Go Green Illinois' 34th Meeting
November 13, 2018
Taking the Guesswork Out of Solar

Attendees:

90 people from 31 municipalities represented including elected officials, village presidents, school and park district representatives.

New Go Green groups include Go Green Barrington, Go Green Deerfield and Go Green Vernon Hills.

Objectives:

- To be inspired about the benefits of solar
- To be informed about the different options of going solar
- To discover all the resources that are at our fingertips now and in the future
- Think about what you can do in your community to make solar happen.

Topics:

- Solar on your house
- Park district, schools or municipality
- Community solar
- Financing options

Speakers:

- Mike Nicolosi – ISEA Board Member and Owner of Rethink Electric – Residential systems
- Scott Vogt – ComEd – Vice President of Energy Acquisition– online solar planning tool
- Jon Carson -- Trajectory Energy – Community Solar
- Mark Pruitt – Consultant to Metropolitan Mayors Caucus - Community Solar Clearing House Program
- Tim Milburn – Sol Smart – Solar Ambassadors
- Mike Lopez – Valley View School District - Solar on five school rooftops
- Plus Lisa Albrecht from All Bright Solar, Dave Wilms from Advance Renewables LLC, Josh Lutton from Certasun, Noah from Sun Badger, Sunrun.

Acronyms:

- ISEA -- Illinois Solar Energy Agency
- FEJA -- Future Energy Jobs Act, passed in 2016
- NABCEP -- North American Board of Energy Practitioners (certification program)
- SREC – Solar Renewable Energy Credit

Mike Nicolosi – ISEA Board Member and Owner of Rethink Electric – Residential systems
Chicago has more sunlight than Germany, a leader in solar. (4.4 vs. 3 hours of sunlight per day) Solar will work here and systems can be sized appropriately for needs.

Current Federal Incentives: Investment tax credit

30% through Dec 2019
26% through Dec 2020
22% through Dec 2021

FEJA is the reason Illinois is on the map for solar. FEJA is creating many green energy jobs and adds the Illinois incentive called SRECS (solar renewable energy credits). The homeowner spends just 40-50% of the price of the system out of pocked, and the return on investment (ROI) is really attractive. After California and Massachusetts, Illinois is poised to become the top 3rd or 4th state for solar. Rethink has hired over 40 people this year and is able to offer training. The SREC program opens January 2019. With commercial solar, there are a few more incentives including accelerated depreciation from 5 years to 1 year, plus a "smart inverter" rebate.

How to pick an installer:

There are many decisions. Do your homework.

- Are they national or local? How much experience do they have in Illinois?
- Find reputable sources, ask for references, talk to homeowners who have solar systems and groups involved in solar (ISEA, GG groups), check the Better Business Bureau, and online reviews.
- Check for certifications like NABCEP, Distributed Generation.
- There are many new businesses in this market because of the new incentives, so do your research and choose carefully.

Financing - 3 basic ways to buy a system:

- Cash upfront gives the fastest return and lowest cost per kilowatt hour, greatest savings. Payback is approximately 6-8 years currently.
- Loan – Zero out of pocket, pay an interest rate, use credit to buy the system, eliminate power bill but pay the loan payment. After you pay off the loan (approximately 6-10 years), you own the system and get all the energy savings.
- Lease – No money upfront, developer installs system free of charge then charges you for the energy produced. You pay a fixed rate for 20 years, lower than ComEd, so realize immediate savings but zero return on investment (since no investment was made). Cannot get tax credits.

Decide what works best for your financial situation. Rethink does not sell solar systems, but installs for many developers "Business to Business." There are some hard costs, so payback on smaller systems will be a bit longer.

1) Q & A: What would it take to reverse the federal incentives to go up instead of down? It has been at 30% since 2006. It has been extended. Tariffs and hard costs (like permit fees) dictate much of the price of solar. The costs for solar are coming down and will be able to survive without tax credits.

2) Leasing for schools – since they cannot take advantage of the tax credits, leasing might be a good option.

3) How can Go Green groups help? Go back to your community and find out how easy it is to get a solar permit. Municipality can talk to ISEA for advice.

