

A. Definitions

1. **Commonwealth Edison (ComEd)** – The utility responsible for delivering electricity to all accounts located in Oak Park.
2. **Community Choice Aggregation (CCA)** – The authority granted to the Village of Oak Park by its residents to negotiate electricity supply contracts on behalf of residential and small commercial (non-residential electricity accounts consumer less than 15,000 kWh annually) accounts.
3. **Distributed Generation (DG)** – Electric generating systems (usually wind or solar) that provide electricity at the location where the electricity will be consumed (also called “behind the meter” generation).
4. **Future Energy Jobs Act (FEJA)** – Legislation passed in 2016 that establishes new goals and incentives for energy efficiency and renewable energy for investor-owned utilities in Illinois.
5. **Illinois Power Agency (IPA)** – An independent state agency responsible for planning and implementing the procurement of: i) energy supply for default rate customers; and, ii) renewable energy credits to meet the state renewable portfolio standard.
6. **Illinois Commerce Commission (ICC)** – An independent state agency with the authority to approve IPA procurement plans and order utilities to enter into contracts to purchase energy supply and renewable energy credits.
7. **Investment Tax Credit (ITC)** – A federal tax credit equal to 30% of the cost of installing a Community, Distributed, or Utility scale solar PV system.
8. **Light Emitting Diode Lighting (LED)** – Advanced lighting products that produce light approximately 90% more efficiently than incandescent light bulbs.
9. **Modified Accelerated Cost Recovery System (MACRS)** – The current tax accounting system whereby the capitalized cost of tangible property is recovered over a specified life by annual deductions from federal tax liabilities.
10. **Nicor Gas (Nicor)** - The utility responsible for delivering natural gas to all accounts located in Oak Park.
11. **Power Purchase Agreement (PPA)** – An agreement where a Renewable Project Developer finances, designs, builds, operates and maintains a renewable energy project on a consumer’s property, and the consumer purchases the electricity generated by the renewable energy project for use at property according to a price schedule.
12. **Renewable Project Developer** – A private sector business that finances, designs, builds, operates and maintains renewable energy projects.
13. **Renewable Energy Credits (RECs or SRECs)** –Tradable certificates that represent proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource and was fed into the Regional electricity grid. Solar renewable energy certificates (SRECs) are RECs that are specifically generated by solar energy renewable sources.
14. **Renewable Portfolio Standard (RPS)** – A statutory requirement that the amount of electricity consumed within a state be matched by a certain level of renewable energy generation from either within the state or elsewhere. Typically, compliance with an RPS is met through the purchase of specific types of RECs by utilities or consumers that are subject to the standard.
15. **Smart Thermostats** - Thermostats that use Wi-Fi technology to allow remote control of temperature settings and can automatically learn schedule and personal preferences to optimize efficiency.

16. Solar Photovoltaic Array (Solar PV) - One or more solar panels that convert sunlight directly into electricity. Types of solar PV include:

- i. **Community Solar** – A solar array that delivers electricity to the ComEd distribution system and allocates output to ComEd accounts that subscribe to the Community Solar array.
- ii. **Distributed Solar** - A solar array that delivers electricity to a single ComEd account and may deliver excess electricity generation to the ComEd distribution system.
- iii. **Utility Solar** - A solar array that delivers electricity to the regional transmission system and sells that electricity to wholesale electricity providers in the region.

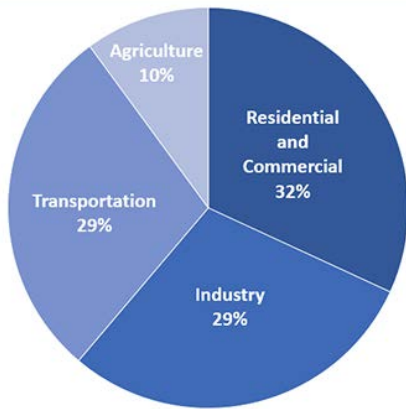
B. Energy Efficiency.

1. Why is Energy Efficiency important? Using energy more efficiently conserves resources and improves the operation of the regional energy grid to reduce consumer costs, achieve sustainability goals, and improves reliability and resiliency.

- **Lower consumer costs.** Being more energy efficient reduces monthly energy bills for residents and reduces the costs of expanding and rebuilding the existing electric distribution system.
- **Improved environmental sustainability.** Using energy more efficiently reduces our reliance on power plants that use fossil fuels.
- **Greater system reliability.** More efficient use of energy reduces the strain on our regional and local power grids resulting in fewer blackout, brownouts and other service interruptions.

