WILL COUNTY

2021

ENERGY & CONSERVATION PLAN

energy (n.)

1. a: dynamic quality
   b: the capacity of acting or being active
   c: a usually positive spiritual force
2. vigorous exertion of power
3. a fundamental entity of nature that is transferred between parts of a system in the production of physical change within the system and usually regarded as the capacity for doing work
4. usable power (such as heat or electricity)
   also: the resources for producing such power

conservation (n.)

1. a careful preservation and protection of something especially: planned management of a natural resource to prevent exploitation, destruction, or neglect
2. the preservation of a physical quantity during transformations or reactions

Merriam-Webster Dictionary, 2021

From Will County Executive, Jennifer Bertino-Tarrant

Dear Reader,

No single attribute truly captures the fullness of Will County. We are a community of agricultural lands and vibrant cities. We are a place of rich environmental resources, green open spaces, and major connections to the global distribution market through an intersection of roads, tracks and waterways. We are a population of health care and manufacturing workers, farmers and business owners, teachers and students, and many others. The government of Will County is proud to be part of such a great place and intends to serve it well.

The guiding principle of Will County government is to assist our residents and workers in a courteous, transparent and equitable manner. This includes serving as responsible stewards of our environment through purposeful land use planning, efficient resource recovery, and effective community development. These tenets ensure that the County can remain a productive place where all members of our community can thrive.

This 2021 Energy & Conservation Plan outlines the many ongoing and prospective initiatives that make strategic use of our energy, water, money, and natural and man-made resources. By pursuing these initiatives, we can limit waste, reduce environmental pollution, provide job opportunities, and improve our quality of life.

We all have a role to play in demonstrating "the **will**power to rethink, renew, reduce and recycle." With support from every member of this growing, diverse and hardworking community, we can make Will County an even better place to call home. We look forward to pursuing this goal with you.

Sincerely,

Jennifer Bertino-Tarrant
Will County Executive

ENERGY AND CONSERVATION PLAN

STAKEHOLDERS

Colin Duesing	Will County Land Use Department
Hugh O'Hara	Will County Governmental League
Doug Pryor	Will County Center for Economic Development
Mark Schneidewind	Will County Farmers Bureau
Cori Crawford	Forest Preserve District of Will County
Judy Ogalla	Will County Board
Mike Fricilone	Will County Board
Rachel Ventura	Will County Board
Allison Swisher	City of Joliet
Missey Schumacher	Village of Channahon
Mike Lopez	Valley View School District 365U
John Lerczak	Lewis University
Allessandra Kummelehne	Prairie State College
Maria Anna Rafac	Joliet Junior College
Janine Hicks	University of St. Francis
Edith Makra	Metropolitan Mayors Caucus
Anna Maria Kowalik	Illinois Energy Conservation Authority, NFP
Andy Rico	IBEW Local 176
Tony Janowski	Chicago Regional Council of Carpenters
Bob Spatz	Carbon Day Automotive
Michael English	Tradition Energy
Karl Shuh	Vanguard Energy Solutions
Samantha Bluemer	Siemens
Chris Kozak	Harbour Contractors
Tim Moritz	Resource Environmental Solutions, LLC
Meribeth Mermall	Commonwealth Edison Company
Philip Roy	Commonwealth Edison Company
Ed Krembuszewski	Commonwealth Edison Company
Sarah Noll	Commonwealth Edison Company
Cate York	Citizens Utility Board

JENNIFER BERTINO-TARRANT

Will County Executive

WILL COUNTY BOARD

DISTRICT 1
Sherry Newquist
Judy Ogalla

DISTRICT 2
Amanda Koch
Jim Moustis

DISTRICT 3
Raquel Mitchell
Margaret Tyson

DISTRICT 4
Kenneth Harris
Jacqueline Traynere

DISTRICT 5
Gretchen Fritz
Meta Mueller

DISTRICT 6
Don Gould
Joe VanDuyne

DISTRICT 7
Steve Balich
Mike Fricilone

DISTRICT 8
Herbert Brooks, Jr.
Denise Winfrey

DISTRICT 9
Annette Parker
Rachel Ventura

DISTRICT 10
Natalie Coleman
Tyler Marcum

DISTRICT 11
Julie Berkowicz
Mimi Cowan

DISTRICT 12
Frankie Pretzel
Tom Weigel

DISTRICT 13
Mica Freeman
Debbie Kraulidis

CONTENTS »

1 INTRODUCTION

WILL COUNTY PROJECT STAFF

DAVID DUBOIS
AICP, CECD - Land Use Department Director

DEAN OLSON
Resource Recovery & Energy Director

BRIANA MOORE
Energy & Conservation Specialist

CHRISTINA SNITKO
Energy & Conservation Specialist

MARTA KEANE
Recycling Program Specialist

JOAN O'KEEFE
Environmental Educator

SAMANTHA BLUEMER
Previous Energy & Conservation Specialist

MONIQUE CAUTY
Seasonal Intern

INTRODUCTION

In June 2012, the Will County Board passed the first-ever Energy Efficiency & Conservation Plan following the receipt of Energy Efficiency and Conservation Block Grant (EECBG) funds, which incepted Will County's efforts to reduce facility energy usage. Since then, Will County has made impactful capital improvements aligned with those objectives set forth in the 2012 Plan. Prior to the writing of this plan, Will County compiled the *5-Years of Energy Progress: A Review of the 2012 Energy Efficiency & Conservation Plan*, which highlights utility usage and cost reduction and advancements from June 2012 to December 2017. The 5-Year Review details the effectiveness and success of initiatives in facilities, outreach, education, policy, and discussion of potential future measures that add value to Will County through increased knowledge, streamlined operations, and monetary gain.

This 2021 Energy & Conservation Plan Update is designed to inform readers on Will County's progress on sustainability projects since 2012, as well as to guide County staff in maintaining progress and setting goals for the next several years. Taking after several strategies listed in the Greenest Region Compact (GRC2), this document discusses a broader span of initiatives from energy efficiency and renewable energy to water, transportation, and outreach. It additionally reflects emerging technologies, a changing building portfolio, heightened awareness of conservation, and increased efforts to share experiential learning with the Greater Will County Community. Although the topics included here do not encompass every aspect of sustainability, this 2021 Plan focuses on the initiatives Will County can control, guide, or endorse as a government entity with limited authority.