Scott Vogt – ComEd – Vice President of Energy Acquisition– The Solar Journey online tool

ComEd plans to launch a sophisticated solar calculator on December 4 to help its customers research solar options. With the tool, customers will be able to find out if rooftop solar is right for them. The calculator uses data from the customer's energy usage and rate plan, location, and pairs it with LIDAR imaging, which has imaged every rooftop's shading in the ComEd territory for over a year.

Price range and payback graph summary:

- The calculator gives a high-level view based on assumed prices for the installation of a system, IPA and SREC prices.
- The system assumes that the customer has taxable income and that the SRECs are taxable, your Investment Tax Credit's (ITC) and what year you will take those.
- The website will have information about Net Metering policy, production price, how to find a contractor.
- A customer that cannot have solar on their roof can consider the ComEd Community solar page which will eventually allow developers to see that you are looking to subscribe to a community solar project.
- Leasing options will depend on how much you want to pay for your financing.
- ComEd supports you in saving on your energy bill.
- Tip: First, go through your house and make it as energy efficient as possible. Check out ComEd or Elevate Energy for information on efficiency programs and energy audits.
- Community solar is a big deal in Illinois and is possible because of the legislation, FEJA.

Jon Carson – Trajectory Energy – Community Solar Developer

Go Green Wilmette joined with the developer, Trajectory Energy, in 2017, to give a Community Solar option to residents of Wilmette and beyond.

- First, find out if you can put solar on your house before you consider community solar. We want as many "behind the meter" systems as possible.
- If a residential system does not work for you, you can still be part of a community project in Illinois because of FEJA.

- Jon finds appropriate places to build solar projects, installs and interconnects the projects to the grid, and signs up businesses and/or residents (maybe schools, etc) as subscribers. The solar electricity goes onto the grid and gives you credit for what your solar project adds to grid on a monthly basis.

Specific example - Poplar Grove, Boon County Project. Will power 400-500 homes, 15-20 acres.

- The area is still being farmed, landowner signed a long-term lease. A location needs to be near a ComEd substation. On a hot sunny day, the solar panels will be at max production, pumping out electrons at same time as air conditioner and therefore taking stress off the transmission system in IL.
- Jon works with ComEd and the landowner, then talks to the community many times (zoning hearings) and walks the community members through what this will look like in their area. Not one person has rejected the idea. Jon has personally knocked on everyone's doors.

These real projects will give tax revenue in rural communities at about $15,000 per project. Other benefits – Jon will plant pollinator friendly groundcover, an important enhancement to our natural habitat. The panels are helping people in Poplar Grove. For the next 35 years when they see the panels, they will know it helps i.e. the school district.

Subscriptions: The residents of Poplar Grove have the opportunity to be first subscribers and then he will work on Go Green subscribers. We will have more details about actual contracts this spring. Community solar will connect the Chicago metro area and rural Illinois. We will help to drive this forward.

Lottery system: Unfortunately there will not be many community solar projects built in 2019, and there is a lottery system that chooses whose projects will be built, but Jon's projects are in the first que of the lottery which gives it a good chance for 2019 and 2020. Illinois Power Agency is opening the application process on Jan 15th. Many more projects are applied for than what can be built. However this is only the beginning of a bright future for community solar. Efforts are being made with new administration to expand the program.

Beth Drucker's Summary: We need as many solar panels on sunny rooftops now, while we wait for community solar to happen, then those who cannot put panels on roof should choose community solar.

Q & A: There are an equal amount of SRECs for residential solar and community solar. They are not competing against each other.

Mark Pruitt – Consultant to Metropolitan Majors Caucus – Community Solar Clearing House Program

The Greenest Region Compact is a program sponsored by Metropolitan Mayors Caucus (MMC) (go to http://mayorscaucus.org/initiatives/environment/rec/ for more info).

- MMC represents 270 municipalities in the Chicago area.
- MMC assists municipalities in setting and meeting their sustainability goals.
- What part of FEJA is applicable to municipalities, and what type of technical services can the caucus provide municipalities to participate in an efficient manner? Many municipalities are interested in community solar. Municipalities can use the Community Solar Clearing House program to meet their sustainability goals.
- MMC is the sponsor (they do outreach), Marks's consulting firm is the program manager (he does analysis).
- 65 municipalities have registered with interest.

