Project SO(u)L: Powering Our Sacred Spaces with the Sun

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Hosted by Interfaith Power & Light (DC.MD.NoVA)
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Presenter Resources

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1. Learn from Solar Congregations Booklet – Download this free booklet for a short, clear introduction to congregational solar financing, and the stories of the 14 local congregations that have completed projects.
2. Join the Listserv – Seek advice and support from the champions who have worked on successful solar projects, as well as those going through the process with you. To join the conversation, send a blank email to gwipl_solar_coop+subscribe@googlegroups.com.
3. Congregation-Friendly Solar Installers – IPL has compiled a list of firms that are willing to receive inquiries or RFP's (requests for proposals) from congregations for fully-financed solar panel projects (either solar leases or through Power Purchase Agreements).
4. Solar Coop for Homes: During the summer of 2014, in partnership with Community Power Network (CPN), we are organizing our first two residential solar group purchases through congregations in Northern Virginia and Baltimore. For more information on joining the group purchase group, email solar@gwipl.org.
5. Advocate with us for stronger solar policy – When opportunities arise for us to speak out for solar policy in DC, Maryland or Virginia, that would help enable our communities to go solar, we organize a strong, clear religious voice in support of clean energy. Connect with us online (www.gwipl.org) on facebook (facebook.com/gwipl), and on twitter (@gwipl) to learn about opportunities to take a stand for cleaner energy.
6. Power Mapping Your Congregation: Who has the power to do what? – See attached.

Bill Halpern, Adat Shalom Reconstructionist Congregation

1. Dept. of Energy – www.energysavers.gov
2. Two good industry sites – http://www.greenbuilding.com and www.solarbuzz.com/
3. Info on contractor licensing and certification
4. Locate certified solar installers – www.nabcep.org/installer-locator
5. Solar finance companies and installers that we came across:
    a. Astrum Solar – www.astrumsolar.com/
    b. Standard Solar - www.standardsolar.com/
    c. Sungevity – www.sungevity.com/
    d. Kenergy – www.kenergysolar.com/
    e. Sun Edison – www.sunedison.com/
    f. Solar City – www.solarcity.com/
    g. WDC Solar - www.wdcsolar.com/
    h. Solar Solution – http://www.solarsolutionllc.com/
    i. SolSystems – www.solsystemscompany.com/

6. Ask Adat Shalom – Contact Sheila Blum (sblum807@aol.com), Steve Shapiro (sshapiro@certus-strategies.us), co-chairs of the Solar Task Force, or Bill Halpern (wehalpern@aol.com), former Board President with any questions
7. Developing a Solar PV System for Your Place of Worship: Adat Shalom's Story – See attached.

Anya Schoolman, Community Power Network

1. Solar cooperatives & solar group purchases for homes – Information on active solar coops and how to start your own
2. State-wide networks to promote solar projects and policies with mailing lists for the solar community to share questions and resources
    a. DC SUN
    b. MD SUN
    c. VA SUN

Power Mapping Your Congregation: Who has the power to do what?

Religious Leader:

- Inspires congregation and guides them to do right!
- How much does this leader know about environmental/energy work? How does solar compare to their other priorities?
- How much power does this person have to change people's behavior?
- What venues does this person have to work in? (ie, pulpit? study groups? personal relationships?)

Board of Trustees:

- Decides congregation by-laws
- Approves budget
- Supervises committee structure and staffing
- How does this group make decisions?
- Who matters most in supporting the decision?

Green Team:

- Educates the congregation about environmental issues
- Organizes opportunities for congregants to take action for the environment, both in the congregation and in the broader world
- How integrated is the work of the green team with other aspects of the congregation?
- How can the team feel the most confident in talking about solar?
- What self-education or group-building needs to happen?