Will County wishes to remain action-oriented in the ideas and recommendations set forth in this Plan, which is written in a format not used previously. Reduced content and increased usability via data charts, community spotlights, goals, and key action items will make the 2021 Energy & Conservation Plan Update a tool for internal staff, leadership, residents, business leaders, and other stakeholders of Will County as we work together to achieve Plan goals.

EXECUTIVE SUMMARY

The 2021 Energy & Conservation Plan covers seven major sustainability topics within Will County:

- **Energy Generation**, which discusses the efforts the County has made to derive a greater share of electricity from renewable resources such as solar;
- **Energy Efficiency & Reduction**, which details Will County's progress on limiting energy waste in owned buildings and the initiatives taken to make this progress;
- **Energy Management**, which describes the systems used by the County to measure and track energy and water consumption in owned buildings;
- **Water Conservation**, which covers the impending water crisis in the region and details water conservation tools available to government staff, residents, students, and businesses;
- **Resource Recovery**, which includes the County-wide measures taken to encourage residents to reduce, reuse, and recycle;
- **Education & Outreach**, which covers the events, programs, and platforms through which County staff engage with and support members of the greater community in pursuing sustainable practices; and
- **Transportation**, which details some of the major projects undertaken by numerous organizations to build and maintain a safe, reliable, and sustainable network of transportation.

Will County has dedicated much time and effort to the projects discussed here, pursuing the ultimate goal of promoting environmental stewardship, resource responsibility, and community well-being.

Please find in the following pages a summary of the main achievements and future plans for the above topics, as well as an update on the focus areas covered in the 2012 Energy Efficiency & Conservation Plan.

SUMMARY OF ACHIEVEMENTS AND FUTURE PLANS

ENERGY GENERATION

ACHIEVEMENTS

» Achieved **SolSmart Bronze and Gold designation** in 2017 and purchased **Renewable Energy Certificates** (RECs)

» Hosted a number of **Solarize Chicagoland** seminars and encouraged residents to use solar power

» Opened a **Gas-to-Energy facility** and made plans to open an **RNG plant**

» Looked into the potential implementation of **solar and other renewable energy sources** in County-owned facilities through the STRAND study and others

FUTURE PLANS

» Preserve and expand clean and renewable energy generation in Will County and encourage alternative energy systems for commercial, governmental, and institutional sectors

» Purchase green energy and allow Will County residents to "opt in" to purchase green energy from renewables

» Inform the Will County community on local and national energy policy changes

ENERGY EFFICIENCY & REDUCTION

ACHIEVEMENTS

» **Reduced energy consumption** in County-owned buildings by 11%

» Adopted **greener zoning and construction codes**

» Opened the County's **first LEED-certified building**

» Launched the **C-PACE program** in the County

» Participated in several **energy efficiency projects** and programs from ComEd, Enel-X, Better Buildings Challenge, and more

FUTURE PLANS

» Reduce energy consumption in County-owned buildings by 20%

» Pursue energy efficiency and reduction programs and projects when feasible

» Encourage and support Will County residents, businesses, and municipalities pursuing energy efficiency

ENERGY MANAGEMENT

ACHIEVEMENTS

» Continued operating buildings on **BAS**

» Benchmarked energy and water use on **Energy Star Portfolio Manager**

» Investigated the use of **submeters** and **EMIS/FDD systems** to improve management practices

FUTURE PLANS

» Determine and implement energy management tools that best suit the County's needs

» Attain Energy Star certification for one or more County-owned buildings

» Recommend more energy management policies and procedures in Will County buildings

» Continue securing competitive energy prices through energy procurement

» Share information with the community on opportunities to track and reduce energy use

WATER CONSERVATION

ACHIEVEMENTS

» Became a **WaterSense partner**

» Subsidized water refill station installments in the community through the **Water Refill Station Grant program**

» Hosted **water conservation events** and shared other **water-related content through electronic media**, helping to educate about the region's water crisis

» Encouraged use of available **water conservation tools** such as rain barrels and bioswales

» Offered year-round **Medication Take-Back program** through nearly two dozen locations to protect water and prevent medication misuse

FUTURE PLANS

» Educate the Will County community on local and global water issues and solutions

» Promote water conservation in commercial, residential, industrial, and agricultural sectors

» Strengthen partnerships among local water groups and municipalities

» Leverage Will County's WaterSense partnership

» Continue pursuing water conservation measures within County buildings

» Support other water initiatives in the community

RESOURCE RECOVERY

ACHIEVEMENTS

» Continued and enhanced **recycling programs**, diverting over 40% of waste from the landfill

» Promoted and supported composting by offering **standard composting and vermicomposting bins**, hosting **pumpkin collection events,** and educating with community gardens and presentations

» Prevented hazardous materials from entering the landfill and recycled items such as computers and motor oil through one-day **HHW and Electronics collection events** and year-round drop-off locations

FUTURE PLANS

» Reduce the volume of waste generated in Will County

» Encourage reuse and recycling in Will County through events and programs

» Promote the circular economy

» Create new systems of recovering resources

» Communicate regularly with other organizations on creating a more circular economy

TRANSPORTATION

ACHIEVEMENTS

» Within the Will County Division of Transportation (WCDOT), maintained roads and fleet of vehicles for efficiency, as well as incorporating sustainable design in road planning and upkeep

» Provided more infrastructure, such as **electric vehicle charging stations** and **public bike parking**, to encourage alternative fuel and active transportation use

» Worked with other agencies to identify and address gaps in the greater transportation network

FUTURE PLANS

» Encourage electrification of transportation

» Collaborate with utilities, advocacy groups, and other organizations to create a cleaner, safer transportation network

» Investigate converting a greater percentage of Will County's fleet to CNG or EV