2. How can I improve energy efficiency in my home or business? You can reduce energy use by using more efficient equipment (i.e. Energy Star rated furnaces, air conditioners, appliances), reducing energy loss (i.e. weatherizing doors and windows, insulation) or by simply turning off energy-consuming systems when they are not needed (Smart thermostats, occupancy sensors). According to experts, you can easily reduce your energy consumption by 10-20% with basic energy efficiency measures such as converting to LED lighting, using Smart thermostats, maintaining existing mechanical systems, and sealing windows and doors.

Total U.S. Greenhouse Gas Emissions
by Sector with Electricity Distributed



Reducing Emissions from Electricity Generation

There are a variety of opportunities to reduce greenhouse gas emissions associated with electricity generation, transmission, and distribution. According to the EPA, [ENERGY STAR®](#) partners removed over 320 million metric tons of greenhouse gases in 2016 alone, and helped Americans save over \$30 billion in energy costs, approximately 400 billion kWh of electricity.

3. **Where can I get technical and financial assistance for my energy efficiency upgrades?** FEJA requires ComEd and Nicor to fund and manage energy efficiency programs designed to meet aggressive energy reduction goals in the residential, commercial and institutional sectors. Currently, the utilities offer technical assistance to help consumers find the right efficiency technologies and providers, and provide financial incentives that can be used to reduce the cost of purchasing and installing energy efficient equipment in homes and businesses. Some examples of the current energy efficiency programs from ComEd and Nicor Gas are noted below.

- **General Residential Programs** ([ComEd](#), [Nicor](#))
 - o Available to all residential customers
 - o Free Home Energy Assessments (HEA)
 - o Rebates and discounts on efficient products like LEDs, smart thermostats, appliances, HVAC, and weatherization
 - o Appliance recycling
 - o Energy management tools
- **Income Eligible Residential Programs** ([ComEd](#), [Nicor](#))
 - o Available for residential customers at or below 80% AMI (~42% of ComEd customers qualify)
 - o Free assessments and energy upgrades for single- and multi-family customers, as well as public housing authorities
 - o Deeply discounted lighting products at participating retailers
 - o Free energy saving kits through community action agencies (e.g., CEDA)
 - o Free lighting and advanced power strips distributed through local food pantries
- **Small Business Program** ([ComEd](#), [Nicor](#))
 - o Free assessment of energy efficiency options, including lighting and HVAC measures
 - o Price quote and instant incentives

- o Full installation services

4. **What can the Village do to support energy efficiency?** Even with the utility incentives energy efficiency projects can be expensive. The Village can accelerate energy efficiency projects by utilizing funds from the CCA program to offer additional financial incentives that supplement existing utility incentives for residents installing energy efficient equipment in homes and businesses. Examples include:
- **LED Lighting Incentives.** An additional incentive for homeowners that install high efficiency LED lightbulbs and fixtures.
 - **Smart Thermostat Incentives.** An additional incentive for homeowners that install any Smart thermostat or other “smart home” technologies to increase the safety, resiliency, efficiency and overall performance of utility usage in their homes.
 - **Bulk Supply.** Secure a supply of discounted LED bulbs and Smart Thermostats coordinated by the Village available for Low to Moderate income residents.

C. Renewable Energy.

1. **What is Renewable Energy?** Energy generated from natural processes that are continuously replenished is generally considered to be renewable. In Illinois, renewable energy is defined by statute as any of the following resources: Solar Thermal Electric, Solar Photovoltaics, Wind, Biomass, Hydroelectric, Landfill Gas, Anaerobic Digestion, and Biodiesel. Further information about solar technologies can be found at the [Illinois Solar Energy Association](#), and more information regarding wind energy in Illinois can be found at [Wind on the Wires](#).
2. **Does the State of Illinois have a Renewable Portfolio Standard?** Yes. The Illinois RPS goal is to match 25 percent of statewide electricity consumption with renewable energy generation by 2025. The recently passed FEJA prioritizes the funding of new wind and solar projects in Illinois to help meet the goal. FEJA directs the state’s investor-owned electric utilities (Ameren, ComEd, and MidAmerican) to purchase RECs from new wind and solar resources located in the state under standardized 15-year contracts on behalf of ratepayers. The Illinois Power Agency is responsible for planning and implementing REC purchasing for the utilities subject to a bi-annual [Long Term Renewable Resources Procurement Plan \(LTRRPP\)](#) that must be approved by the Illinois Commerce Commission. The LTRRPP provides for the following incentives for renewable energy projects in Illinois:
- **Utility Scale Wind & Solar.** In 2017-2018, the IPA will source approximately 6,000,000 MWh of annual output from utility-scale (projects larger than 2 MW maximum generation capacity) in wind and solar energy projects in Illinois. RECs from these projects will be purchased by the utilities under 15-year contracts. Projects are selected based on competitive bidding, and REC prices for the utility scale renewable projects completed to date range between \$5.50 and \$6.50/REC. Energy from the utility scale solar and wind projects must be sold to offtakers other than ComEd, Ameren, and MidAmerican Energy.
 - **Adjustable Block Program.** Prices for SRECs generated by qualified solar PV projects with less than 2 MW of peak generating capacity will be set by a standard schedule. The IPA has set specific amount of installed solar and an associated SREC price for each block. Once a block’s amount is reached, the incentive will transition to a new block with a lower price. The result is that, as more people install

