

Solar Contractor Toolbox

Presented by:

IL Department of Commerce & Economic Opportunity

Illinois Solar Energy Association



Illinois
Department of Commerce
& Economic Opportunity
Pat Quinn, Governor

- ✓ Member discounts to events and training
- ✓ Voting rights for the individual
- ✓ Timely information on policy updates, funding opportunities and other information relevant to the industry delivered to your personal email
- ✓ Invitation to ISEA Solar Drinks and Lecture Series
- ✓ Opportunity to participate in any SREC programs being offered by the ISEA
- ✓ Discounts for partner organizations' classes and events
- ✓ Tax deductible annual dues and donations
- ✓ Member discount extended to one guest for most courses and events.

Agenda

- ▶ Navigating Incentives
 - DSIRE
 - Federal Incentives
 - ICECF
 - DCEO Rebates & Grants
- ▶ DG Certification Requirements
- ▶ Working with Home Owners Associations
- ▶ Permitting Solar
- ▶ Net Metering - Tricks and Landmines
- ▶ Interconnection - Coops & Municipalities

Navigating Incentives

DSIRE™
Database of State Incentives for Renewables & Efficiency

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

IREC | NORTH CAROLINA Solar Center

Home | Team | Glossary | Links | FAQs | Contacts | About Us

DSIRE SOLAR
solar policy information

Search DSIRE

View Federal Incentives

DSIRE
get free search widget

Resources

- RPS Data
- Summary Maps
- Summary Tables
- Library
- What's New?
- Search

myDSIRE
customize DSIRE for your business

U.S. Territories

The screenshot shows the DSIRE website interface. At the top is a red header with the DSIRE logo and navigation links. Below the header is a navigation bar with links to Home, Team, Glossary, Links, FAQs, Contacts, and About Us. The main content area features a search bar, a "View Federal Incentives" button with an American flag icon, and a "DSIRE get free search widget" button. A map of the United States is displayed, with the state of Illinois highlighted in red. A legend indicates that 'T' represents U.S. Territories. On the left side, there is a "Resources" menu with options like RPS Data, Summary Maps, Summary Tables, Library, What's New?, and Search. Below the menu is a "myDSIRE" button for customizing the site for a business.

Federal Tax Credit

Residential Projects:

- 30% Uncapped Tax Credit
- Roll to another year if needed
- Legislated until 2016
- Easy even in Turbo Tax!

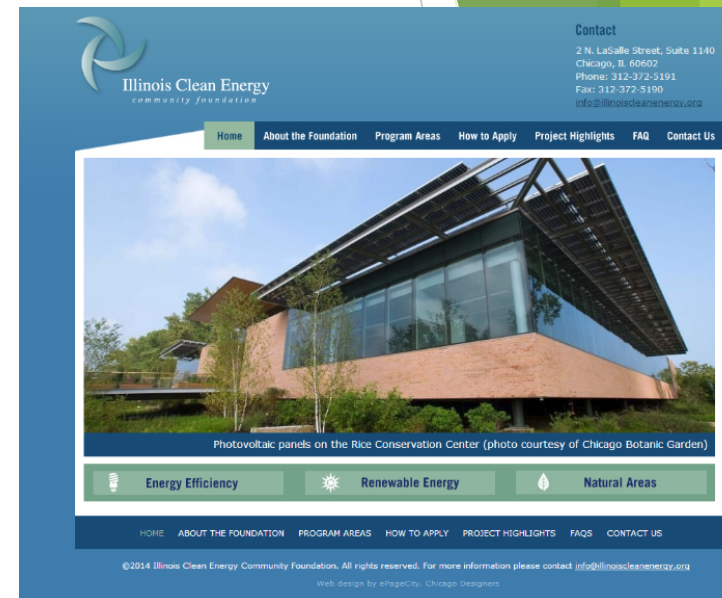
Commercial Projects:

- Same as residential + Accelerated Depreciation



Illinois Clean Energy Community Foundation

- Fund EE & RE Projects
 - PV, Thermal, Wind, Biomass, Fuel Cells, DG
- Awarded on Case-by-Case basis
 - Cost Effectiveness
 - Innovation
 - Simple Payback
 - Funding Sources/Owner Contributions
- Two Primary Cycles per Year
 - Jan & July



