

The Impacts of Wind and Solar Projects to the Local Economy

June 30, 2023

Agenda

- 1. Housekeeping and introductions**
- 2. Overview: Renewable energy development in Illinois**
- 3. Economic impacts of historical wind and solar projects**
- 4. Case Study- City of Urbana's Landfill Community Solar Farm**
- 5. Q&A**

IPA Power Hour Webinars

- **Introduction and Scope**
- **Power Hour is a series of educational and informative presentations on a wide range of clean energy topics and emerging issues**
- **Today's Power Hour:**
 - **During this webinar, the speakers will provide an overview on renewable energy development in Illinois and discuss economic impacts of historical wind and solar projects including jobs, earnings, and output. Lastly, the webinar will highlight an interesting case study on how a landfill community solar project in the City of Urbana brought economic advantages to its community.**
 - **This presentation is intended for educational purpose only and does not represent a legal interpretation or statement of policy by the IPA or its staff.**
 - **Future IPA Power Hour Webinars will cover other topics related to the clean energy economy in Illinois**

Upcoming Webinars

IPA Power Hour 6: Unpacking Community Solar in Illinois Solar for All

Date: July 28, 2023

Time: 12-1pm CST

[**REGISTER HERE**](#)

IPA Power Hour 7: Bring Solar to School-Benefits, Challenges, and Opportunities

Date: August 31, 2023

Time: 12-1pm CST

[**REGISTER HERE**](#)

About the IPA

Vision:

"A clean, reliable, and cost-effective energy future for residents and businesses across Illinois"

- Independent State Agency created in 2007
- Responsible for the development of an annual Electricity Procurement Plan for customers of electric utilities
- Supports the Illinois Renewable Portfolio Standard (RPS) through the development and implementation of:
 - Long-Term Renewable Resources Procurement Plan
 - Competitive procurement for utility-scale projects
 - Solar incentive programs for homes and businesses



Overview: Renewable Energy Development in Illinois

The Illinois Renewable Portfolio Standard



- **Illinois has ambitious goals**

- 40% of electric consumption supported by renewables by 2030
- Rising to 50% by 2040
- Decarbonization of electricity sector by 2045

- **Progress to date**

- Through 2022, approximately 10%, but including renewables not part of RPS, 12.4%
 - Several large solar projects came online in 2022 so not fully represented in annual data
 - RPS can be supported by utility-scale projects located outside of Illinois the meet public interest standard
- 18.6% of installed capacity in Illinois
- See IPA's 2022 Annual Report for more information
 - <https://ipa.illinois.gov/content/dam/soi/en/web/ipa/documents/illinois-power-agency-fy-2022-annual-report-final-1210pm.pdf>

- **For a deeper dive into the details of the RPS, please watch previous Power Hours**

- <https://ipa.illinois.gov/about-ipa/ipa-events/previous-power-hour-events.html>

The Growing Scale of Renewables in Illinois



• Wind

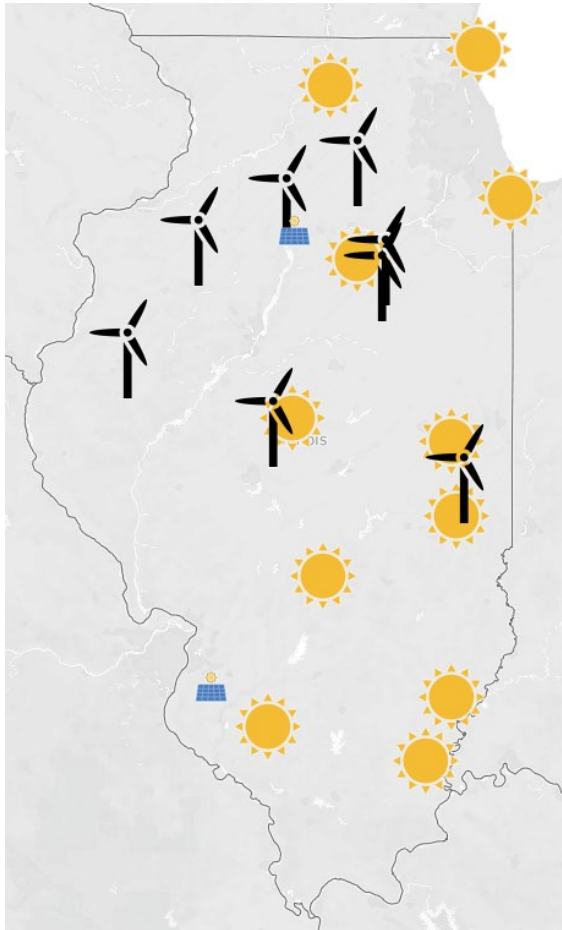
- Two waves of development
 - 2007-2012, and 2018-2021
- Over 7,000 MW of wind
 - 30% supported through IPA procurements, other projects supported by corporate customers, or other states' RPSs
- What's holding up more projects?
 - Ongoing delays in Regional Transmission Organization interconnection processes
 - Significant amount of wind in interconnection queues, not clear how much will be developed
 - Size of projects leads to lumpy development
 - Concerns related to RPS Budget

• Solar

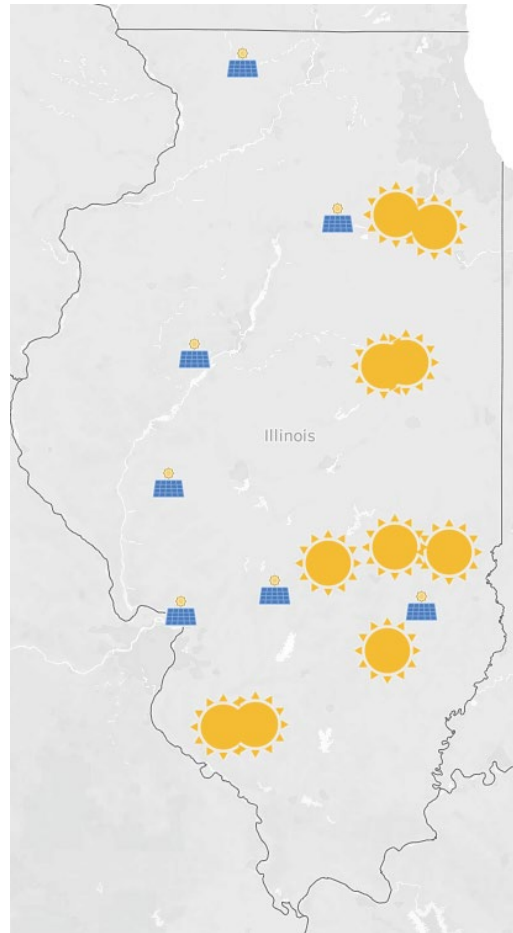
- Prior to 2018 only about 80 MW of solar in Illinois
- 1,800 MW as of end of 2022
 - 91% supported by IPA programs and procurements

Development of Utility-Scale (Statewide)

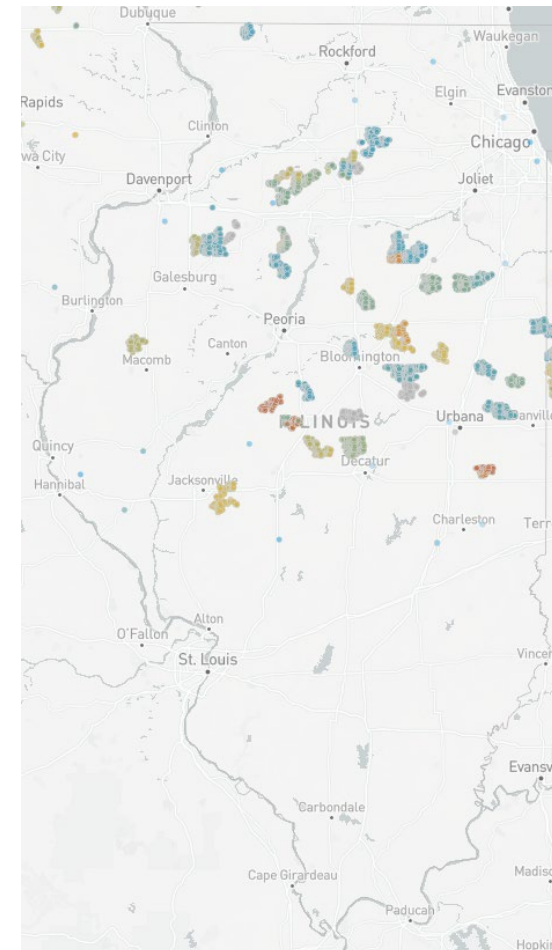
Operating Utility-Scale Projects Supported by the IPA