Community Solar Clearing House (CS2) goals:

- To help a municipality get involved with community solar project.
- To do a careful analysis to find out which accounts in the municipal portfolio can actually save money (rate complexity).
- To reduce the threshold so it is easy for municipalities to participate.

CS2 program process:

- Registration is free, upload a form and their ComEd distribution list. They take the analysis and identify which accounts make sense.
- Use this time before the lottery to form a municipal pool, and a developer pool to create a bid pool to leverage purchasing power.
- They don't want performance risk; they will vet the suppliers and vet the projects to make sure the project actually gets built.
- Post-lottery – finalize pools, contract execution (subscription agreements).
- Management – Monthly billing, reporting and support.

Who: CS2 encourages any municipality in ComEd territory to register now and get an analysis by end of November. *Must be a government entity.* The company is looking into a program for residents, but none exists yet.

Tim Milburn – SolSmart Basics – Solar Ambassadors

Tim is on the Sustainability Commission of Park Ridge, a member of Go Green Park Ridge, and the Park Ridge representative for Metropolitan Mayors Caucus. Park Ridge just joined the SolSmart program, a free advisory service offered to communities to follow solar photovoltaic (PV) best practices primarily for homes and business. It is led by the Solar Foundation, International City and County Management Association and funded by US DOE. (Winnetka has also recently joined SolSmart.)

Goals: To help make a community solar ready by streamlining processes and participants for those who want to install PV and manage their system. Soft costs (permitting, etc.) are a big part of the cost of solar systems, so streamlining the process can reduce the cost of solar.

Target Areas: Planning, building and zoning ordinances, permitting and inspection, solar rights, community engagement, utility, market development and finance.

SolSmart designation/recognition: Bronze, Silver, and Gold. Participate on different levels. Be recognized nationally and locally. FEJA is driving SolSmart in Illinois – with increased demand for photovoltaic (solar electric) systems, municipalities must be ready to review permits from residents. MMC was chosen to be the sponsor of the metropolitan group, and so far has mentored the first cohort of 15 communities. Now mentoring second cohort of 22 communities. DOE funding ends in 2020 but could be extended with its popularity. (Has your community considered joining a MMC cohort? Get on the waiting list as soon as possible.)

Go to www.solsmart.org to request a consultation. There is information to help a municipality set up a program on its own.

Solar Ambassador Program – Get a group together, contact Peter to arrange for an Ambassador who will meet with you to hear the solar pitch. They can meet 1-1 with a homeowner and give an informative non-technical, very relatable explanation or do a public presentation.

Solar mini home – on a trailer – is available for loan/rental. It shows basic electrical work to see how a small PV system works. It can be rented to any organization and used in front of a library, for a high school science day, or at a community event. First come first serve. Free for non-profits, $250 for for-profits.

Mike Lopez – Director of Operations at Valley View School district - Solar on 5 rooftops
Mike is an architect with a strong desire to make things sustainable. He ensures that the schools have sustainable features and focuses on energy efficiency in each building before getting to larger scale projects like solar.

For many years, the Valley View School District has incorporated a comprehensive energy and environmental management initiative in the school district that includes replacing old lighting with LED lights, high efficiency equipment, variable frequency drives on equipment to bring energy consumption down.

Valley View School District is in Romeoville in Will County. 20 schools with 17,000 students

- The capital improvement program identifies projects like the condition of their roofs.
- They partnered with a company called Performance Services ESCO to discuss installing solar on five roofs that needed to be re-roofed. Research took over a year and all constituents had to approve it. There is skepticism that must be overcome with hard data that makes sense for return on investment.
- Five solar systems were installed 1.4 years ago.

Numbers: These are real numbers based on actual analysis.

- Solar is a hard science and is reliable. There is a high degree of certainty that the panels will generate the calculated amount of energy.

- The district added up real data from their energy bills to measure annual consumption vs solar production @ 5.5 mil kW hours vs. 3mil kWh = 55% combined consumption.
- $470,000 was paid in current utility bill and they saved $254,000 with solar production.
- Savings = $10 mil within 25 years of installation. SRECS $60mil, debt service $6.6mil.
- Net positive cash flow year one = Savings + SRECs = 100K revenue in the first 15 years.
- Next ten years = 600k annual revenue.
- The SREC program really helps with payback, but even if SRECs are not available, panels still generate 25 year cash flow.
- Calculations are already de rated about 15% for snow load, dust on panels, etc.
- Total energy produced long-term about 1.8 megawatts.