Visit www.IllinoisCleanEnergy.org for info



Illinois
Department of Commerce
& Economic Opportunity

Pat Quinn, Governor

Illinois Energy & Recycling Office

**State Renewable Energy
Programs**

Solar Powering Illinois Conference
April 8, 2014

Renewable Energy Resources Program

- ▶ The Renewable Energy, Energy Efficiency, and Coal Resources Development Law (20 ILCS 687, “the Law”) of 1997
- ▶ Funding comes from utility surcharge:
 - Example: \$0.05/mo. for residential electric and natural gas utility customers
- ▶ Provides \$5-\$7 million for DCEO incentive programs per year
- ▶ Law and funding source set to expire on December 15, 2015



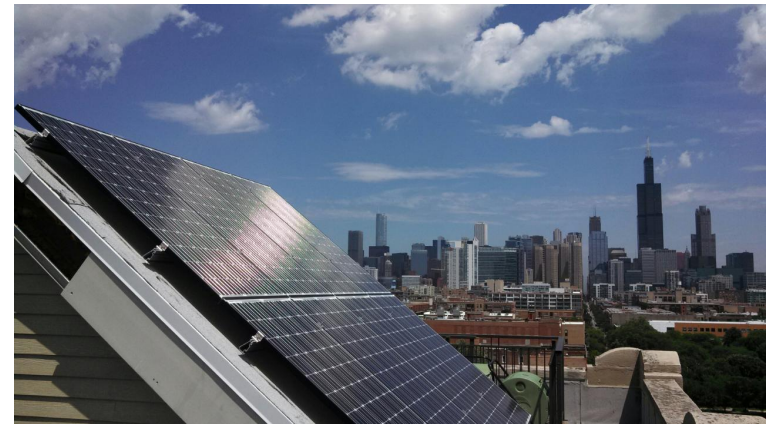
RERP Programs

- ▶ Solar and Wind Rebate Program
- ▶ Large-Distributed Solar and Wind Grant Program
- ▶ Biogas and Biomass to Energy Grant Program
- ▶ Renewable Energy Business Development