Under Development Utility-Scale Projects Supported by the IPA



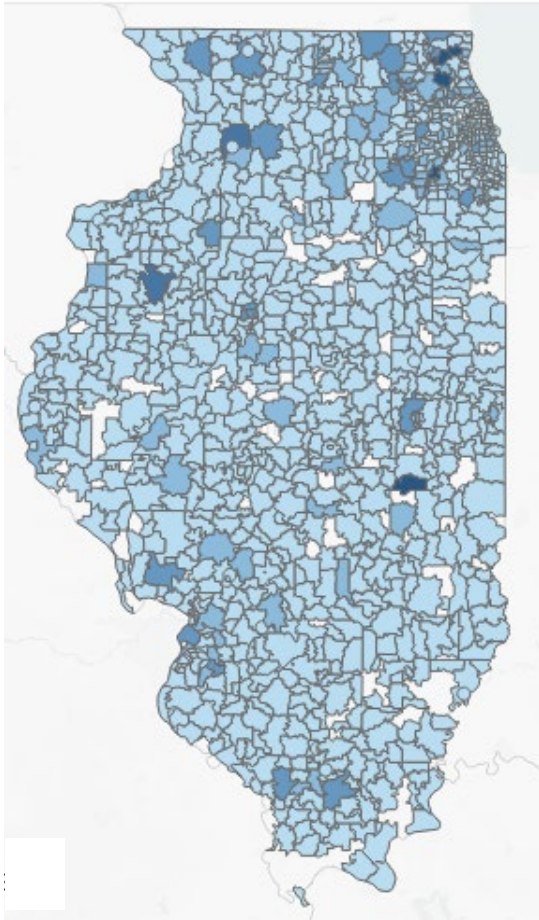
Wind Turbines in Illinois



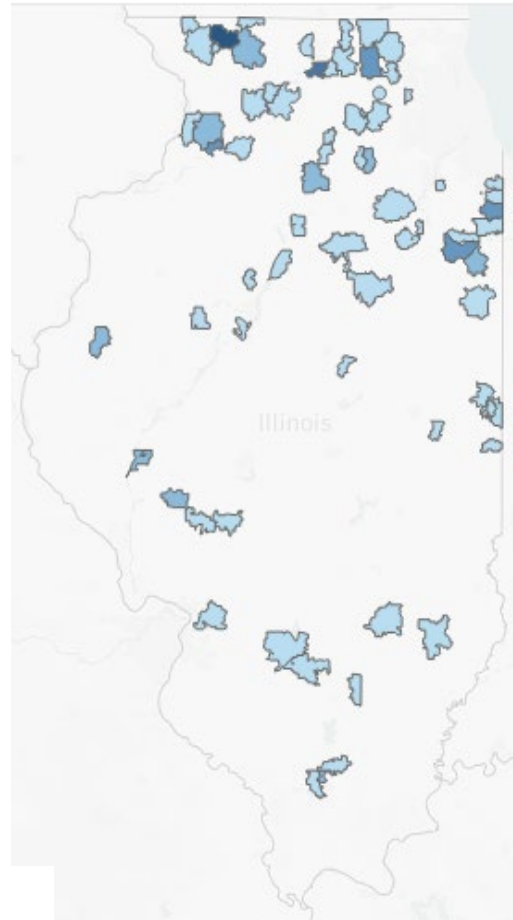
Source: U.S. Wind Turbine Database
<https://eerscmapp.usgs.gov/uswtodb/>

Development of Small Solar (Statewide)

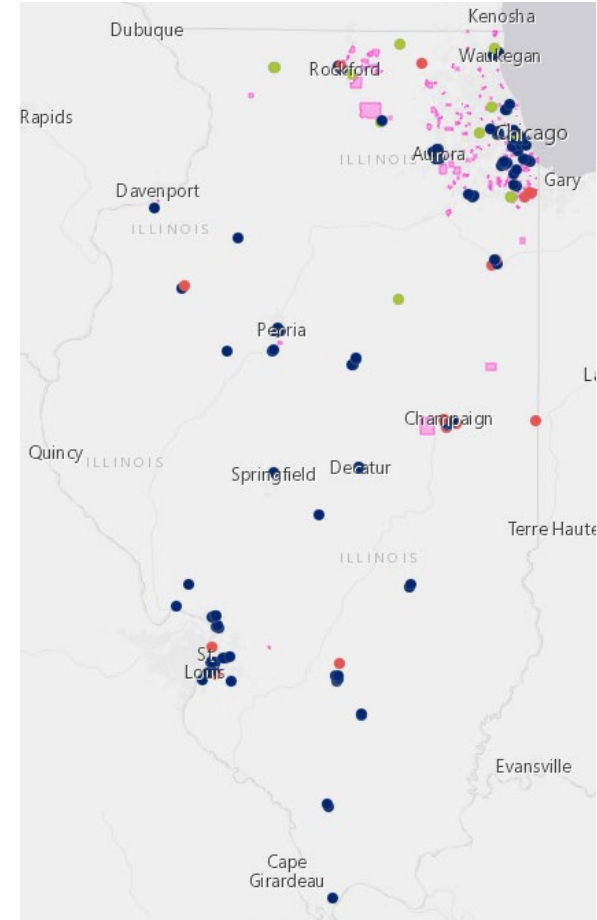
**Energized Illinois Shines
Distributed Generation Projects**
39,990 projects, 571 MW



**Energized Illinois Shines
Community Solar Projects**
107 Projects, 207 MW



**Energized Illinois Solar for
All Projects**
219 Projects, 20.5 MW



CEJA Seeks to Foster Economic Growth



- **CEJA created new focus for the IPA to ensure:**

“priority access to the clean energy economy for businesses and workers from communities that have been excluded from economic opportunities in the energy sector, have been subject to disproportionate levels of pollution, and have disproportionately experienced negative public health outcomes.”

- **Three primary approaches**

- **Minimum Equity Standard**
- **Opportunities for Equity Eligible Contractors**
- **Carve-outs for Illinois Solar for All**

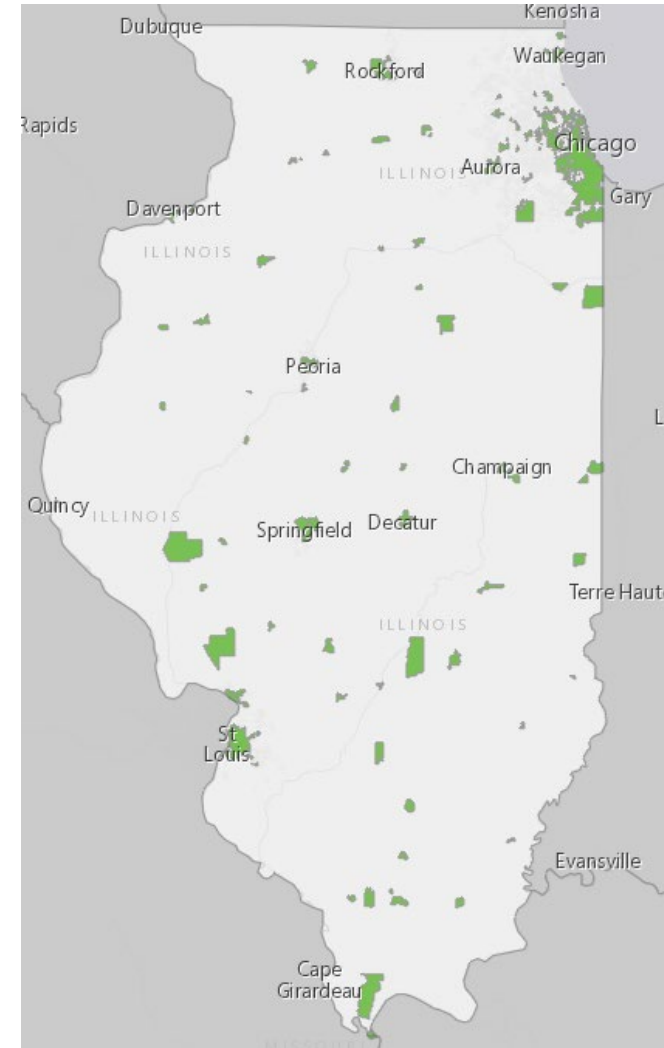
Minimum Equity Standards (MES)



