Authorized in 9 States:

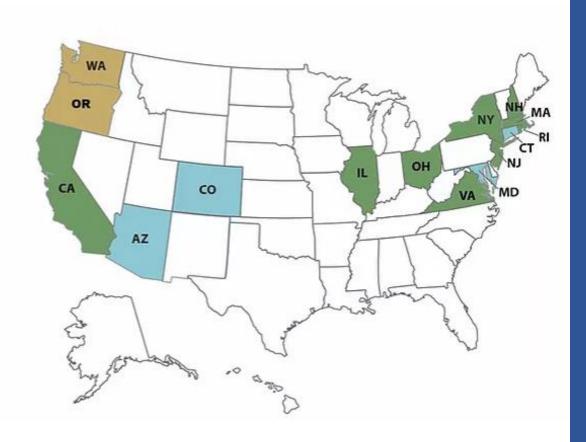
- California
- Illinois
- Massachusetts
- New Hampshire*
- New Jersey
- New York
- Ohio
- Rhode Island
- Virginia*

Actively Investigating:

- Arizona
- Colorado
- Connecticut
- Maryland

Watch List/Potential:

- Oregon
- Washington



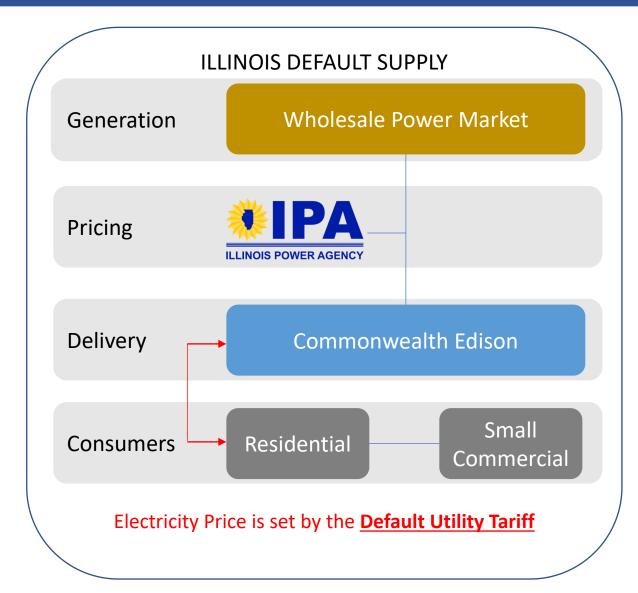
COMMUNITY CHOICE AGGREGATION (CCA) IN ILLINOIS

^{*} Not yet implemented

Overview

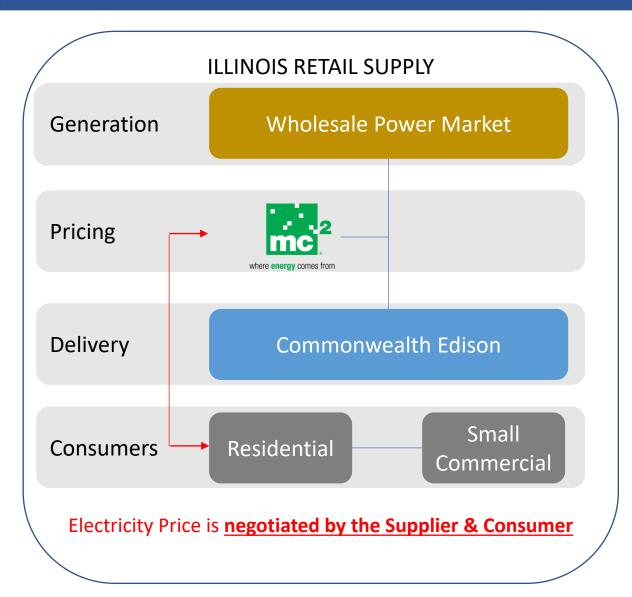
Electricity Supply Options	Default, Retail Supply, CCA
CCA in Oak Park	History, approach, status, current solicitation
Renewables	US, PJM, ComEd, via CCA