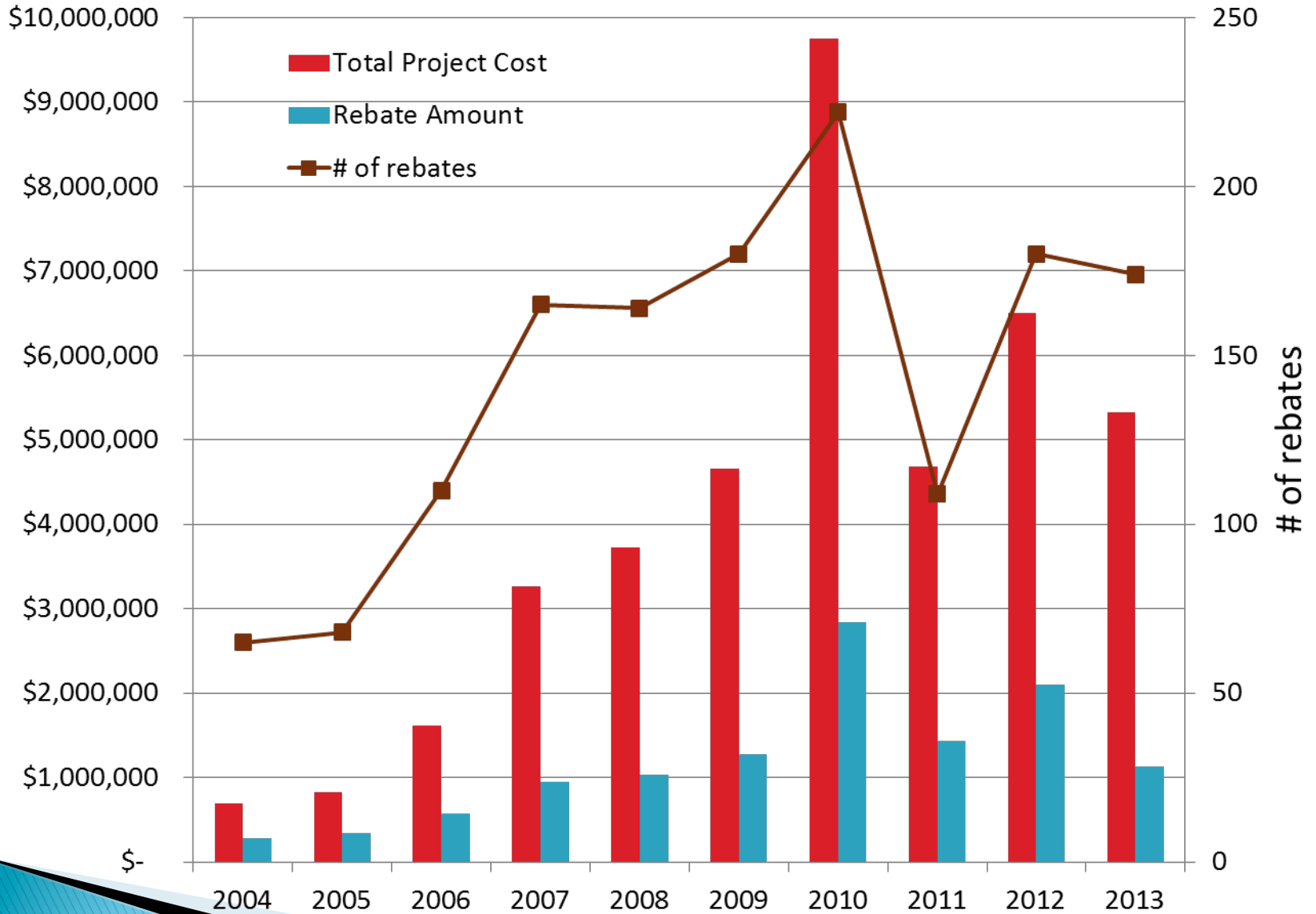


Success of RERP Program

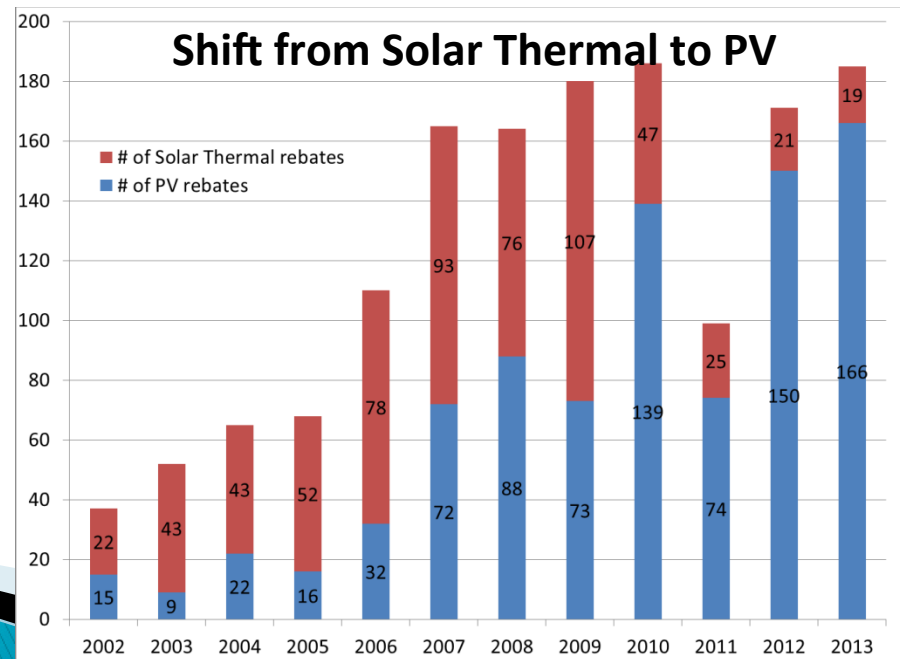
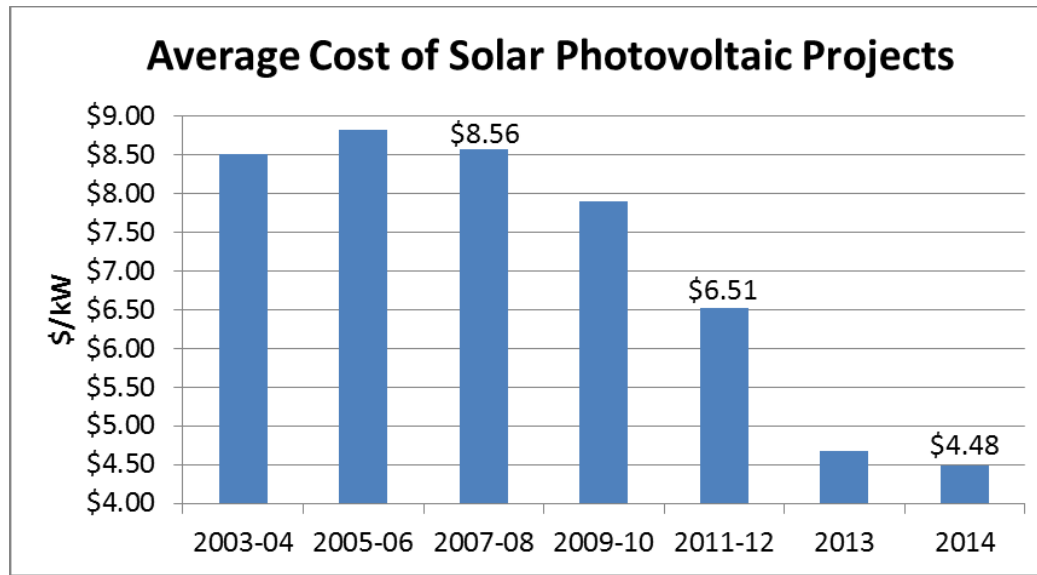
- ▶ Through FY2013, RERP has provided over \$53 million supporting over 1,800 renewable energy projects with total project cost over \$365 million
 - Over 1600 rebates for distributed solar and wind energy projects
 - Over 165 grants for distributed solar and wind energy projects
 - 16 MW of small and large-distributed scale solar PV, and over \$15 million in solar thermal projects (5 MW of wind energy projects)
- ▶ In FY2014, about 275 solar rebate applications have been approved (\$2.4 M) and 12 solar grants have been approved (\$2 M); will add 4.5 MW of new solar PV