- Section 1-75(c-10)(1) of the IPA Act requires that, *All applications for renewable energy credit procurements shall comply with specific minimum equity commitments.*
- To meet these requirements a project must employ “equity eligible persons” or “eligible persons” who could qualify if they are:
 - 1) graduates or current or former participants in various job training program
 - 2) persons who are graduates of or currently enrolled in the foster care system
 - 3) persons who were formerly incarcerated
 - 4) persons whose primary residence is in an equity eligible investment community
- **Starting this year standard is 10% of workforce, will grow to 30% by 2030**
- **For more information, visit the Minimum Equity Standard webpage on the IPA website: <https://ipa.illinois.gov/diversity-equity-and-inclusion/minimum-equity-standard.html>**

Equity Investment Eligible Communities

- **Equity Investment Eligible Communities are spread out across Illinois**
 - **Combination of Environmental Justice Communities and R3 Communities (a criteria from the cannabis legalization process)**



Equity Eligible Contractors

- **An Equity Eligible Contractor is a business majority owned by Equity Eligible Person(s)**
- **Illinois Shines has dedicated program capacity for projects submitted by Approved Vendors who are also Equity Eligible Contractors**
 - **Opportunity for the advance of capital**
- **Project selection for community solar categories also includes consideration of using Equity Eligible Contractors as subcontractors**

Illinois Solar For All Carveouts

- **Residential Projects**

- 25% of funding for projects in Environmental Justice Communities
- 25% of funding for projects featuring Energy Sovereignty

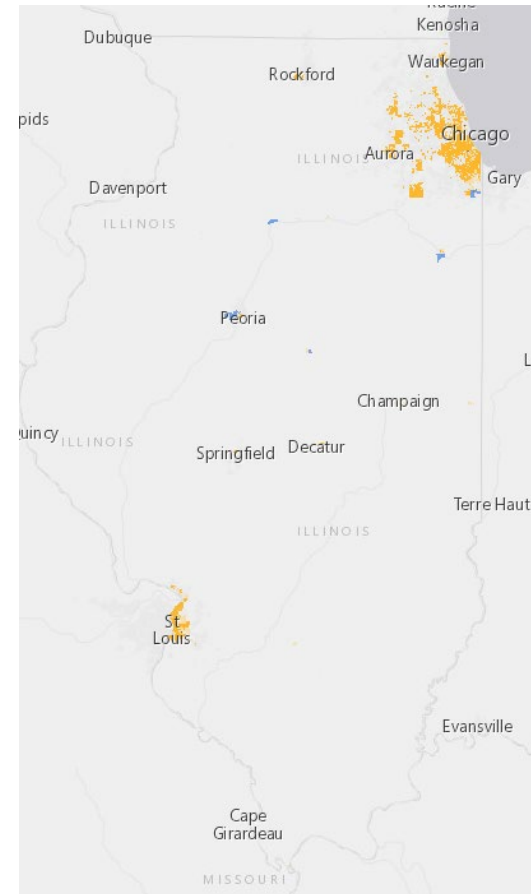
- **Low-Income Community Solar**

- 25% of funding for projects in Environmental Justice Communities
- 25% of funding for projects featuring Energy Sovereignty

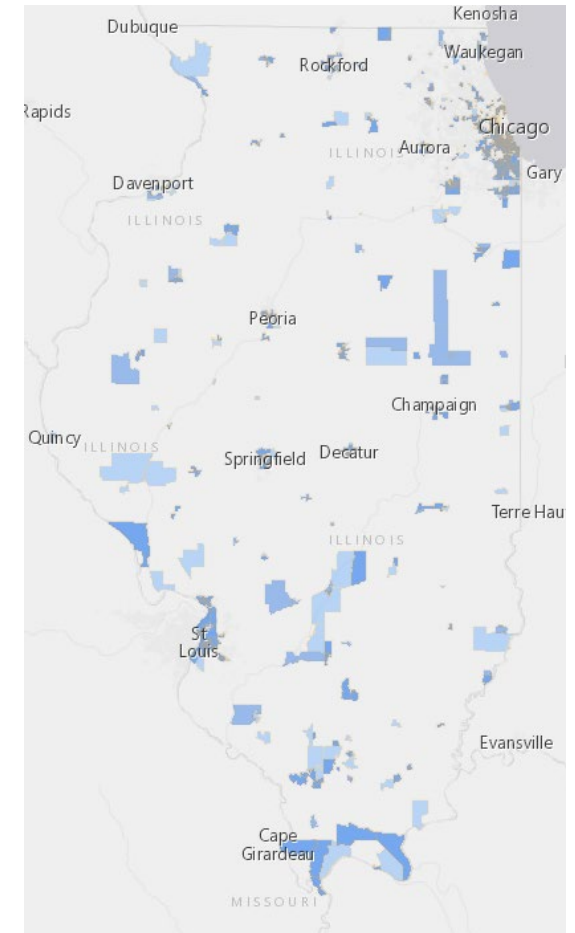
- **Non-Profit and Public Facilities**

- 25% of funding for projects in Environmental Justice Communities
- 25% of funding for projects featuring Energy Sovereignty
- Projects located in Environmental Justice or Low-Income Community

Environmental Justice Communities



Low-Income Communities



- **Prevailing Wages**

- **Utility-Scale projects and Illinois Shines projects (other than residential and projects serving houses of worship) required to pay prevailing wages.**
 - **Likely to expand to Illinois Solar for All (House Bill 3351, awaiting Governor's signature)**
- **Ensures good paying jobs**

