss this with their specific financing source to determine if the sources is able to utilize this program. A map and details are at: <https://opportunityzones.hud.gov/resources/map>.

Conclusions

In summary, we've identified and described four major options by which congregations fund PV systems: Direct Purchase, Leasing, Power Purchase Agreements (PPAs) and financing with a C-PACE loan. In addition, we've described several emerging or ancillary alternatives. In our experience, Leasing and PPAs are the most popular means for paying for solar PV energy; both offer immediate financial benefits and are permitted in a large number of states. As congregations cannot utilize the federal tax credits or depreciation, third-party ownership (sharing tax benefits with the congregation via a lease or PPA) provides a congregation benefit from these investor incentives.

As we have repeatedly observed, each state and each congregation's circumstances are unique. A local installer and/or state solar industry association can help provide initial guidance. IPL's Oakland office and state affiliates are available to assist you if you want to explore your options in more detail.

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