They had their numbers confirmed by their partner and an independent energy consultant before presenting to the community.

The installation: Engineers confirm that the systems are compatible with the roof.

- The panels are ballasted, weighted down and all the equipment has warranty and is UL certified.
- Panel technology is increasing every year, i.e. higher wattage.
- They made sure to design the panel layout away from trees that will be tall once they mature.
- They can move the panels if they need to reroof.
- They had no code compliance issues getting the solar systems permitted by the municipalities.

Other benefits of solar: The panels are a great tool for the curriculum, like the STEM program.

- The district will also add a ground-mount, easy for students to see how they work.
- Solar panels are a selling point to the community.
- Panels can increase the longevity of the roof. Plus, a 25-year warranty and the solar panels still output 80% production at 40 years. In addition, panels are impact resistant.

Northfield School District put solar on a new building
The district designed the new building to offset 100% of their energy usage; Zero Net Energy. It produces 500 megawatts per year. Key factor – even if electrical prices didn't increase over the next 25 years, we would still save money because panel prices came down. They sold SRECs and bought wind RECs to become net zero.

New Trier High School, led by Dave Conway is in the research process and is working with an energy consultant, Performance Services, to install solar on two campuses: the Northfield-freshman campus and the older Winnetka campus that will be under renovation in the near future. Winnetka campus gets its energy through the village, not ComEd, which makes the process more complicated. The Northfield campus would be visible to everyone driving on the Edens Expressway, which would be a great example.

Lisa Albrecht – Owner of All Bright Solar and ISEA board member

If you are a homeowner – go to the ISEA website for a list of installers. Get multiple bids, find most reputable, ask a lot of questions. If the installer sales team has crazy inflation that is a red flag. Doors open on rebates Jan 15th. It will take about 3-4 months for your project to be installed. Other options available like Sunrun lease.

John Lutton - Certasun – Certified installer. He previously consulted nationally with large utilities. When Illinois passed FEJA, they started their Certasun business. If you are thinking about residential solar, ask about the equipment and warranties, and where they are made. Certasun provides a "No Surprises" guarantee. Financing options - is the installer indifferent to which you choose – or do they recommend the best one for you. (Lives in Glencoe.)

Noah Rothschild – SunBadger. (Lives in Wilmette.)

Jesse Briar – Sunrun largest residential solar company, purchase and lease options.

Be careful – you may not want the lowest bidder putting a lot of holes on your roof.

Beth is putting together a solar meeting for faith groups. Date most likely Jan 16 at 10am.
For churches, try crowd funding – Talk to Dave Wilms.

David Wilms, solar consultant, works with churches in Libertyville as well as other groups. Non-profits can't take advantage of the tax breaks. But there are ways to make it work. (FEJA is providing incentives for non-profits to go solar to make up for the fact that they do not get tax credits. Their SREC prices will be higher to make up the difference.) Wilms is putting together investment options for church groups. 6 year lease. Pre-paid lease can give a discount – take advantage of the SRECS.

Jack Kelly – St. Francis – working with Catholic Archdiocese. Dedicated person meets with the vetted installers of the archdiocese. Go through first presentations, then PPAs, then make final decision. (Decision on contractor has not been made as of 11/28 but will be soon.)

Power Purchase Agreements (PPA's) are not available in Illinois yet for non-profits. In order to qualify for net metering you must own or operate your system. A PPA does not allow you to operate, but a lease does.

Dave Wilms – Compared all the budget calculations for a business with a 200kW system
ComEd gives a rebate, lets you control the inverters.
IPCC (intergovernmental panel on climate change): We have 12 years and we have to reduce our Carbon emissions by 50%. The recent California fires add significantly to carbon emissions.

Q & A: Brett Canning – for a Condo Association, community solar is the best option.

The Illinois industry needs more manpower to install quicker. Rethink Electric, Certasun and others are hiring and training installers.

FEJA 2.0 may increase the caps, to get to 100% renewable instead of 25%. Most buildings are Solar ready – built for 30 pound snow load, solar only adds about 5 lbs per sq. foot. Adding conduit, a lot of equipment sits on top of roof.

Never look at a rooftop the same way again.