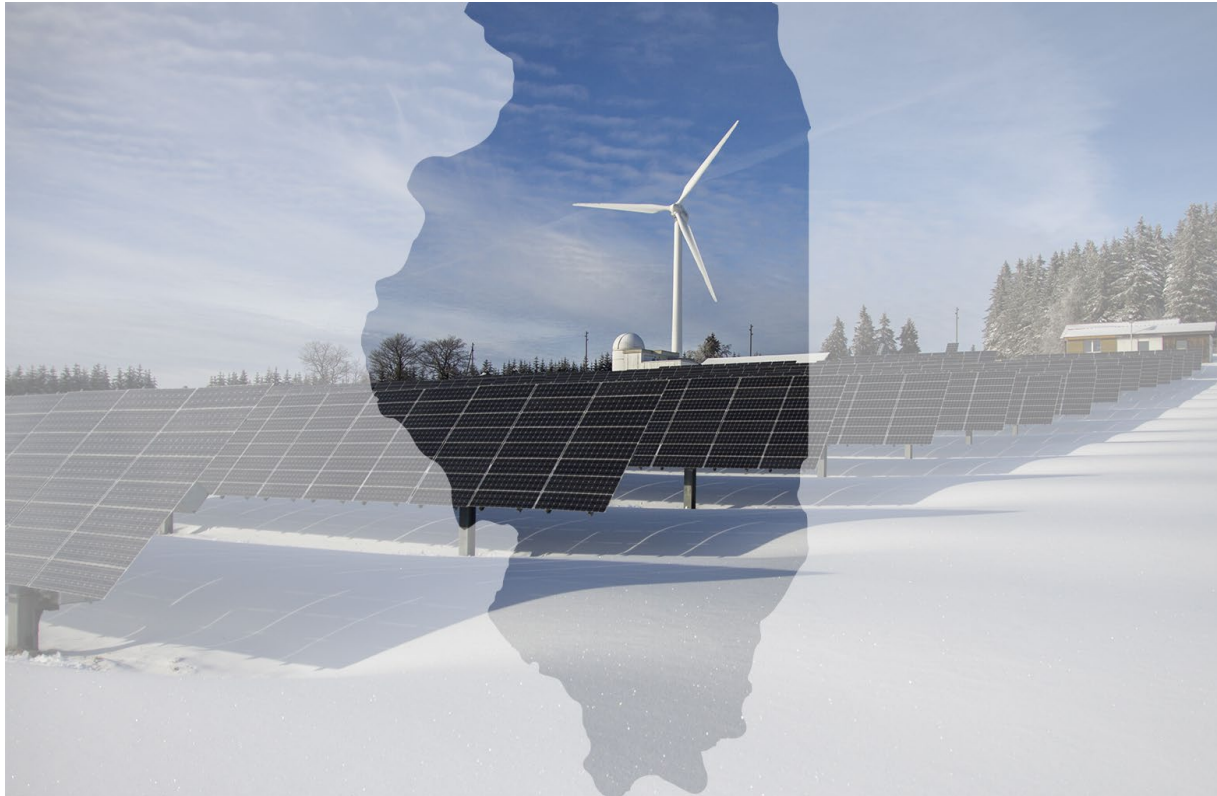
- **Project Labor Agreements**

- **Applicable to Utility-Scale Projects and projects participating in the Large-Customer Self-Direct Program**
- **Provides additional assurances for workers**



Economic Impacts of Historical Wind & Solar Projects

Economic Impact of Wind and Solar Energy in Illinois



David G. Loomis
Strategic Economic
Research, LLC



ILREC



**ILLINOIS RENEWABLE ENERGY
CONFERENCE**

September 20 + 21, 2023

Marriott Hotel & Conference Center
Bloomington-Normal, IL

Announced Speakers: Dr. David Loomis, Doug Scott, Anthony Star,
Hilary Scott-Ogurinde, Brian Granahan, Philip Dick, Matt Aldeman, Brian Cuffle,
Delmar Gillus, Dane Simpson, John Albers, Jacob Sitati, Beth Soholt.

<https://www.strategiceconomic.com/illinois-renewable-energy-conference>

Overview



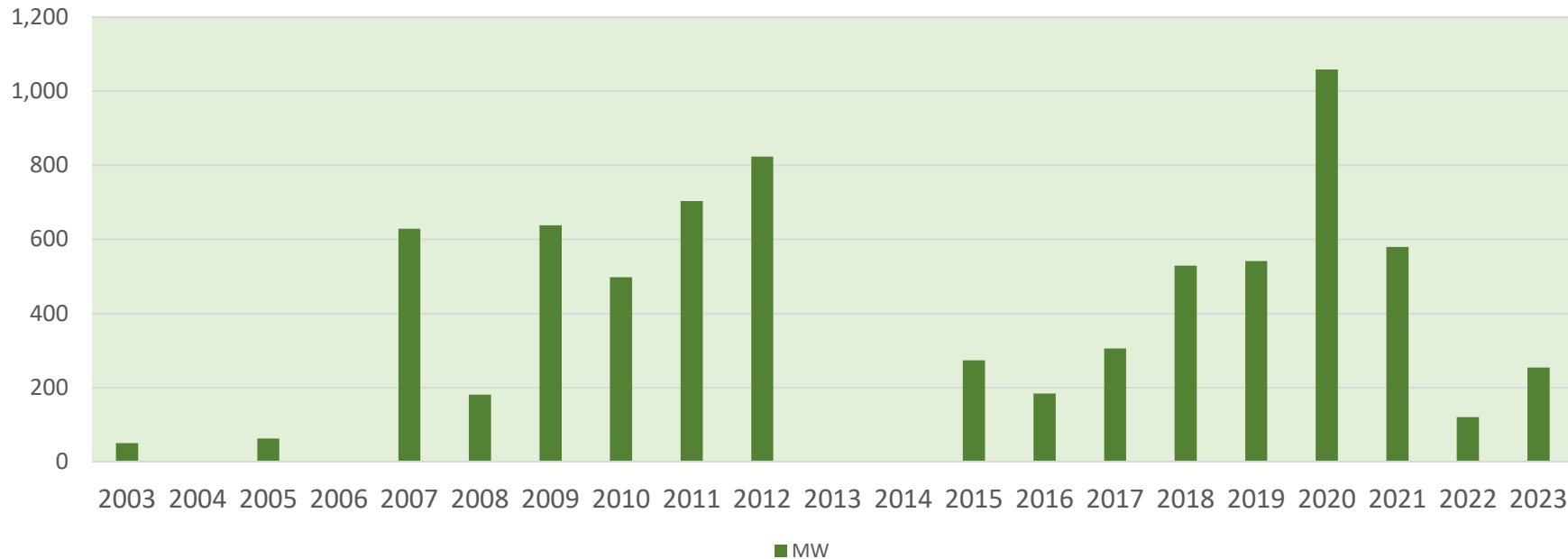
- Wind Industry Growth and Economic Impact
- Solar Energy Growth and Economic Impact
- Property Tax Analysis
- Conclusions

Illinois Wind Industry Growth



- Illinois is the fifth largest state for installed wind capacity behind Texas, Iowa, Oklahoma, and Kansas.
- There are more than 3,551 wind turbines operating in Illinois. There are more than 33 wind manufacturing facilities in the state.

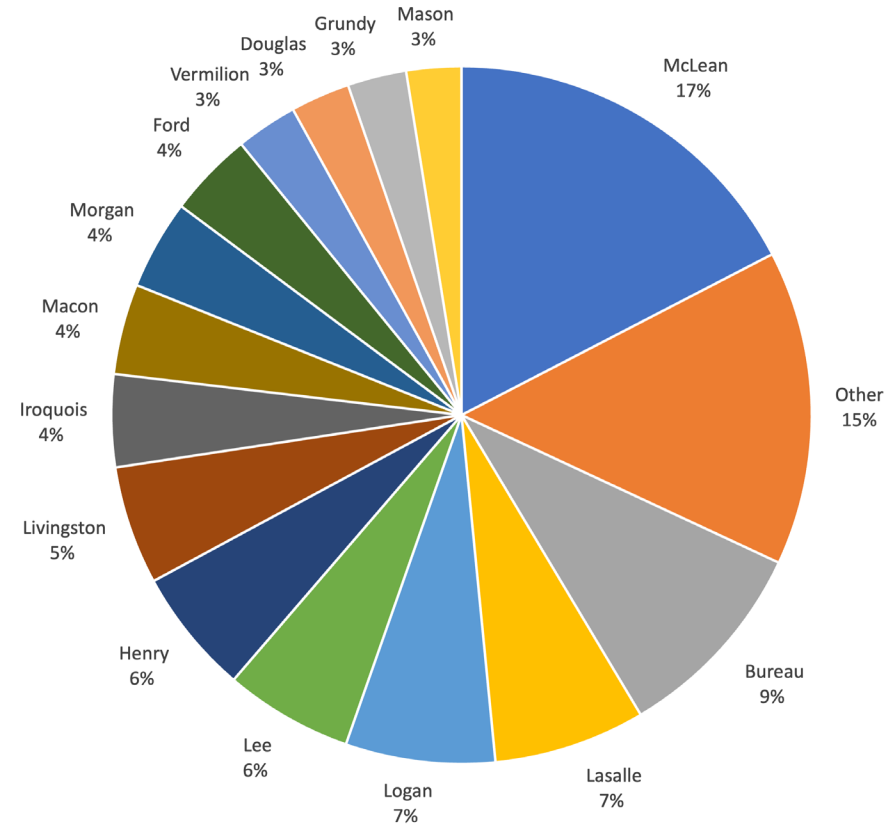
Annual Illinois Wind Capacity by Calendar Year



Illinois Wind Industry Growth

- 25 different counties in Illinois have utility-scale wind farms.
- 5 other counties coming (Piatt, Pike, Putnam, Knox, and DeWitt counties).
- McLean County has the most wind farm capacity with 1,256.9 MW or 17% of the total Illinois capacity.
- Bureau County has 9% and LaSalle and Logan Counties each have 7% of the installed wind farm capacity in Illinois.