» Encourage greater use of alternative modes of transportation

EDUCATION & OUTREACH

ACHIEVEMENTS

» Presented environmental education to over 10,000 students per year with **live and e-learning programs**

» Reached over 40,000 people per year with **website and social media programs**

» Hosted and supported several **educational events**, including **GreenTown** and **energy and water conservation events**, across the County

» Created and continued to support **community gardens** to address food needs and drainage issues

» Provided reliable tips, event notices, and examples of neighbors and businesses adopting green behaviors through **electronic newsletters to thousands annually**

FUTURE PLANS

» Recruit ten new schools per year as part of the Earth Kids' education program

» Organize an Adult Environmental Education program

» Host voluntary county-wide "Restore Our Earth Days"

» Partner with municipalities and other groups to host water conservation sessions

» Bolster the Green Business Star Recognition Program

» Update the Will County Green website to reach 10,000 more residents annually

» Build on the success of Will County Green's Facebook following by growing users on other social media platforms

See Appendix A: Additional Resources starting on page 90 for links to these programs.

UPDATES TO THE 2012 PLAN

The 2012 Energy Efficiency and Conservation Plan set strategic goals in seven focus areas: Public Facilities, Transportation, Material Management, Water Systems, Land Use, Education and Communication, and Community Garden Properties. With cooperation from departments and districts of all kinds, Will County made progress on each front.

PUBLIC FACILITIES

2012 Public Facilities goals included the following:

» Reduce energy consumption by 20% by 2020 from County facilities through demand reduction and building retrofits;

» Apply sustainable building standards (e.g. LEED certification) for new County buildings; and

» Increase use of renewable energy whenever feasible.

Overall, via several programs including **demand response** and **building retrofits**, Will County **reduced energy consumption in our facilities by 11%** since 2009. Although this falls short of the original 20% goal, the County will continue pushing forward to reduce energy consumption as much as is feasible.

Additionally, the opening of the **new Will County Courthouse** in 2020 marks the first construction of a County-owned **LEED-certified** property.

Finally, as discussed in the *Energy Generation* chapter of this plan, over **3,400 alternative energy system permits** have been issued since 2012 in incorporated and unincorporated commercial and residential locations in the County. Renewable energy capacity has expanded and is anticipated to continue expanding as long as favorable policies and funding opportunities remain in place.

TRANSPORTATION

2012 Transportation goals included the following:

» Increase use of and improve infrastructure for public transit;

» Reduce vehicle miles traveled for employee commuting; and

» Implement programs to encourage the community to reduce vehicle miles traveled.

The County has **adopted building and subdivision codes** and **changed local infrastructure** (e.g. by providing electric vehicle charging stations and bicycle parking in public spaces) to promote and accommodate active transportation and alternate fuel infrastructure. Through educational efforts, Will County encourages staff and the community to **take alternative modes of transportation** to reduce vehicle miles traveled. Will County has also **worked with other agencies to maximize connectivity and mobility** across different modes of transport.

MATERIAL MANAGEMENT

2012 Material Management goals included the following:

» Reduce solid waste generated and disposed of in the County landfill;

» Divert 60% of waste generated from the County's landfill;

» Promote recycling in County government and among County residents and businesses;

» Continue a landfill gas recovery system at County landfill to reduce pollutants; and

» Add additional renewable energy whenever feasible.

The County set a **landfill waste diversion goal of 55%** in its Solid Waste Plan Update in 2016. The County also achieved a 43% diversion rate, but due to international markets collapsing for many recyclables, and a high contamination rate, the diversion rate has fallen by at least 5% in recent years. To reverse this trend, the past few years, the County has made a **concerted effort to promote the Do's & Don'ts of what is recyclable** through its willcountygreen.com website, at various events and through all types of media. **Landfill gas is still recovered** to reduce pollutants, and adding solar power to the County landfill has been investigated but not yet implemented.

WATER SYSTEMS

2012 Water Systems goals included the following:

» Reduce water consumption in County facilities;

» Work with municipalities to reduce energy use for water production and distribution; and

» Support responsible water use by residents and businesses.

When the City of Joliet became a WaterSense partner in the summer of 2020 and adopted an ordinance to require installation of WaterSense fixtures for new construction buildings, Will County followed their pursuit and **became a WaterSense Partner** in November 2020. By becoming a WaterSense partner, Will County is committed to promoting WaterSense products to residents, and encouraging residents to reduce their water consumption throughout the county.

Will County has also promoted responsible water use by educating residents and businesses through **informational e-newsletters and events** including the **Water Conservation is a Grand Slam** event in 2019.

LAND USE

2012 Land Use goals included the following:

» Develop land use policies that support sustainable growth; and

» Support sustainable development projects and "green" construction.

Will County **adopted a greener zoning ordinance** in 2012 and a **Green Construction Code** in 2014 to ease the implementation of sustainable initiatives around the County. Such initiatives allow and encourage renewable technology installation, incorporate LEED performance standards for neighborhood development, and more.

EDUCATION AND COMMUNICATION

2012 Education and Communication goals included the following:

» Incorporate energy efficiency and conservation into outreach efforts; and

» Encourage employees to reduce energy consumption.

Educational efforts have grown to include new and anticipated waste streams and stretched beyond waste to include topics such as energy and water conservation. **Electronic newsletters and social media posts** included energy- and water-related fun facts and best practices, and events such as the **Energy Summit for Schools** in 2015 informed the community.

Additionally, Will County has encouraged staff to **power down devices** when they are not in use. This includes putting into sleep mode or shutting down computers and printers, as well as turning off lights when no occupants are present in the room.

COMMUNITY GARDEN PROPERTIES

Finally, 2012 Community Garden Properties goals included the following:

» Encourage creating community gardens on "unbuildable" properties;

» Provide education to the public on community gardens' benefits and locations; and

» Encourage development of "farmettes" through adaptable zoning and education.

Will County continues to educate residents and students on community garden benefits through the **We WILL Grow School and Community Garden Program**. To date, 30 gardens have been created by the program, including pantry gardens, group home gardens, backyard garden beds, care facility beds, and school gardens. Some of these gardens provide produce for local pantries.