Solar and Wind Rebate Program



Changes in Solar Market in Illinois



RERP Grant Program Results

In last 3 years, DCEO has supported 46 renewable energy projects with \$6M in grant funds

- ✓ 40 are solar PV project
- ✓ 5.8 MW of solar PV and wind energy with total Project cost of \$22.7M



Examples:

- ✓ 500 kW solar farm for electric cooperative
- ✓ 187 kW rooftop solar PV at affordable housing complex
- ✓ 200 kW solar rooftop at Illinois Toll Highway Authority facility
- ✓ 50 kW solar PV and wind energy at Operating Engineers Local 150
- ✓ 265 kW at Shedd Aquarium in Chicago

FY 2015 Solar and Wind Rebate Program

- ▶ Program Budget – expect to be same as last year?
- ▶ Application Period – 6-8 weeks sometime between August 15 and October 15
- ▶ Selection of application for review based on lottery system
- ▶ Information required:
 - (1) Complete application – address, system details, installer information, project cost, and rebate amount; (2) invoice or bid document, (3) spec sheets for equipment, (4) recent utility bill
- ▶ When approved, applicant receives a Notice to proceed letter
- ▶ Have 120 days from date application is approved to complete project (will consider limited extension)
- ▶ Must be installed by ICC certified Distributed Generated installer (except for self-installs)

FY 2015 Solar and Wind Rebate Program

▶ Incentives:

Solar PV

- Residential - \$1.50 per watt or 25% of cost (whichever is less); rebate maximum is \$10,000
- Business - \$1.25 per watt or 25% of cost (whichever is less); rebate maximum is \$20,000
- Public Sector/Non-profit - \$2.50 per watt or 40% of cost (whichever is less); rebate maximum is \$30,000

Solar Thermal

- 30% of project cost for residential and business
- 40% of project cost for public sector/non profit
- Same maximum rebate as for solar PV

FY 2015 Large-Distributed Solar and Wind Grant Program

- ▶ Program Budget – expect to be same as last year?
- ▶ Competitive Request for Application - 8 week period sometime in September-October
- ▶ All applications are scored and funding decisions made in 6 weeks
- ▶ Project Costs must be over \$100,000
- ▶ Same incentive levels as rebate program, maximum grant is \$250,000
- ▶ Key criteria: capabilities of applicant/partners, feasibility, project benefits, preference if part of LEED-certified building

Contact Information

Wayne Hartel
Energy Program Specialist
Illinois Energy & Recycling Office
217-785-3420

wayne.hartel@illinois.gov



www.illinoisenergy.org

DG Certification Requirements

- ISEA Homepage
- ISEA 2014 Tesla Raffle
- Solar PV Systems and the National Electrical Code Workshop
- Solar Powering Illinois Conference
- JOIN ISEA ▶
- Solar Policy ▶
- Calendar of Events
- News & Announcements
- Solar Education ▶
- Solar Ambassador Program
- Solar Professionals Resources
- Distributed Generation Installer Certification**
- Homeowner Resources ▶
- Municipal Resources ▶
- Solar FAQ
- Additional Resources ▶
- ISEA Business Members



Distributed Generation Installer Certification

In order to install renewable energy on a building other than your own, Illinois requires certification. The steps to certification are detailed below.