Illinois Supply Options: Default



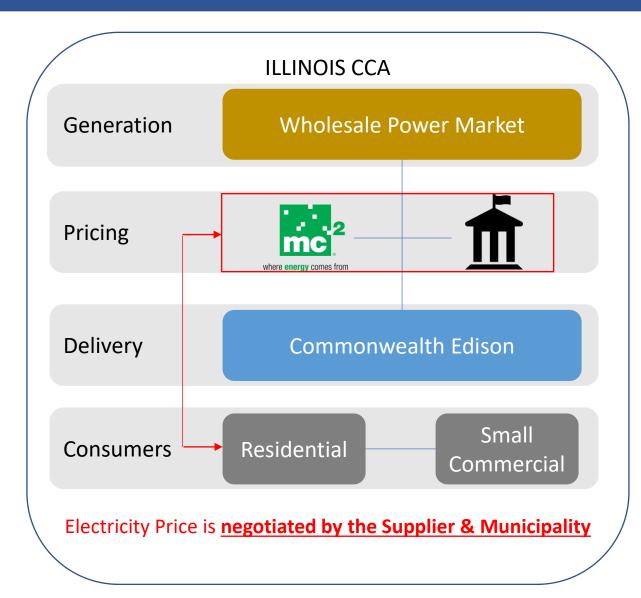
- Consumer does not select a supplier
- IPA uses a staggered procurement process to secure supply for default rate customers
- IPA contracts are typically 1-3 years in duration
- Illinois Commerce Commission approves Default Rates for consumers
- Residents may leave the default rate at any time without penalty with adequate notice (<30 days)

Illinois Supply Options: Retail Supplier



- Supplier offers consumer a supply rate and contract terms
- Consumer can accept or reject the supplier's offers
- Supply contracts are typically 1-3 years in duration
- Residents may terminate the supply contract, but may be assessed a termination fee

Illinois Supply Options: Community Choice Aggregation (CCA)



- Municipality chooses the supplier
- Municipality and supplier negotiate price and service requirements
- Contracts are typically 1-3 years in duration
- Residents that do not reject the offer are enrolled in the contract with the supplier
- Residents can terminate their contract at any time for any reason
- Municipality is <u>not a party</u> to the supply contracts

Illinois Supply Options: Community Choice Aggregation (CCA)

CHARACTERISTIC	AGGREGATION 1.0 (Single Fixed Price)	AGGREGATION 2.0 (ComEd Price Match)					
Value Proposition	"Same Electricity, Lower Cost"	"Same Cost, More Value"					
Price Structure	Fixed Attempts to beat the Default Supply Price by at least \$0.005/kWh	Variable Matches the Variable Monthly Utility Default Supply Price					
Participants	All residential and small commercial accounts are enrolled unless they opt-out	 Residential and small commercial accounts with a low cost to serve are enrolled unless they option out. Residential and small commercial accounts with a high cost to serve may opt-in 					
Financial Benefits	Any cost savings accrue to consumers Municipal contribution to support sustainable programming						
Renewable Energy Options	Illinois RPS + RECs	Illinois RPS + Municipal Contribution					
Recent Developments	>20% of communities that have aggregation authority are idle due to lack of savings	Renewed interest in aggregation with no downside risk to consumers					

Oak Park: CCA Timeline and Profile

Timeline

- 2011 Residents approve referendum to allow Village to create opt-in CCA
- 2012 CCA contract with 100% Renewable Energy Credits for ~\$0.003/kWh of supplied load
- 2017 Policy decision to switch from REC to a municipal contribution equal to ~\$0.003/kWh of supplied load and the ComEd Price Match option
- 2021 Market conditions force reduction of municipal contribution equal to ~\$0.0003/kWh of supplied load

Characteristics

- 178,955,870 kWh annual consumption
- 25,833 qualified accounts
 - **24,543** residential accounts
 - **1,290** non-residential accounts
- **55,237** kW peak demand

Oak Park: CCA Solicitation

STATUS

- A. Current contract through December with MC-Squared Energy Services
- B. ComEd Price Match with municipal contribution

GENERAL SPECIFICATIONS

- A. 12-, 24-, 36-month offers
- B. High levels of customer service
- C. Municipal contribution
- D. Current ComEd Rate = \$0.1141/kWh

TIMELINE

- A. Bids received on 7/22/2022 were rejected
- B. Village will reissue RFP with a September 22 due date

SUSTAINABILITY

- A. Carbon offsets (50-100% of portfolio)
- B. Direct Source Renewables (50-100% of portfolio)

Oak Park: CCA Solicitation Sustainability Elements

Carbon Offset

"Carbon Offset" shall mean a nature-based removal of emissions of carbon dioxide or other greenhouse gases to compensate for emissions generated from other sources. One ton of carbon offset represents the removal of one ton of carbon dioxide or its equivalent on other greenhouse gases. The Village accepts Carbon Offsets from high-quality reforestation or other nature-based projects that are validated by any of the following third-party organizations: Gold Standard; Verified Carbon Standard; Climate Action Reserve; American Carbon Registry; Plan Vivo; The Climate, Community & Biodiversity Alliance. Other sources of Carbon Offsets can be approved by the Village upon request.