2 ENERGY GENERATION

Contents »

Goals »

1. Preserve and expand clean and renewable energy generation in Will County and encourage alternative energy systems for commercial, governmental and institutional sectors
2. Purchase green energy and allow County residents to "opt in" to purchase green energy from renewable sources
3. Inform the Will County community on local and national energy policy changes

Will County is home to many different modes of energy generation, including coal and oil, natural gas, nuclear, and a host of renewables like solar and geothermal.

The Future Energy Jobs Act of 2016 (FEJA) enhanced the state of Illinois' existing goal to generate 25% of its energy from renewable sources by 2025 by refocusing the goal on procuring renewable energy credits (RECs) first from new generators located in Illinois. With this legislation in place, this increased the solar capacity and potential, as well as other renewable energy sources such as wind and geothermal. Considering the reasonable cost to purchase solar panels, the available trained local labor, the tax credits, and the renewable incentives offered by the state for at least 15 years according to FEJA, it is anticipated that solar will be by far the largest renewable energy used in Will County. Solar deployment is therefore the primary focus of energy generation in the County. Clean nuclear energy accounts for over 50% of the energy generated in Illinois, and over 70% of the energy generated in northern Illinois. Renewable natural gas (RNG), gas-to-energy systems, wind and geothermal energy, and other sources highlighted in this section also play important roles in the County's energy sector.

25%

GOAL FOR THE SHARE OF ENERGY PRODUCTION IN ILLINOIS FROM RENEWABLES BY 2025 AS SET BY RENEWABLE PORTFOLIO STANDARD

>70%

SHARE OF ENERGY IN NORTHERN ILLINOIS GENERATED BY NUCLEAR PLANTS

ENERGY GENERATION RESOURCES

CLEAN AND RENEWABLE ENERGY IN WILL COUNTY

In 2007, Illinois' Renewable Portfolio Standard set the goal for 25% of energy production in the state to come from renewable sources by 2025. Increasing renewable energy deployment in Will County can help the state achieve this goal, keep the County competitive in the energy sector, and reduce the environmental impact of energy production.

While the County has investigated renewables such as solar and renewable natural gas (RNG) into the governmental energy portfolio, it also commends local residents, businesses, and other institutions that have taken the initiative to pursue renewable energy sources in the community. Implementing renewables and encouraging others to do the same remains a top priority.

The following are different energy resources under consideration or already underway in Will County.

NUCLEAR ENERGY

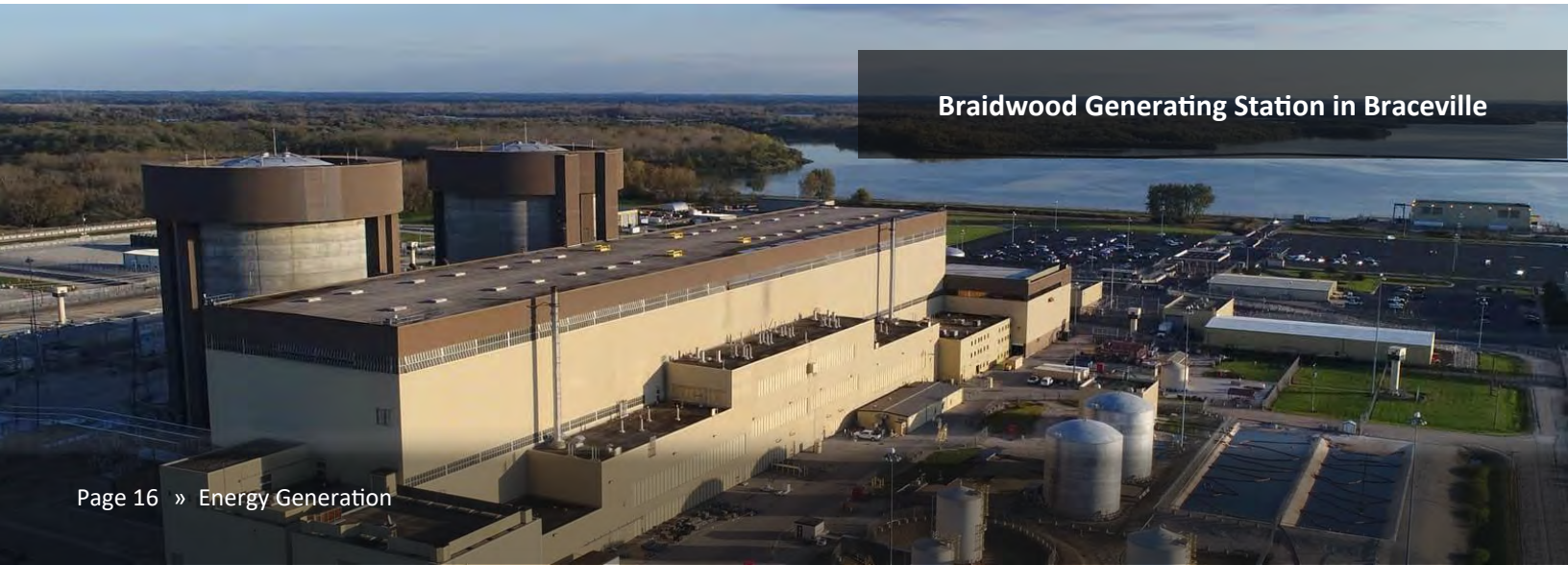
Nuclear energy involves performing nuclear fission (the splitting of atoms) to generate carbon-free electricity and heat. According to the USEIA, Illinois has six nuclear power generating stations, the largest number of nuclear power plants in the nation; it also generates more electricity from nuclear energy than any other state. The Illinois-based stations, all owned by Exelon Corporation, house eleven reactors and generate half of the state's energy.