- 1) Visit the Illinois Commerce Commission's page for [Distributed Generation Installer Certification](#).
- 2) Read the [Illinois Distributed Generation Law](#) and links found in step 1.
- 3) Complete one of the following requirements for Distributed Generation Installer Certification.
 - At least five satisfactory installations in the **appropriate DG technology**.
 - Satisfactory completion of one of the following programs in the **appropriate DG technology**.
 - Apprenticeship as a journeyman electrician from a DOL registered [electrical apprenticeship and training program](#).
 - A North American Board of Certified Energy Practitioners distributed generation technology [certification program](#).
 - An Underwriters Laboratories distributed generation technology [certification program](#).
 - An Electronics Technicians Association distributed generation technology [certification program](#).
 - An Associate in Applied Science degree from an Illinois Community College Board [approved community college program](#).
- 4) Apply for certification using the form, cover letter, and instructions from step 1's link.

[Back to Solar Professionals](#)

DG Certification Requirements

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[Back to Solar Professionals](#)

DG Certification Requirements



Illinois Commerce Commission

527 East Capitol Avenue, Springfield, Illinois 62701

Consumers

Public Utility

Transportation

ICC ▶ Public Utility ▶ Electricity ▶

Distributed Generation Installer Certification

Distributed Generation Installer Certification

[DG Installer Certification Application Form](#) Published: March 6, 2014

[DG Installer Cover Letter](#) Published: February 24, 2014

[DG Installer Application FAQ List](#) Published: February 24, 2014

[DG Installer Certification Application Instructions](#) Published: February 24, 2014

[Certified DG Facility Installers](#) Published: February 14, 2014

[Part 468 Distributed Generation Installer Certification](#)  Published: September 18, 2013

Questions Concerning the DG Installer Certification Process

Please observe the following guidelines:

1. Please email questions to the contact below
2. Contacting Staff is the responsibility of the applicant.
3. Questions may be directed to the following Staff

[Sanjo Omoniyi](#)



illinois solar
energy association

Solar Rights: Working with Home Owners Associations

Illinois law prohibits homeowners' associations, common interest community associations and condominium unit owners' associations from preventing homeowners from using or installing solar energy systems. Associations may specify the location of the solar energy system, as long as such specifications do not "impair the effective operation" of the system.

- ▶ Home Owners Association Rules
- ▶ Neighbor complaints
- ▶ Judgment from others
- ▶ Aesthetic concerns



Permitting

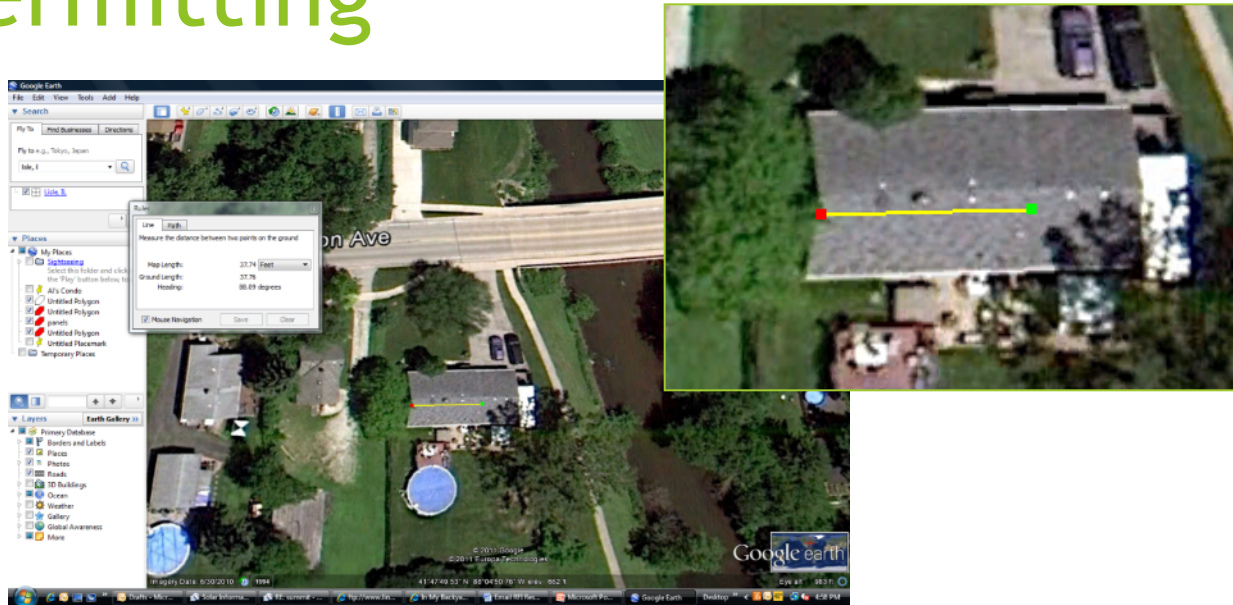
Key Questions to Ask:

- ▶ How?
- ▶ Documentation?
- ▶ Time?
- ▶ Cost?
- ▶ Problems?