Percentage Wind Capacity Installed by County in Illinois

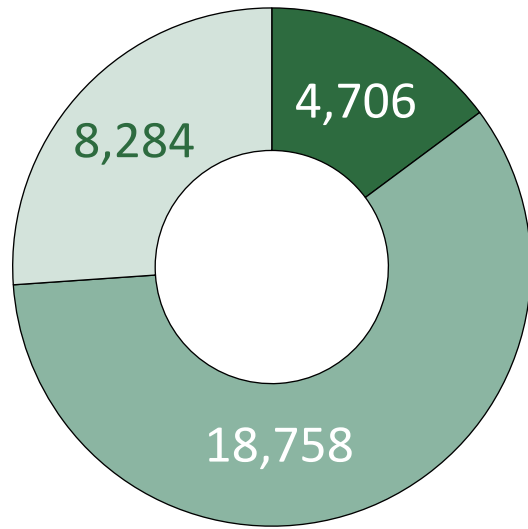


Source: America Clean Power, WindIQ Database

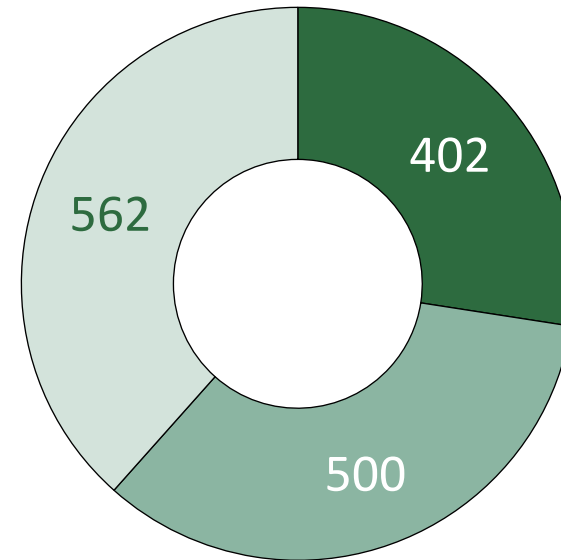
The 44 largest wind farms in Illinois:

- Created or supported 31,748 jobs during construction periods
- Created or supported approximately 1,464 jobs annually

Construction Jobs



O&M Jobs

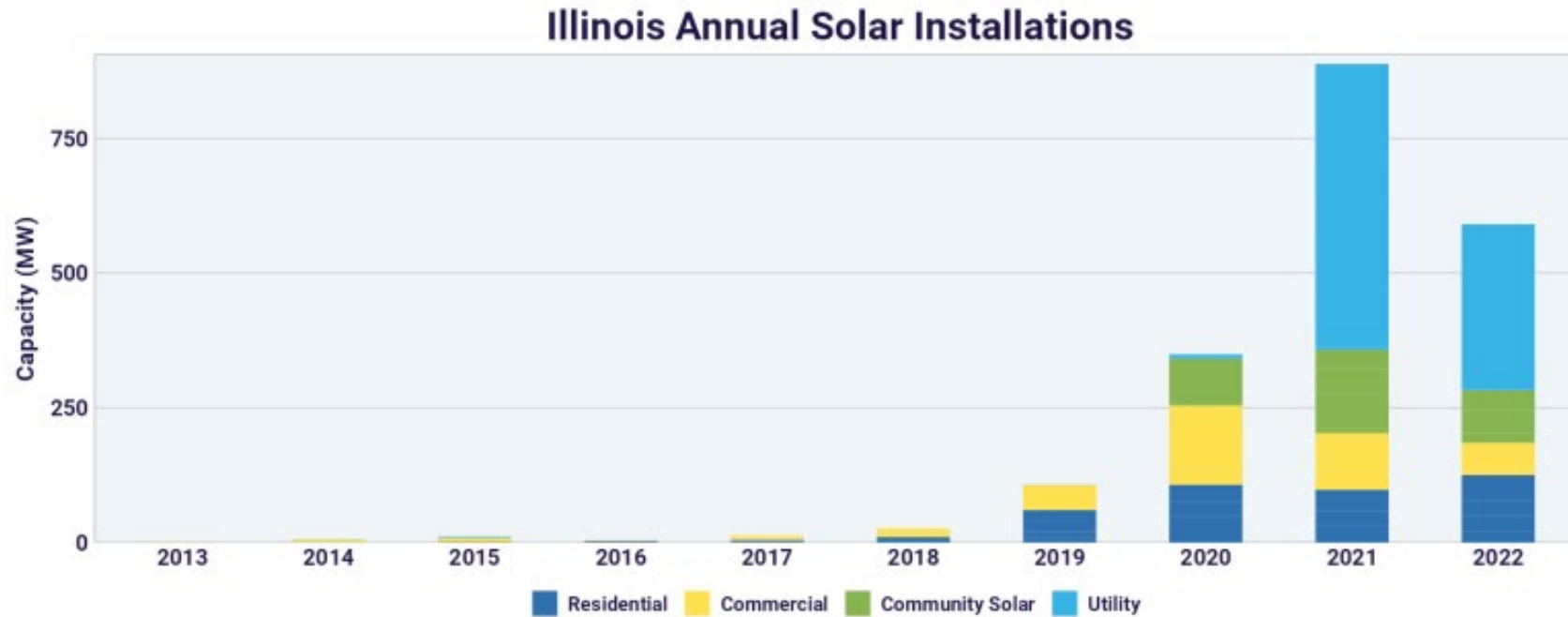


- Project dev. And onsite labor impacts
- Supply Chain Impacts
- Induced Impacts

Solar Industry Growth

Illinois Solar Industry Growth

According to the Solar Energy Industries Association (SEIA), Illinois is ranked 15th in the U.S. in cumulative installations of solar PV. This figure shows the historical installed capacity for Illinois by year according to SEIA.

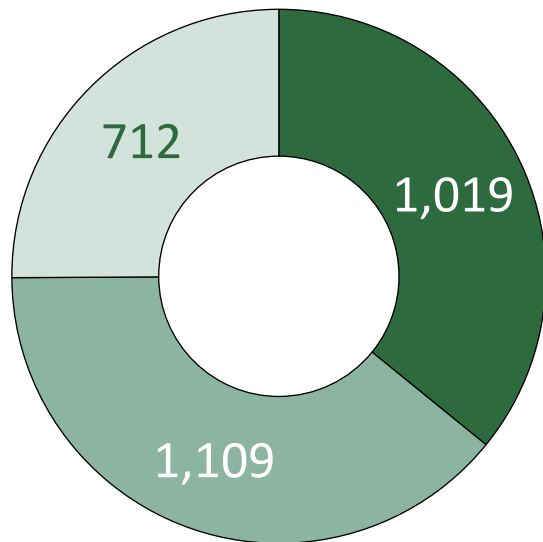


Source: Solar Energy Industries Association, Solar Spotlight: Illinois

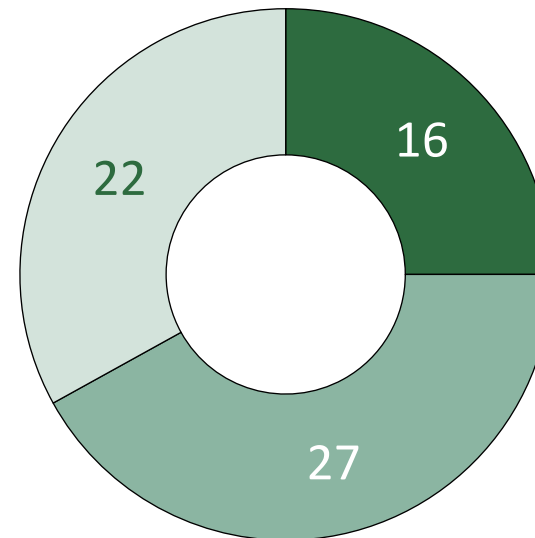
The 7 largest solar farms in Illinois:

- Created or supported 2,840 jobs during construction periods
- Created or supported approximately 65 jobs annually

Construction Jobs



O&M Jobs



- Project dev. And onsite labor impacts
- Supply Chain Impacts
- Induced Impacts

Property Tax Analysis

Wind and Solar Project Property Taxes



Based on our analysis of historical property tax records, in every county that has an existing utility-scale wind or solar project, we found that they paid:

Over **\$478M** in total since 2003

Over **\$59.1M** in 2022 alone

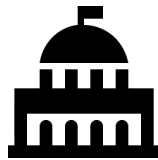
Over

\$302.6M



to school districts

\$60.4M



to county governments

\$29.8M



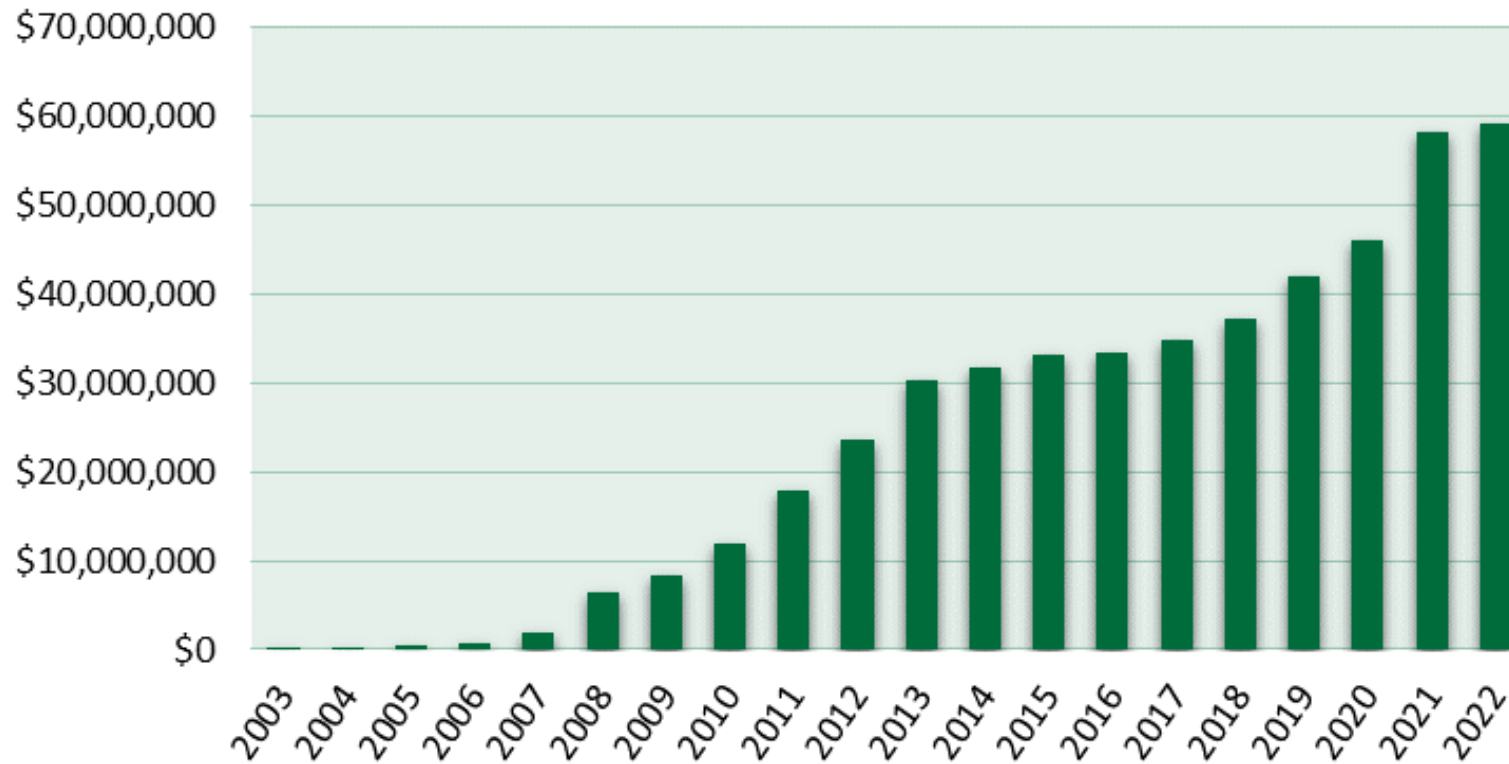
to community colleges

\$24.8M



to fire districts

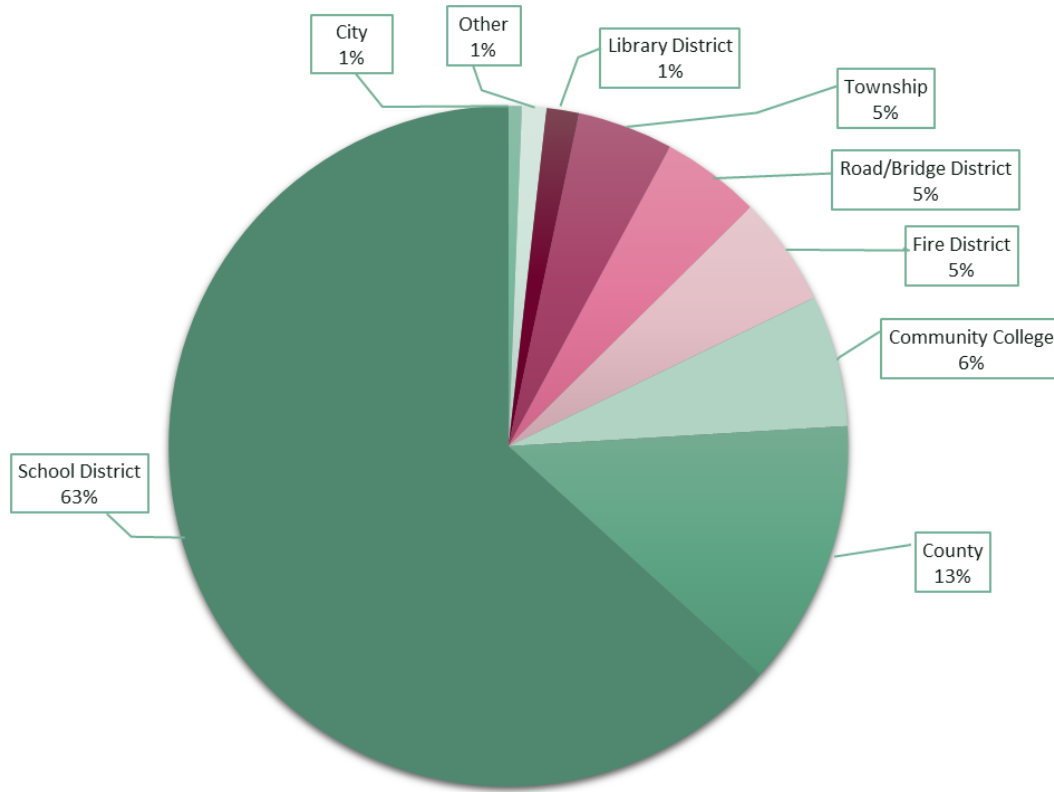
Total Illinois Tax Revenue by Year



Source: County Tax Records and Author's Calculations

Wind and Solar Project Property Taxes

Sum of Property Tax Revenue by Taxing Area

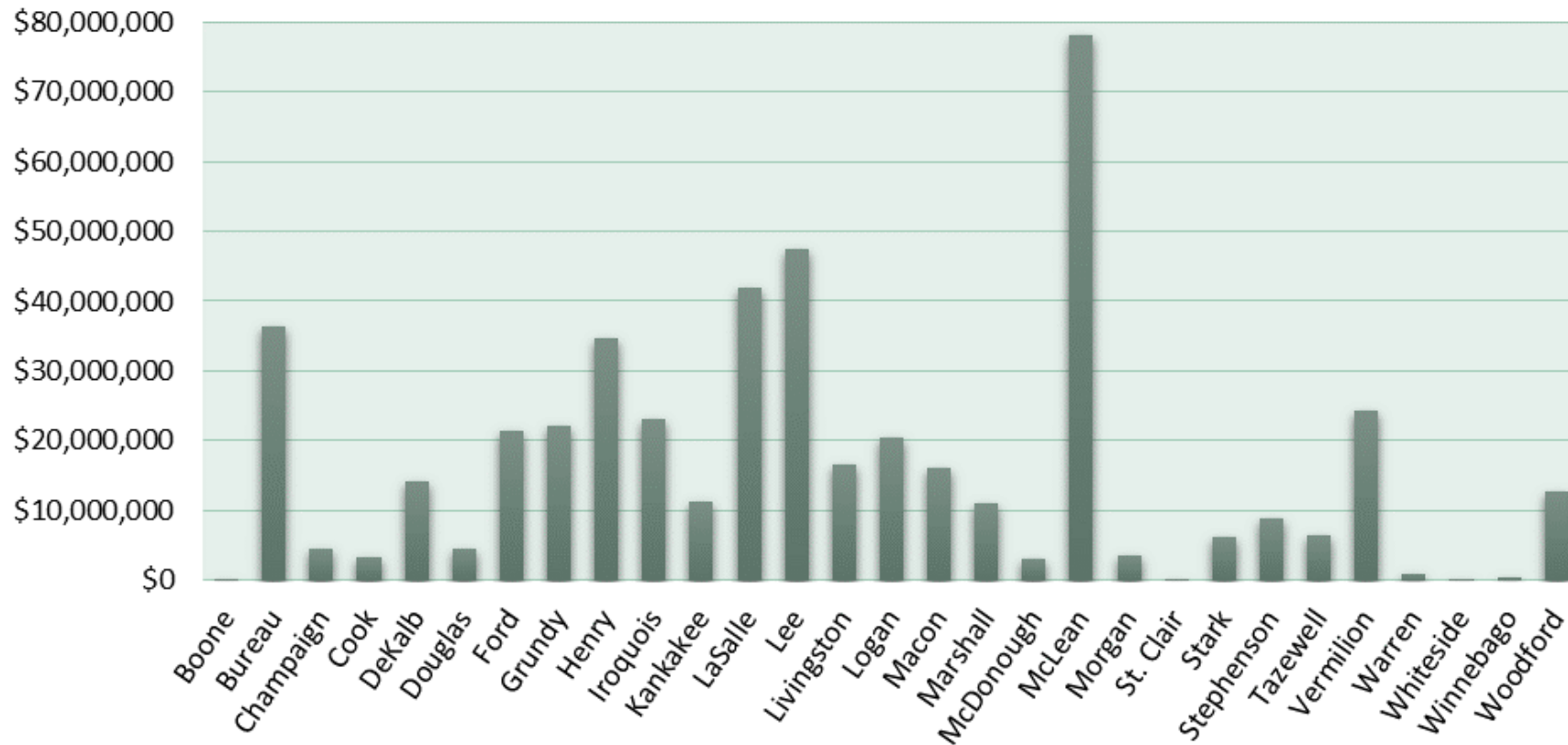


Jurisdiction	Revenue
School District	\$302,624,277
County	\$60,560,892
Community College	\$29,846,934
Fire District	\$24,882,456
Road/Bridge District	\$22,583,167
Township	\$21,783,135
Library District	\$7,339,200
Other	\$5,591,647
City	\$3,013,754

Source: County Tax Records and Author's Calculations

Wind and Solar Project Property Taxes

Tax Revenue by County from 2003 - 2022



Wind and Solar Project Property Taxes



Based on our analysis of historical property tax records in every county that has an existing utility-scale wind or solar project, we found that they paid:

- Over \$78.0 million in McLean County
- Over \$47.3 million in Lee County
- Over \$41.8 million in LaSalle County
- Over \$36.4 million in Bureau County
- Over \$34.7 million in Henry County

Wind and Solar Project Property Taxes



Based on our analysis of historical property tax records in every county that has an existing utility-scale wind or solar project, we found that they paid:

- Over \$23.4 million to CUSD #19 Ridgeview School District in McLean County
- \$10.0 million to CUSD #5 in McLean County
- \$9.8 million to CUSD #3 Tri Valley School District in McLean County
- \$9.3 million to Unit 6 School District in Woodford County
- \$9.2 million to Indian Creek CUSD 425 in DeKalb and Lee Counties