One of those power generating stations is Will County's 2,337-MW Braidwood Generating Station. First opened in Braceville in 1988, its two nuclear reactors **supply energy for 2,000,000 homes**. Although its operating license is set to expire in 2046, Exelon reported that the Braidwood Station is at risk of closure and will require more funding from the state to remain financially competitive. Depending on lawmakers' decision to fund or withhold funding from the plant, the share of energy supplied by nuclear processes could change. Federal action to establish facilities for long-term storage or disposal of waste generated from nuclear plants should also be completed to secure safe, permanent disposal of spent fuel.

Given the hundreds of jobs and millions of dollars in economic benefits offered by the plant, as well as the significant role nuclear energy currently plays as both a gateway to renewables and a major contributor to Illinois' clean energy goals, Will County is interested in supporting policies that keep local nuclear energy generation safe and viable.

SOLAR ENERGY AND POLICIES

Solar energy harnesses the power of the sun using solar panels. Similar to nuclear, solar power's viability depends in part on



Braidwood Generating Station in Braceville

Table 1: STRAND Solar Study Energy Summary

Location	Estimated System Size (kW DC)	Estimated System Size (kW AC)	Estimated System Size (Output Amps AC)	Estimated kWh/kWp	Estimated Annual Energy Production (MWh)	2018-2019 Annual Energy Usage (MWh)	Estimated Energy Usage Offset
Adult Detention Facility	621.1	501	600	1365	847,573.00	5,226,270	16.20%
River Valley Justice Center Agricultural Parcel	1750	1400	1680	1400	2,447.20	2,274.10	107.60%
River Valley Justice Center (Roof Only)	272.3	220.6	264	1113	303.2	2,274.10	13.30%
Sunny Hill Nursing Home of Will County	441.6	366.3	440	1363	602	1,697.70	35.50%
Public Safety Complex	328	267.2	320	1357	445.2	975.7	45.60%
SWAT Building	35.8	28.8	80	1366	48.9	975.7	5.00%
Department of Transportation Joliet Campus (Maintenance)	104.6	86.4	240	1331	139.30	130.3	106.90%
Department of Transportation Joliet Campus (Admin and Ground)	97.7	86.4	240	1407	137.40	130.3	105.50%
Department of Transportation Crest Hill Campus)	103.7	87.1	240	1312	136	134.3	101.20%

Table 2: STRAND Solar Study Economic Summary

Location	Estimated Construction Cost ($/Wdc)	Estimated Construction Cost	Estimated Annual Offset Energy Cost (First Year)	Estimated Annual Maintenance Cost	Estimated ComEd Rebate Value ($250/kW DC)	Estimated SREC Value (15 years)	Total Incentives	Estimated Cost Recovery (Years)	Net Cash Gained (20 Years)
Adult Detention Facility	$2.00	$1,242,200.00	$38,629.00	$3,750.00	$155,275.00	$584,105.00	$749,380.00	13	$509,043.00
River Valley Justice Center Agricultural Parcel	$1.90	$3,325,000.00	$108,505.00	$10,500.00	$437,500.00	$1,575,522.00	$2,023,022.00	13	$1,457,947.00
River Valley Justice Center (Roof Only)	$2.50	$680,750.00	$13,443.00	$2,200.00	$68,075.00	$208,238.00	$280,725.00	23	-$69,225.00
Sunny Hill Nursing Home of Will County	$2.00	$883,200.00	$26,718.00	$2,750.00	$110,400.00	$415,148.00	$532,874.00	14	$340,944.00
Public Safety Complex	$2.25	$738,000.00	$31,823.00	$1,200.00	$82,000.00	$306,764.00	$394,108.00	11	$491,729.00
SWAT Building	$2.25	$80,550.00	$3,508.00	$300.00	$8,950.00	$33,632.00	$43,158.00	11	$51,314.00
Department of Transportation Joliet Campus (Maintenance)	$2.25	$235,350.00	$11,505.00	$900.00	$26,150.00	$131,415.00	$159,293.00	8	$220,378.00
Department of Transportation Joliet Campus (Admin and Ground)	$2.30	$224,710.00	$11,351.00	$900.00	$24,425.00	$129,525.00	$155,678.00	7	$223,137.00
Department of Transportation Crest Hill Campus)	$2.50	$259,250.00	$8,267.00	$900.00	$25,925.00	$127,629.00	$155,296.00	13	$109,339.00

local, statewide, and national policies surrounding its development.

In some cases, Will County has power to create more favorable conditions for solar development. For example, the County first became SolSmart Bronze designated in the summer of 2017, and then not long after that, SolSmart Gold designated. By becoming the very first SolSmart designee in the state of Illinois, Will County encourages residents, business owners, municipalities and educational institutions to pursue solar for their own buildings, as well as make the permitting process for residential areas a much easier process.

In other cases, policies depend solely on other parties. For example, FEJA enabled the creation of the Illinois Solar for All program, which provides incentives to make solar more affordable for low-income families and communities. The Federal Residential Solar Investment Tax Credit is another funding source which, as of January 2021, covers 26% of qualified solar project expenditures, though it is set to fall to 22% in 2023 and expire altogether in 2024. The Illinois Power Agency's Adjustable Block Program also makes it possible for people to access incentives for solar and other renewable energy projects, though the program is so popular that applications at this time are being put on a waitlist. When options for financing are available for residents and commercial parties, cost barriers to implementing solar are lowered, and solar projects are more likely to come online. While Will County itself pursues solar energy and encourages others to do the same, it is understood that favorable policies play a role in the feasibility of such projects.

WILL COUNTY PERFORMS STRAND SOLAR STUDY FOR COUNTY BUILDINGS

In early 2019, the Resource Recovery and Energy Division (RR&E) wanted to determine what County buildings would be feasible for solar array installation. The study, conducted by engineering consultants at STRAND Associates, explored the potential size, cost, and payback rate of the system. Based on the size of the solar array system and the energy use of the buildings, seven properties were selected for the study, and evaluations were completed by the fall of 2019. Based on the findings (see Tables 1 and 2 above), a couple of buildings would generate thousands of megawatts of energy, and a few would even offset their energy use. However, due to the high cost of funding this potential project and the effects of the COVID-19 pandemic, Will County cannot move forward with the installation of solar on these properties at this time. However, now that Will County knows the potential that some buildings have, the County can look into the future for solar on these buildings. RR&E intends to revisit this study and consider moving forward with the program when feasible.