**Process & Rules
vary by
community!**



Permitting



- ▶ Building/Permitting Department: Provides Safety to community
- ▶ Zoning: Ensures quality of life to neighborhood

Typical Requirements

- ▶ Some require structural calculations & architectural drawings
- ▶ Plumbing or Electrical line drawing & component specifications
- ▶ Rough and final inspection

Permitting in Chicago



- **Goal:** Transform the Chicago region into a national leader in residential and commercial rooftop solar photovoltaic (PV) development
- **Permitting:** Reduce costs and improve transparency of solar permitting by establishing standardized guidelines and an expedited permitting process
- **Zoning:** Establish a progressive solar zoning policy and update the Sustainable Development Policy
- **Interconnection:** Enhance the interconnection process so that it provides transparency for applicants and scalable processing to support a mature solar market
- **Finance:** Provide lower cost, widely accessible financing options
- **Collaboration:** Develop collaborative framework for replicating best practices to the broader Chicago Metropolitan Region



Solar in Chicago



Supporting Information Facts

City Services

I Want To...

- Apply For
- Check Status Of
- Find/Get
- Pay For/Buy
- Register
- Report/File
- Request
- Sign up for/Volunteer

Like 0
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 +1 0
 Share
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Edit

Solar in Chicago

Welcome to the City of Chicago's rooftop solar portal!

The City of Chicago is accelerating solar energy, making installation of rooftop solar easier, cheaper, and faster than ever. By cutting fees, and reducing time-in-line, streamlining and standardizing permitting and zoning processes, the City of Chicago has made putting solar on your rooftop as efficient and affordable as possible. Get started:



For Small Installations
(<13.44 kW, a typical house)



For Large Installations
(>13.44 kW, commercial, industrial or other building)



Solar Contractor Checklist

Background

In 2012, the City of Chicago and ComEd won a grant under the U.S. Department of Energy's SunShot Initiative to support solar PV installations by reducing market barriers and soft costs. The grant was sponsored through the Mayor's office, and the team was comprised of multiple City, industry, utility, non-profit, and institutional stakeholders. Core project partners included West Monroe Partners, Environmental Law & Policy Center, and Illinois Institute of Technology.

As outlined in Mayor Emanuel's environmental action agenda, **Sustainable Chicago 2015**, the deployment of these initiatives is a critical part of economic development in Chicago and integral to the City's goal of becoming the greenest and most sustainable city in America, as these reforms build a vibrant solar manufacturing and solar sector, while helping to mitigate the City's carbon footprint.

Permitting in Chicago

Chicago's new process is easier, faster, and cheaper than ever



Qualifications: Available to mechanically fastened, non-ballasted PV systems that are less than 13.44 KW

Time: Reduced permitting process time from 30 days to 1 day

Cost: Reduced permitting fee from \$375 to \$275 (25% reduction)

Place: Apply at the EPP Permit Desk in Room 906 at City Hall (312-744-8678)

Applicant: Applicant must be a registered City of Chicago General Contractor

Website: solar.cityofchicago.org

Contact us: sustainability@cityofchicago.org

Small Installations and the Easy Permit Process

Small rooftop solar PV systems (<13.44kw) can now access the City's Easy Permit Process (EPP), where qualifying projects can receive same-day permit approvals at reduced fees. For projects that meet the Easy Permit Process (EPP) requirements, the permitting process was cut down from 30 days to one day, and the fee schedule was reduced by 25%, from \$375 to \$275.