Wind and Solar Project Property Taxes



Top 10 Taxing Entities

	CUSD 19 RIDGEVIEW	CUSD 5 NORMAL	CUSD 3 TRI VALLEY	Unit 6	INDIAN CREEK CUSD 4253	GALVA SCHOOL UNIT #224	UNIT #124	McLean County	P-B-L School #10	MVK GRADE SCHOOL 2
County	McLean	McLean	McLean	Woodford	DeKalb/Lee	Henry	Iroquois	McLean	Ford	Grundy
2003										
2004										
2005										
2006										
2007	\$346,271		\$527,896					\$148,819		
2008	\$1,683,831		\$751,619					\$421,777		
2009	\$1,811,871		\$721,597					\$417,330		
2010	\$1,726,838		\$722,519					\$415,071		
2011	\$1,805,696	\$593,218	\$705,926		\$100,898			\$518,677		\$946,461
2012	\$1,683,561	\$945,525	\$699,628	\$80,905	\$111,071	\$409,874		\$569,616	\$939,521	\$784,706
2013	\$1,394,396	\$945,343	\$678,224	\$1,041,166	\$108,383	\$929,181	\$1,007,079	\$549,711	\$922,098	\$779,262
2014	\$1,353,598	\$921,476	\$654,978	\$1,014,586	\$1,268,191	\$900,899	\$976,565	\$529,341	\$907,872	\$761,503
2015	\$1,339,480	\$892,014	\$651,019	\$988,571	\$1,257,648	\$929,721	\$1,111,861	\$515,501	\$905,720	\$742,111
2016	\$1,276,161	\$846,639	\$613,678	\$944,038	\$1,173,691	\$885,457	\$1,107,900	\$490,584	\$919,115	\$741,490
2017	\$1,231,646	\$825,743	\$587,786	\$889,426	\$1,132,064	\$837,548	\$1,080,102	\$470,972	\$906,907	\$719,763
2018	\$1,173,546	\$855,834	\$558,366	\$885,720	\$1,068,067	\$824,324	\$998,133	\$457,108	\$849,184	\$675,479
2019	\$1,169,477	\$817,995	\$527,032	\$870,082	\$1,009,794	\$808,060	\$921,467	\$432,845	\$827,587	\$648,011
2020	\$1,603,956	\$830,136	\$497,721	\$882,049	\$961,864	\$808,912	\$889,953	\$698,076	\$777,586	\$616,813
2021	\$1,888,816	\$784,834	\$462,238	\$835,554	\$891,485	\$804,297	\$817,139	\$1,036,109	\$723,987	\$594,071
2022	\$1,913,963	\$778,719	\$447,799	\$864,434	\$70,437	\$781,772		\$1,044,993		\$588,286
Grand Total	\$23,403,106	\$10,037,474	\$9,808,023	\$9,296,530	\$9,153,593	\$8,920,045	\$8,910,199	\$8,716,531	\$8,679,575	\$8,597,957

Methodology Slides

Historical Impacts - Methodology

Historical impacts were found using detailed project costs from developers, the National Renewable Energy Laboratory's (NREL) JEDI model and the latest economic multipliers for the state.

The JEDI Model (Jobs and Economic Development Impact) is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output.