SOLARIZE CHICAGOLAND

Solarize Chicagoland is an educational solar program and residential solar program group buy created by the Midwest Renewable Energy Association (MREA) and Citizens Utility Board (CUB). The program makes solar power more affordable and accessible by helping residents combine their demand and secure lower costs.

Representatives from MREA, CUB, and Cook, DuPage, Kane, and Will counties launched the group buy with a series of free informational "Solar Power Hours" for residents in Chicagoland. They also voted on an installer based on a list of criteria that were either met or not met

21

MW CAPACITY OF RESIDENTIAL AND COMMERCIAL SOLAR NET METERING IN WILL COUNTY BY NOVEMBER 2020

2,962,653

POUNDS OF CO_2 EMISSIONS AVOIDED IN PARTICIPATING COUNTIES SINCE 2019 THROUGH SOLARIZE CHICAGOLAND

ENERGY GENERATION RESOURCES

by the Request for Proposal. In its pilot year, 2019, the program received commitments to install **nearly 1,000 kW of solar from 135 contracts**, including eight contracts from residents in Will County. This led to an **estimated $98,300 saved** on electricity bills for participants collectively in the first year alone. The success of the program in 2019 led to its continuation in 2020. Despite converting Solar Power Hours into virtual events to accommodate for the COVID pandemic, the 2020 Solarize Chicagoland program still installed over **580 kW of solar on 80 properties**. Participants **expect to save $79,000** on electric bills in the coming year. See the spotlight below.

FREE SOLAR TOOLS AND OTHER SOLAR OPTIONS

For residents and businesses looking into building their own solar array system, it is important to compare rates from different installers, know about the incentives offered, and move forward with the system that feels right for them. Fortunately, a handful of free tools are available for residents and businesses to see the benefits and costs of solar. A guide on solar energy, accessed through any ComEd customer's account, breaks down different types of solar programs out there, as well as an explanation on the rebates and incentives the customer is are eligible for, the estimated cost of their solar system, and how long the pay-back will take. Customers can also access ComEd's free solar calculator to view the orientations of their homes and the amount of sunlight hitting their roofs. Additionally, Google's Project Sunroof allows users to compare with other solar calculators, incentives and rate for pay-back for their homes. The Citizens Utility Board website also has a wealth of useful information on solar.

For residents and businesses that want to purchase solar electricity generated on their properties without paying for and maintaining the panels, another option lies in Solar Power Purchase Agreements (SPPAs). Under SPPAs, developers own and maintain solar panels on a customer's property, so that customers receive solar power and developers receive financial benefits of the sale.

For those who cannot or do not want to place solar panels on their homes (such as residents in multi-family housing units and apartment complexes), community solar programs offer another way to take part in solar projects. Participants enter into agreements with solar developers to subscribe to a portion of the community

SOLARIZE CHICAGOLAND

During the "Solar Power Hours," representatives from MREA, CUB and the Chicagoland Counties educated residents on the process of installation, the state and tax incentives that residents qualified for, how long the payback would be, and the other savings and benefits that participants would receive. In 2020, 25 webinars were held in total; of the 527 attendees, 80 eventually committed to 583 kWh of solar in Chicagoland. In Will County exclusively, five Solar Power Hours attracted 41 attendees, and eventually three of them committed to 26 kWh total.

Educational solar at H.H. Humphrey Middle School in Bolingbrook

solar projects. In exchange for paying monthly subscription fees, customers receive energy credits on their utility bill for the electricity generated by their shares of panels. These options remove barriers to solar energy access, and residents and businesses are encouraged to pursue them if interested. Please see Appendix A for more resources.

SOLAR ENERGY SYSTEMS IN WILL COUNTY

According to the Solar Energy Industries Association (SEIA), Illinois has great solar potential: prices have fallen by 45% over the five years preceding the fourth quarter of 2020, and total solar power generated in the state is projected to grow by nearly 1,700 MW over the next five years. Will County in particular is home to a number of high-profile solar installations, such as Magid Glove's 3.5-MW rooftop solar system in Romeoville, IKEA's 2.85-MW rooftop solar system in Joliet, and Nexamp's 2.7-MW Goodenow Road East solar farm under construction in Beecher.

The commercial sector is not the only one pursuing large solar projects. The Valley View Community Unit School District 365U installed several panels on the roofs of five schools in Bolingbrook and Romeoville; the systems, 1,248 kW of power altogether, are estimated to generate 55% of the electricity consumed in the buildings and save 55% on energy costs. The solar power will be used as peak demand power and offset higher prices, and the school district sells renewable energy credits as a private commodity, the district can see a **net savings of over $10,000,000**, according to conservative estimates. (Performance calculations for the panels are also de-rated by 15%.) The panels not only save money and reduce the carbon footprint of the schools, but they also model energy stewardship for students.

Residential solar panels in Lockport

Commercial solar panels at Magid Glove HQ in Romeoville

1,000,000

APPROXIMATE CUBIC FEET OF NATURAL GAS DELIVERED TO ILLINOISAN CUSTOMERS IN 2019

4.8

MW OF ELECTRICAL POWER GENERATED BY GAS-TO-ENERGY PLANT AT PRAIRIE VIEW LANDFILL

ENERGY GENERATION RESOURCES

Gas-To-Energy Facility at Prairie View Landfill

Since 2012, **over 3,400 solar permits** have been issued in commercial and residential sectors both in incorporated and unincorporated land in Will County, with the vast majority of them being issued between 2018 and 2020. Within unincorporated Will County, **211 residential solar permits** were issued as of August 2020. Additionally, according to surveyed Will County municipalities, **over 3,200 residential and commercial alternative energy permits**—most of them being solar energy permits—have been issued in incorporated County land as of October 2020. The rising number of issued alternative energy permits demonstrates a growing interest in powering our communities with renewables—solar energy in particular.