Shaded areas represent stages in process that were improved in 2013

1. Select a properly licensed solar contractor with experience installing solar in Chicago and securing available incentive dollars.
 2. Design system and determine the expected energy generation (solar contractor).
 3. Secure cash, any loans, and rebates or other incentives. DSIRE Solar gives a good overview of available [rebates and incentives](#) in Illinois, [click here for details](#).
 4. Apply to the City of Chicago and ComEd for approval (solar contractor) (**Improved in 2013**).
Along with the Easy Permit Process, Chicago's Department of Buildings has published new guidelines that allow general [contractors](#) to clearly demonstrate safe design of solar systems on all Chicago building types, leading to a reduction of engineering fees and potential savings of \$2,000-\$4,000 for qualifying solar projects [[click here for the Photovoltaic Panel Permitting Guidelines](#)].
The new City of Chicago Solar Zoning Policy [[click here for the Solar Zoning Policy](#)] gives clear guidance on how to design solar projects in accordance with the City's zoning ordinance. In the EPP process, applicants are able to forgo a dedicated zoning review, saving time and money.
Apply to ComEd for Interconnection and Net Metering. Learn more on ComEd's [website](#).
- If your electricity is supplied through the City's [electricity aggregation program](#), contact Integrys Energy Services at <http://www.integrysenergy.com/il-chicago> or (888) 802-2885 to [apply for](#) net metering. If your electricity is provided by another alternative supplier, contact your supplier to apply.
5. Install the system as designed and approved (solar contractor).
 6. Have your system inspected by both the [Chicago Department of Buildings](#) and ComEd. Once approved notify [ComEd](#) (solar contractor) (**Improved in 2013**).
 7. Begin generating clean energy on your roof!

Large Installations

The City of Chicago has made installing large rooftop solar PV systems (those generating greater than 13.44kw) easier than ever before, easing restrictions and streamlining processes, saving time and design costs. The City has updated the Sustainable Development Policy to include rooftop solar as an option. Visit the Sustainable Development page, [click here to learn more](#).



Shaded regions represent stages in the process that were improved

1. Select a properly licensed solar contractor with experience installing solar in Chicago and securing available incentive dollars. Certain contractors have been trained and qualified for the Department of Buildings self-certification process. The Self-certification process allows large solar systems to receive quicker review (<10 days) [[click here to learn more about self certification](#)].
2. Design system and determine the expected energy generation (solar contractor)(Improved in 2013)
Per an Administrative Order issued in April 2013, national design standards are allowed in lieu of the Chicago Building Code for solar PV systems, enabling large systems to be designed more cost effectively. [[click here to view the Order](#)].
3. Secure cash, any loans and rebates or other incentives. DSIRE Solar gives a good overview of available [rebates and incentives](#) in Illinois [click here to learn more](#).
4. Apply to the City of Chicago and ComEd for approval (solar contractor).
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5. Have your system inspected by the [Chicago Department of Buildings](#) Once approved, notify [ComEd](#). (solar contractor) (Improved in 2013) (**Improved in 2013**).
6. Turn on your system and enjoy clean energy and lower electricity bills!

Solar Contractor Checklist

Follow this checklist for installing solar in Chicago.

Stage	Complete	Item
Review		Review this entire Solar Contractor's Checklist
Review		Review "City of Chicago Zoning Policy" to learn about design conformance within Chicago's zoning ordinances [click here for the Solar Zoning Policy]
Review		Review permitting instructions in Chicago's " Photovoltaic Panel Permitting Guidelines " to determine if the system qualifies for " Easy Permit Process (EPP)" [click here to see the EPP]
Review		Review ComEd's DG Transparency Map and interconnection rules to determine site conditions and eligibility [Click here to view the map]
Submission		If the system qualifies for the "Easy Permit Process": Complete the application and submission instructions listed on page 2 of the " Photovoltaic Panel Permitting Guidelines "
Submission		If the system qualifies for "Standard Plan Review": Complete the application and submission instructions listed on page 2 of the " Photovoltaic Panel Permitting Guidelines "
Submission		Complete ComEd Interconnection Application. Learn more at ComEd's website
Upon receiving approvals of City permits and ComEd interconnection, begin installation of the system		
Inspection		Schedule Electrical Inspection with Department of Buildings [click here to schedule]
Inspection		Once approved, submit City's Inspection Approval to ComEd
Upon receiving Inspection approvals from the City and ComEd, activate the system*		

*During commissioning, verify that system owner has received net metering approval from their retail [energy supplier](#)

Interconnection



powering lives



CUSTOMER SERVICE

HOME SAVINGS

BUSINESS SAVINGS

EDUCATION

TECHNOLOGY

Manage My Account

Home > Customer Service > Rates & Pricing > Interconnection > Distribution < 10,000 KVA

- Support
- Mobile
- Social Media
- Billing & Payment
- Service Request
- Rates & Pricing**
 - Rates Information
 - Meters
 - Interconnection**
 - Real-Time Pricing
 - Customer Choice
 - Retail Electricity & Metering
- Assistance Programs
- Safety
- Outage Information

Transmission **Dstr < 10,000 KVA** Dstr > 10,000 KVA | Net Metering |

Learn More About Connecting to a Distribution System

If you are considering the option of connecting a generator to a utility's electric distribution system, you must meet certain requirements before moving forward. In general, this section applies to smaller generators (e.g., Residential Power Projects).