solar, there are fewer funds available for the incentive. SREC prices within the blocks vary according to a range of factors:

- o **Project Type:** Distributed Solar or Community Solar
- o **Project Size:** Systems under 10 kW, between 10-25 kW, between 25-100 kW, and so on.
- o **Project Location:** The electric utility to which the project is connected.

- **Illinois Solar for All.** Special funding specifically set aside for low-income communities to maximize the development of new solar PV generating facilities and create a stable, long-term solar marketplace in Illinois

3. How can I support Renewable Energy in Illinois? All consumers served by ComEd automatically participate in the Illinois RPS – so everyone is supporting renewables. Consumers may also invest in their own or shared renewable energy projects. Currently, Solar PV projects can be developed by consumers using any of the following approaches:

- **Equipment purchase/lease, or Power Purchase Agreement (PPA).** Many Renewable Project Developers will design, build and even maintain Solar PV arrays on your roof or open ground-space. Such projects can be financed through a direct purchase or an equipment lease – or consumers can simply agree to purchase the electricity generated by the solar PV array through a PPA. Project financing periods typically range between 10 and 30 years.
- **Subscribe to a Community Solar Array.** Consumers that do not have space or the ability to host a solar PV array on their property can subscribe to a large remote Community Solar Array. With Community Solar, a portion of the monthly output from the Community Solar array is credited to the subscriber's ComEd account to reduce the total energy charges on each month's bill. Cook County officials estimate that as much as 75% of residents are unable to host their own solar photovoltaic system.

4. How are Renewable Energy projects financed? Renewable Project Developers combine incentives and revenues from electricity sales to secure financing for new renewable energy projects. The examples of Community Solar and Utility Solar project financing provided below convey the range of costs, incentives, and electricity sales revenues required to meet minimum requirements of project finance.

Community Solar Project Finance (Cost and Revenues)		
Cost & Revenue Elements	Lower Range	Higher Range
Project Costs (Levelized - 20 Years)		
Materials & Construction	9.60¢/kWh	12.05¢/kWh
Site Acquisition & Preparation	1.65¢/kWh	1.85¢/kWh
Operations & Management	1.65¢/kWh	1.85¢/kWh
Total Solar Project Costs	12.90¢/kWh	15.75¢/kWh
Project Incentives (Levelized - 20 Years)		
Investment Tax Credit (Federal)	2.10¢/kWh	2.60¢/kWh
Accelerated depreciation (Federal)	1.45¢/kWh	1.65¢/kWh
Renewable Energy Credits (State)	5.80¢/kWh	5.80¢/kWh
Smart inverter Grant (Utility)	0.90¢/kWh	0.90¢/kWh
Total Solar Project Incentives	10.25¢/kWh	10.95¢/kWh
Energy Sales Requirement (Levelized - 20 Years)		
Payments from Subscribers	2.65¢/kWh	4.80¢/kWh

FAQ for Village of Oak Park Energy Program Options

Utility Solar Project Finance (Cost and Revenues)		
Cost & Revenue Elements	Low Range	High Range
Project Costs (Levelized - 20 Years)		
Materials & Construction	3.00¢/kWh	4.00¢/kWh
Site Acquisition & Preparation	1.35¢/kWh	1.50¢/kWh
Operations & Management	1.35¢/kWh	1.50¢/kWh
Total Solar Project Costs	5.70¢/kWh	7.00¢/kWh
Project Incentives (Levelized - 20 Years)		
Investment Tax Credit (Federal)	0.65¢/kWh	0.85¢/kWh
Accelerated depreciation (Federal)	0.40¢/kWh	0.55¢/kWh
Renewable Energy Credits (State)	0.40¢/kWh	0.50¢/kWh
Smart inverter Grant (Utility)	0.00¢/kWh	0.00¢/kWh
Total Solar Project Incentives	1.45¢/kWh	1.90¢/kWh
Energy Sales Requirement (Levelized - 20 Years)		
Payments from Offtakers	4.25¢/kWh	5.10¢/kWh