Property Taxes - Methodology

To collect the historical property taxes that existing utility-scale wind and solar energy projects have paid, we contacted each County Assessor's Office to retrieve a list of parcel identification numbers associated with wind or solar farms within their county. Once we got that information, we were able to look up the tax information through each county's property tax database. The information that was collected included the names of the taxing bodies paid to by that particular PIN, the tax rates for all of those taxing bodies, as well as the exact amount of taxes paid to each taxing entity. This data was collected for every year that the wind/solar farm was online and for every PIN associated with a wind or solar farm and totaled 302,615 tax records.



Case Study- City of Urbana's Landfill Community Solar Farm



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Brownfield to Brightfield

Scott R. Tess

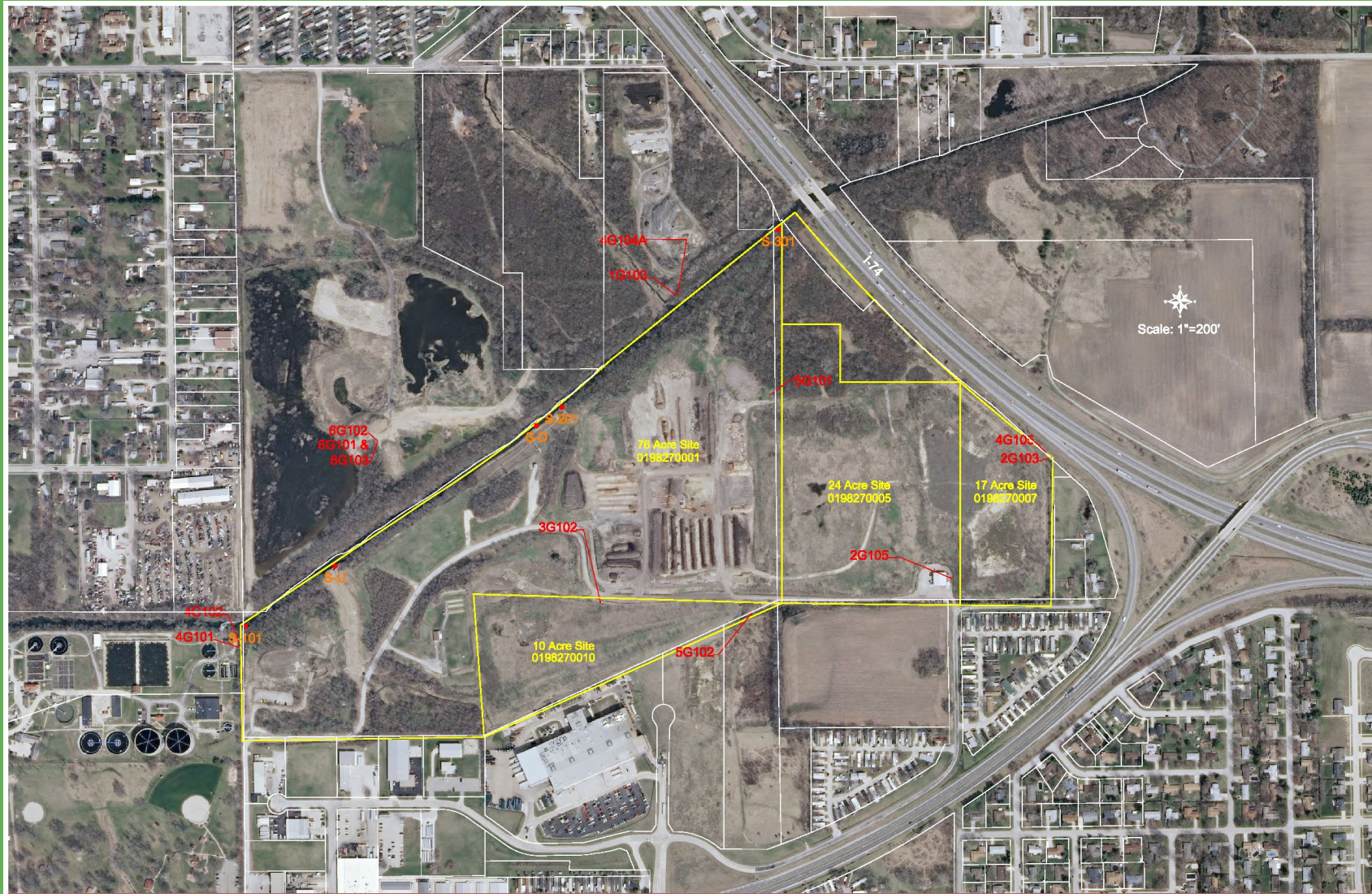
Sustainability & Resilience Officer

History

- City landfill from the 1920s to 1980s



Post Closure Uses



Post Closure Management



Future Energy Jobs Act

- June 1, 2017 Effective Date of Act



CITY OF URBANA, ILLINOIS

REQUEST FOR QUALIFICATIONS FOR A LANDFILL SOLAR DEVELOPER

RFP # 1718-08

ISSUED: August 28, 2017

**RESPONSES DUE AT THE CITY OF URBANA:
3:00 PM Central Time, September 7, 2017
City of Urbana, Illinois Public Works Department
706 Glover Avenue Urbana, IL 61802**



Procurement

- 2017 Qualifications based selection for a landfill solar developer
- Selected Sunpower, a global solar energy manufacturer and installer
- City entered into a lease option with Sunpower on December 17, 2018
- Lease option gave Sunpower the exclusive right to develop one or more solar arrays on 41 acres of Urbana landfill property for two years.



Incentive Award

- August 22, 2019 the City/Sunpower project was selected for two Low Income Community Solar incentives.
- The City/Sunpower converted the lease option into a long term lease of 20 acres pursuant to the terms of the lease option.



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5.2 Megawatts Combined



Electricity for 500 and 740 households



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Equivalent to 7,500 acres of Forests



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Benefits to Subscribers

Save up to 50% on annual electric supply costs* with Nexamp Community Solar.

This 50% savings opportunity, made possible by the Illinois Solar for All program, is available to qualifying Ameren electricity customers based on their annual income.

Benefits of Community Solar



Save up to 50% on annual electricity supply costs



No long term contracts or cancellation fees



No rooftop solar panels required



No credit checks



Stay with your current utility company



Support local clean energy



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Benefits to City

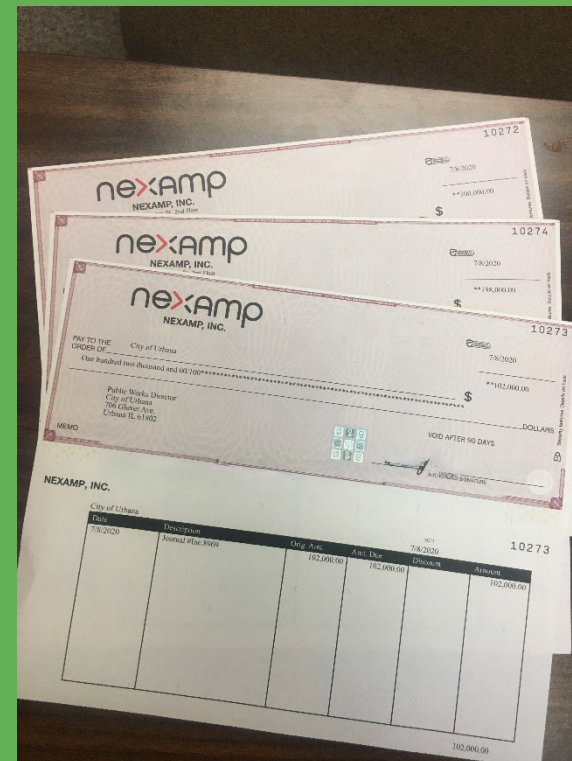
- Increase clean, renewable energy on the grid.
- Increase low-income access to renewable energy.
- Vegetation maintenance of a portion of the landfill provided by vendor.
- City will purchase a portion of electricity needs from the solar array.



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Benefits to City

- City received \$600k for 15 year lease.
- Property becomes taxable, paid by solar developer. \$33k per year.





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Thanks!

Scott R. Tess

Sustainability & Resilience Officer

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Q&A

Contact Us!



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