Requirements for 10,000 KVA or Less

Qualifications for Application

Application Form and Fees for 10,000 KVA or Less

Distributed Generation Interconnection Map

Disclaimer



Interconnection

Requirements for 10,000 KVA or Less

The Illinois Commerce Commission established Title 83 Illinois Administrative Code Part 486 (Electric Interconnection of Distributed Generation Facilities) to establish standardized applications and review procedures and agreements for customers wanting to connect generators of 10,000 kVA or less in parallel to a utility's electric distribution system. A complete copy of Part 486 is available on the link provided below. The procedures for interconnection are divided into four levels as follows:

- Level 1: 10kVA or less, lab certified inverter based DG facility
- Level 2: 2MVA or less, lab certified DG facility
- Level 3: 10MVA or less, the DG facility does not export power
- Level 4: 10MVA or less that do not qualify for Levels 1 through 3

Qualifications for Application

Generally speaking, DG facilities that are certified by nationally recognized testing laboratories and meet certain standards of the Institute of Electrical and Electronics Engineers (IEEE), Underwriters' Laboratory, and the National Electrical Code, may qualify for interconnection under an expedited review process provided for in Levels 1 - 3. An expedited review of the interconnection request under Levels 1 - 3 is available provided the proposed DG facility passes the screens outlined in Part 486 and does not require construction of facilities by ComEd to protect reliability and accommodate the interconnection of the DG facility. Please see Part 486 for specific qualification requirements (screens) for each interconnection level.

Application Form and Fees for 10,000 KVA or Less

An application fee is charged for each interconnection application submitted. Applications received by ComEd without payment of the application fee will not be entered into the interconnection process for review by ComEd.

Application Fees:

- Level 1: \$50.00
- Level 2: \$100.00 plus \$1.00/kVA
- Level 3: \$500.00 plus \$2.00/kVA
- Level 4: \$1,000.00 plus \$2.00/kVA

Apply Online:

You may submit your application for Level 1 Distributed Generation Interconnection or Levels 2, 3 or 4 Distributed Generation [online](#). Questions? ComEd has assembled the answers to some [Frequently Asked Questions](#) (FAQs) to provide guidance to common interconnection application inquiries.

We strongly recommend completing the application process online, as ComEd is making an effort to reduce paper use and streamline the application process. However, printable, mailable forms are available:


- [Application - For level 1 Distributed Generation \(pdf\)](#)
- [Application - For Level 2,3 and 4 Distributed Generation \(pdf\)](#)
- [Electric Interconnection of Distributed Generation Facilities - Part 486 \(pdf\)](#)

If mailing in your forms, the completed application and associated fees (in the form of a check or money order, only; do not send cash) should be sent to the following address:

Mail completed applications and fees to:

ComEd
Attn: Robyn Mackey
Three Lincoln Center
Oakbrook Terrace, IL 60181
[email our Inconnection Team](#)

Interconnect.ComEd.com



Home

Welcome to the Online Interconnection and Net Metering home page.

Before you get started, we have provided a Frequently Asked Questions document as well as an Interconnection and Net Metering User Guide that will walk you through the entire application process.

[Frequently Asked Questions](#) | [ComEd Interconnection & Net Metering User Guide](#)


The Illinois Commerce Commission has defined all of the Regulatory Requirements related to interconnection for Illinois. To review the Regulatory Requirements, please click on the link below.

[Electric Interconnection of Distributed Generation Facilities - Part 466](#)

For applications greater than 10MVA please return to the Interconnection-Distribution webpage to download the appropriate application form.

[ComEd Interconnection-Distribution](#)

If you already have login information, Please login below; otherwise, please register as a new user.

<h3>Log in</h3> <input type="text"/> <input type="password" value="Password"/> Forgot Password? Click Here.	<h3>New Users Register Here</h3>  NEW USER REGISTRATION
-----------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------

NOTE: This account is not linked to the Manage My Account for ComEd billing. Separate login information will need to be created for the interconnection and net metering application process.

For additional questions related to interconnection, please email Interconnect@ComEd.com.

Net Metering: Tricks & Landmines

- ▶ Problem
- ▶ Solution

ISEA Policy Committee

- ▶ Webinars - every 2 weeks during legislative session
- ▶ Scheduled as needed during rest of year
- ▶ Emails, Blog, Website