NATURAL GAS-FIRED PLANTS

The United States Energy Information Administration (USEIA) reports that coal-fired power plants have been the second largest energy source in Illinois for the past decade, though closures have narrowed their contribution recently. To reduce harmful emissions, some plants instead burn natural gas, a fossil fuel that burns cleaner than coal.

NRG Energy Inc.'s 1,326-MW coal-fired Joliet Generating Station was **converted to burn natural gas in 2016** in order to meet emissions standards. This move, along with the 2015 closure of one of two coal-burning units at the Will County Generating Station in Romeoville, greatly reduced the amount of air pollutants coming from the smokestacks. Additionally, the $1 billion J-Power Jackson Generation facility, currently under construction in Elwood, is on track to enter service in 2022 as one of the world's most fuel-efficient natural gas power plants. Designed to work with renewable production, it will have among the lowest carbon emissions of any combined-cycle plant. The project is employing hundreds of local laborers during the multi-year construction period and will deliver 1,200 MW of electricity, enough to power more than 1,200,000 homes upon startup. Because combined-cycle natural plants like this one use substantial amounts of water, finding a sustainable source will be an important topic in ongoing discussions. Still, there are many other ways to generate energy in Will County.

GAS-TO-ENERGY FACILITY AT PRAIRIE VIEW LANDFILL

In 2004, Will County opened the Prairie View Landfill on the former Joliet Arsenal site. The everyday solid waste thrown out by residents in the surrounding area is gathered here, generating methane gas as it decomposes. Instead of flaring or releasing all of this greenhouse gas, the County started making use of it by opening its own Gas-to-Electric Plant at Prairie View in 2011. This plant, partially funded by the federal Energy Efficiency Conservation Block Grant (EECB) and Solid Waste Funds, pulls the majority of the methane gas generated by the landfill through three Caterpillar generators and **turns the gas into electricity**. This process reduces the methane emissions that would have otherwise been released into the atmosphere, provides an opportunity for

7,400

HOMES PROJECTED TO BE POWERED EACH YEAR BY GAS-TO-ENERGY PLANT AT FULL CAPACITY

84

WELLS GENERATING ENERGY IN JOLIET JUNIOR COLLEGE'S GEOTHERMAL SYSTEM

ENERGY GENERATION RESOURCES

electricity generation, and reduces dependency on non-renewable fossil fuels. In 2012, the plant generated enough power to **supply energy for 2,000 to 3,800 homes**; at full capacity, the plant is **projected to power 7,800 homes each year**. As the owner of Prairie View, Will County also receives revenue from the sale of the electricity.

Even closed landfills, which still generate methane for a number of years, can operate gas-to-energy plants. Beecher Landfill is one such example.

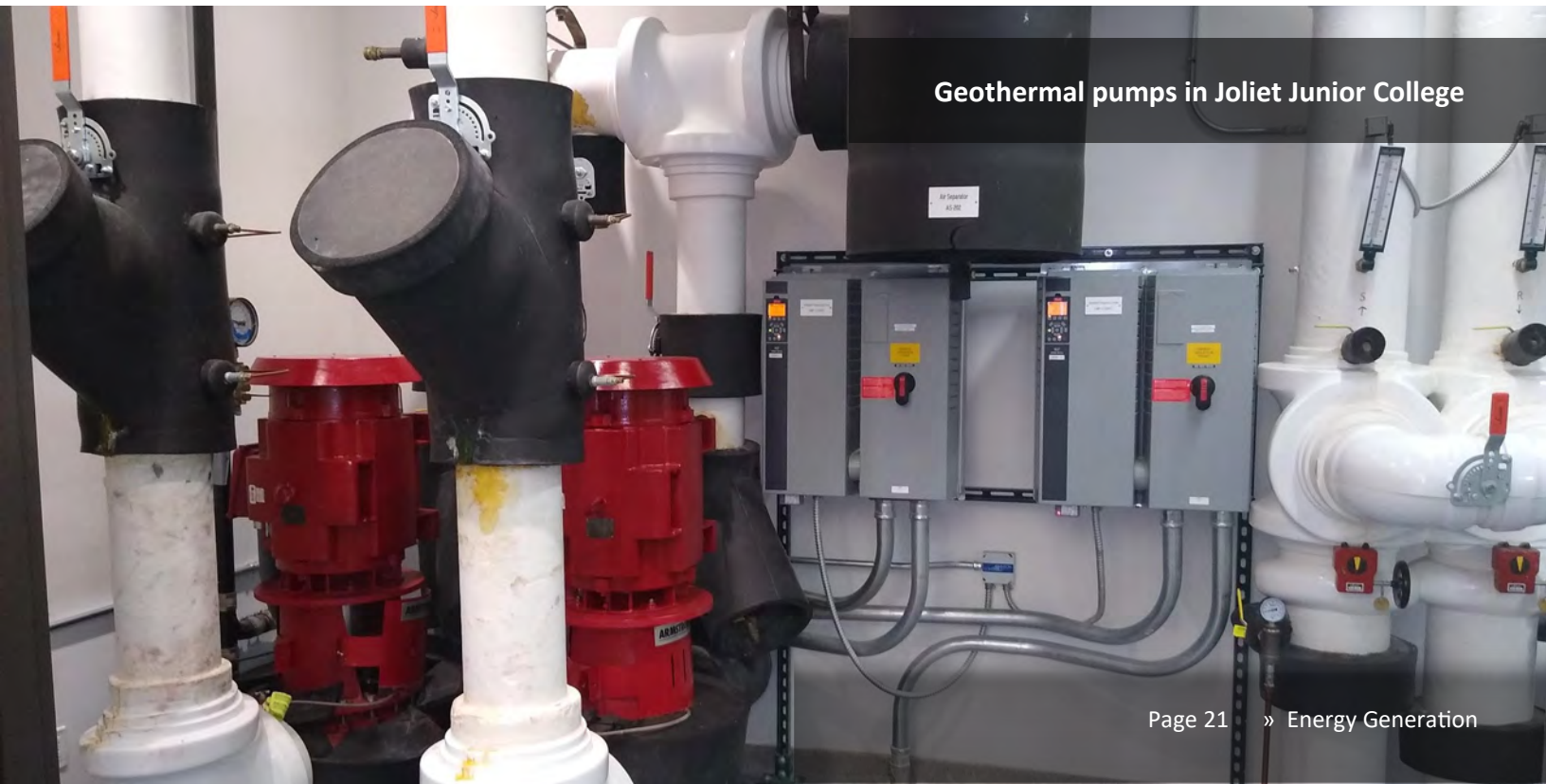
RENEWABLE NATURAL GAS (RNG) PLANT

Renewable natural gas (RNG), as defined by the United States Department of Energy (USDOE), is a purified biogas that is completely interchangeable with conventional natural gas. It can be used as a transportation fuel once converted into compressed natural gas (CNG).