Direct Use Renewables

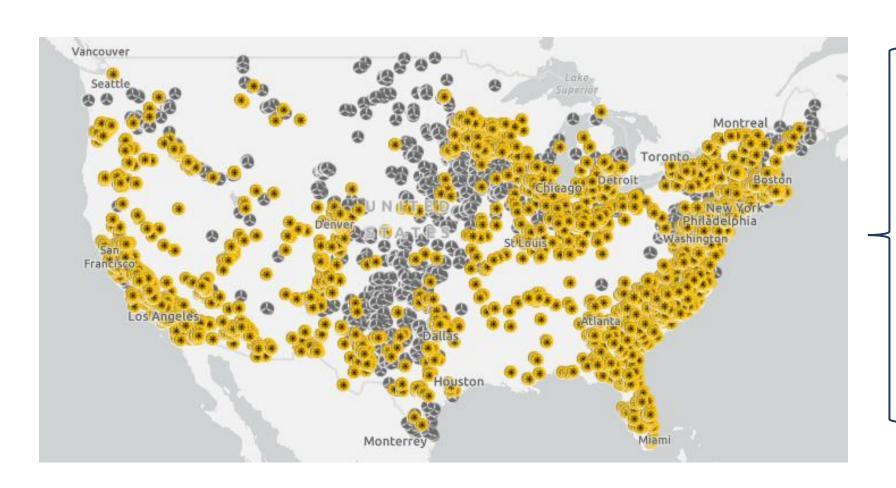
"Direct Source Renewables" shall mean energy supply secured from a new or existing renewable energy resource as defined in 20 ILCS 3855/1-10 and connected to the PJM transmission system by a Vendor on behalf of the Aggregation Program. The cost of the Direct Source Renewables shall be incorporated into the price charged through the Aggregation Program.

Renewables: Wholesale Markets



- Local electric networks are part of larger regional transmission organizations (RTO/ISO)
- RTO/ISOs managed wholesale energy markets with FERC jurisdiction:
 - Dispatching power plants
 - Price setting
 - Allowing access to regional transmission assets currently takes 2-4 years

Renewables: Current Wind and Solar Assets



- All utility scale generators are tracked by US DOE Energy Information Administration (EIA)
- https://www.eia.gov/elect ricity/data.php
- ~20% of nationwide electricity generation is sourced from renewable resources

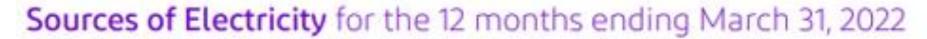
Renewables: Renewables in PJM (~6%)

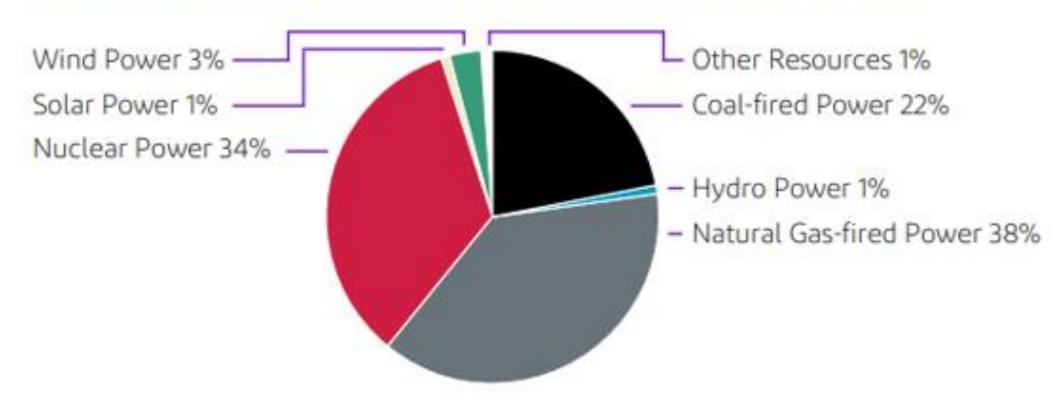
Table 3-62 Monthly generation (By fuel source (GWh)): 2021