Other lay people:

- Is there anyone in the congregation who has specific expertise, and would work with the green team?
- Energy or solar experts
- Roofers, engineers
- Lawyers to look over documents

Denomination:

- Determines the principles of the congregation
- Supports member congregations in various ways
- Does the denomination have a stance on environmental issues?
- Do they have funds to support building projects?
- Are there any other congregations in your denomination who have already gone solar who could offer support and advice?

"Pre-School"

- People who come into the building but aren't necessarily part of the congregation
- How would having solar panels affect them?
- Who connects with them and might be able to find out if any of them can help with this project?

עדת שלום
Adat Shalom
Reconstructionist
CONGREGATION

Developing a Solar PV System for Your Place of Worship: Adat Shalom's Story

Isaiah 42:6 (as channeled by Rabbi Fred Scherlinder Dobb):
"And I will establish you as a covenant of the people for a solar-powered light unto the nations."

Adat Shalom Reconstructionist Congregation in Bethesda, Maryland, installed a solar photovoltaic (PV) system on the roof of its building in 2011. It was the first synagogue in the Washington, D.C.-metropolitan area to take this important step. The only costs involved were those needed to refurbish a portion of our roof, and the time and energy invested by members of our community. We are sharing our story to inform other houses of faith about the steps necessary to become a powerful advocate for *caring for creation*.

Why solar? Most electric power today is generated by fossil fuels, a major cause of global climate change. Solar power is generated by sunlight, which means it does not produce greenhouse gases and it lowers your carbon footprint. It is clean and safe. It also creates green jobs, protects against utility price swings, and promotes energy independence.

However it is an inconvenient truth that in most of the U.S., electricity from roof-top PV systems costs more on a cents per kilowatt-hour basis than power generated by burning fossil fuels. To help make solar more competitive, government agencies have enacted a variety of incentives mainly done through the tax code (tax credits, rapid write-offs, etc.), which means they are not of value to non-profits. There have been legislative attempts to change these rules but to date none have succeeded. Further, the initial capital outlay to install solar panels is beyond the financial reach of many congregations. After much effort, we found an approach that honors our ethical commitment to lower our carbon footprint and safeguard Adat Shalom's financial wellbeing. It is a story that is common to houses of faith across the country.

Our community: Adat Shalom has long been committed to being an active steward of the physical space our community occupies. Our building was constructed with the greatest concern for its environmental impact. The sanctuary has a canonical glass ceiling, lined with canvas to maximize the use of natural light. Our members are active in local environmental affairs, led by our Rabbi, Fred Scherlinder Dobb. "Rabbi Fred" is a leading proponent of a *green theology* and has long been a strong presence in environmental advocacy groups.

Some among our community, our most passionate environmentalists, approached the synagogue Board in 2009 with the idea of installing a roof-top PV system. They had created an informal *Green Team* and had done considerable research on the technology and economics of solar power, and its applicability to our facility including a comprehensive survey of local solar installers.

Financing Options: Two financial approaches for acquiring solar panels initially engaged the *Green Team* and the synagogue Board: the **Inside** and **Outside LLC** Models. In both cases, a "financial entity" other than Adat Shalom would purchase and install the solar panels and sell the electricity to the synagogue. The system owner could then "capture" the economic incentives, making the power we

purchase comparable in cost to our local utility. The key distinction between the options is in the composition of this "financial entity."

Under the **Inside** Model, a Limited Liability Corporation (LLC) formed by members of the congregation would finance the project. The LLC would exist solely for the purpose of installing and operating the Adat Shalom system. Presumably, when the investors received an appropriate return, the system would be sold to the synagogue and the LLC dissolved. Under the **Outside** Model, an established solar financing company would install and own the system. In either model, a Power Purchasing Agreement (PPA) would be negotiated with the panel owners that would commit the synagogue to buy the electricity generated by the system for an extended period, typically 20-25 years. After much deliberation, our Board selected the **Outside LLC** approach. It was judged to be the simpler, easier and quicker option. The **Inside LLC** also had the feel of a "family business," which troubled some members of our Board because of the possible problems that could ensue if one of the shareholders left the congregation, got divorced, etc.

Once the financing issue was decided, we needed to make a section of the building's roof ready for the panels. The Board approved the replacement of a section of the roof that had been scheduled for replacement within the next few years, but which needed to be done before panels were installed. The Board also created a new team, the *Solar Task Force*, to manage the project to completion. Some of the original *Green Team* members stayed involved and other congregants with business, legal and construction backgrounds were added. As one of its first efforts, the *Task Force* initiated a communications program to educate our membership about why we were "going solar".

Selecting the Vendors: The *Task Force* sent a Request for Proposal (RFP) to six solar vendors in our area. It asked for bids on a 40 kW/hour PV system that would supply 15 to 20% of our buildings average annual electricity usage. The scale of the system was set by the amount of non-shaded, southern-facing roof space. A larger system would have required more expensive installation techniques and weakened the overall economic viability of the project.

We received responses from three vendors. Their proposals were assessed on pricing and other contractual terms, as well as the vendors' capabilities, financial resources, and experience installing similar PV systems. We met with the vendor with the best overall proposal to get our questions answered and concerns addressed. Following that, the *Solar Task Force* entered into contract negotiations, assisted by lawyers with experience on Power Purchase Agreements (provided pro bono by a congregant's law firm). The vendor's team included an electrical contractor and a venture capital firm to provide financing. The latter is the owner of the system, responsible for insurance and maintenance, which are minimal. Negotiations were completed in late 2010, the roof work was done in early Spring 2011, and the system installed shortly thereafter.

Our only financial outlay is paying for the electricity the system generates. After several months of operation, the vendor requested we do some minor tree trimming to increase the panel's power output. Other than that, the system has operated without a problem.

The "Solarization" Process Check List:

Adat Shalom is not an expert in energy technology or in legal/tax/financial matters. Our sole intent is to use this brochure to share our experiences with other houses of worship who want to do their part to help heal the planet. We feel this can be best done by presenting some important lessons we learned along the way.

1. *Get Educated:* Use the links in this handout to become knowledgeable on residential and small-scale commercial solar PV systems – but don't stop there. There are many more available through environmental advocacy groups, government agencies, etc.
2. *Do a Site Assessment:* Take a good look at your building and grounds. How much non-shaded, southern-facing roof space is there? Can some modest tree-trimming expand the usable space?
3. *Check the Roof:* Solar installers usually insist the roof be good condition before panels are installed and government incentives don't cover the cost of replacing one that is not. Determine the condition of your roof. If needed, what would it cost to replace it?
4. *Look at the Options*: Solar is only one option. Can you accomplish much the same environmental benefits by switching to a utility with wind or geothermal power?
5. *Use Your Talents:* Seek out those in your community who are strong solar advocates to help energize and launch the effort. You also will need legal and financial expertise when the project transitions to bid solicitation, evaluation, and negotiation phases.
6. *Pick a Financing Option:* An **Inside LLC** entails financial commitments that not all members can afford. Make sure you know the congregation's comfort level on this issue before deciding whether to use an **Inside** or **Outside LLC**.
7. *Solicit Bids:* Before you issue the RFP, decide what contractual terms are most important to you and prepare an appropriate template to evaluate the vendors' responses. Don't overcomplicate the RFP with too many options (length of contract, buyback provisions, etc.). It is best to compare three or more bids from solar installers so you will need to send an RFP to a larger number of local vendors.
8. *Compare Bids and Select Installer:* You will be paying for solar power for many years so carefully review escalation clauses and the quality of the panels (output, warranty, etc.). Remember the bid is only the start of the process and many terms are negotiable.
9. *System Installation:* Your installer should handle all rebate applications, permits, and interconnection communications with your local utility.
10. *Keep the Community Informed:* Use newsletters, listserv announcements, posters, etc. to maintain the congregation's support for and interest in the project