			-										
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Coal	17,819.0	21,469.5	13,310.1	11,172.7	12,362.1	18,648.7	22,063.1	21,631.5	14,109.9	9,779.1	9,750.0	12,296.5	184,412.3
Bituminous	16,369.6	18,774.2	12,427.5	10,305.2	10,666.7	16,171.8	19,254.9	18,965.2	12,600.2	8,749.6	8,633.5	10,835.2	163,753.6
Sub Bituminous	901.4	2,124.5	312.7	610.2	1,239.6	1,973.5	2,210.7	2,084.5	1,033.1	551.0	596.3	784.2	14,421.7
Other Coal	548.0	570.7	570.0	257.3	455.9	503.4	597.4	581.9	476.6	478.5	520.1	677.2	6,237.0
Nuclear	25,133.4	22,125.3	21,217.1	19,692.2	21,841.2	23,374.4	23,641.8	24,278.8	22,860.1	21,553.9	22,064.7	24,887.6	272,670.4
Gas	26,011.3	22,670.8	23,925.8	21,904.3	22,545.8	27,745.0	31,466.8	33,188.4	25,813.1	26,429.6	25,908.7	27,275.5	314,885.1
Natural Gas CC	25,125.8	21,754.8	23,076.4	20,077.2	20,964.3	24,758.6	27,853.9	28,767.1	23,798.7	23,872.8	23,003.8	26,083.1	289,136.6
Natural Gas CT	616.1	579.9	569.5	1,465.1	1,131.2	2,333.8	2,881.6	3,703.3	1,439.1	2,164.9	2,232.1	777.8	19,894.4
Natural Gas Other Units	108.9	198.0	120.1	221.1	296.3	511.5	590.7	573.1	437.6	259.1	539.0	276.7	4,132.1
Other Gas	160.6	138.1	159.8	140.8	154.0	141.0	140.6	145.0	137.6	132.8	133.8	137.9	1,722.0
Hydroelectric	1,481.8	1,299.8	1,682.6	1,317.5	1,295.9	1,313.5	1,594.6	1,509.5	1,574.4	1,264.0	1,224.4	1,066.8	16,624.8
Pumped Storage	398.4	354.0	311.9	244.7	357.1	539.8	637.4	665.8	544.6	376.0	253.0	354.7	5,037.3
Run of River	994.9	847.5	1,282.8	1,004.4	865.0	618.6	775.5	669.0	899.3	785.1	913.5	623.0	10,278.6
Other Hydro	88.5	98.3	87.9	68.4	73.8	155.1	181.7	174.7	130.5	102.9	58.0	89.1	1,308.9
Wind	2,486.7	2,595.4	3,399.1	2,684.5	2,110.4	1,691.5	1,073.3	1,087.1	2,137.8	2,190.1	2,987.2	3,208.4	27,651.4
Waste	386.1	316.6	391.6	369.1	389.6	388.0	386.4	374.8	333.5	379.3	368.9	391.8	4,475.9
Oil	159.7	254.1	151.5	166.4	205.6	200.0	199.8	277.0	161.2	159.7	174.8	181.1	2,290.7
Heavy Oil	0.0	0.0	0.3	0.0	0.0	0.0	15.9	41.0	4.4	0.1	1.9	1.9	65.6
Light Oil	7.0	136.5	23.2	12.2	51.2	89.9	44.5	92.9	5.4	8.0	32.1	21.6	524.4
Diesel	1.4	2.8	1.2	3.6	0.2	4.0	5.4	5.0	0.9	0.3	0.5	2.3	27.7
Other Oil	151.4	114.8	126.8	150.6	154.1	106.1	134.0	138.0	150.5	151.4	140.2	155.3	1,673.1
Solar	303.6	279.3	578.7	711.4	814.7	809.6	874.3	789.8	752.0	558.5	549.5	390.7	7,412.2
Battery	2.7	3.3	3.2	4.0	3.7	3.0	3.3	2.7	2.6	2.7	2.3	3.0	36.5
Biofuel	97.4	81.4	63.7	72.1	131.6	119.6	129.2	123.1	109.5	39.2	95.4	129.6	1,191.7
Total	73,881.8	71,095.4	64,723.4	58,094.1	61,700.6	74,293.3	81,432.5	83,262.7	67,853.9	62,356.1	63,125.9	69,831.0	831,650.8

Source: PJM State of the Market Report, 2021

Renewables: Renewables in ComEd (6%)





Source: Commonwealth Edison

Renewables: Renewable Development via CCA

Renewable Energy Requirements

- A. Long-term commitment (12-20 yrs.)
- B. Creditworthy counterparties
- C. Single buyer is preferred (guarantee purchases or pay penalties)

California CCA Structure

- A. Municipality <u>purchases and resells</u> electricity to consumers
- B. Municipality *posts credit* to guarantee CCA transactions
- C. Municipality is <u>obligated to purchase</u> electricity under 12-20 year contracts even if consumers opt out of the CCA

Illinois CCA Structure

- A. Municipality <u>selects</u> a retail supplier for residents to contract with
- B. Municipality is <u>not required</u> to post any credit for CCA transactions
- C. Municipality faces <u>no penalties</u> if all consumers opt out of the CCA

Balancing Energy Cost, Municipal Contribution, Customer Service, Carbon Offsets, and Renewable Energy

Discussion