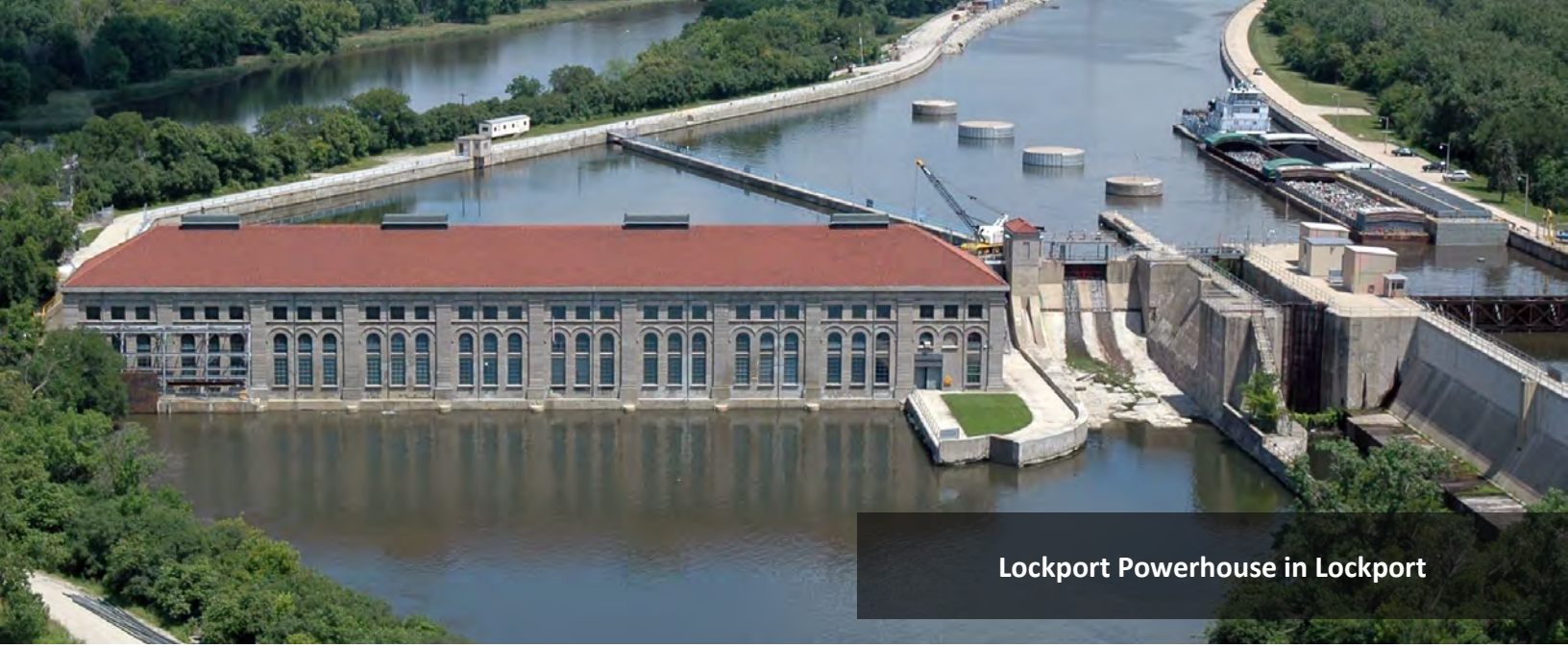
Due to its potential for great economic benefits, Will County started looking into an RNG opportunity at the Prairie View Landfill in 2019. Similar to the existing Gas-to-Electricity Plant, this RNG plant would **convert landfill gas into an energy source**. Converting landfill gas to RNG is much more costly than converting to electricity, since the pipeline accepting the gas has to meet very strict specifications, requiring expensive equipment to eliminate contaminants. To proceed with the RNG project, the County needed to negotiate with the landfill and electricity plant operator, Waste Management. Once an agreement is finalized, Will County plans to build the RNG Plant and pipeline and sell the landfill gas to an offtaker that will convert it into compressed natural gas (CNG). Barring any significant delays, the RNG Plant is anticipated to be finished in 16 months and the County can begin sending gas into the pipeline by mid-2022.

GEOTHERMAL

Geothermal systems harness the thermal energy below Earth's surface for heating, cooling, or energy generation. According to the USEIA, the United States is the world leader in geothermal electricity



Geothermal pumps in Joliet Junior College



Lockport Powerhouse in Lockport

generation, with geothermal plants in just seven states producing 16 billion kilowatt-hours of electricity in 2019. The USDOE estimates that the development of geothermal energy has been growing at a rate of 2% per year.

Although not many geothermal systems currently exist in Will County, Joliet Junior College (JJC), a local sustainability leader, has used geothermal energy for years. JJC now has three geothermal systems, the first being installed in the Facility Services building in February 2001, followed by the second in the Campus Center building in July 2011 and the third in the Health Professions building in January 2013. These systems reduce the college's heating and cooling load, leading to great energy savings and contributing to the LEED Gold statuses of the buildings in which they are housed. The three geothermal systems also **save about $75,000 in energy costs per year**.

Will County is interested in expanding geothermal power wherever reasonable energy-wise and economically, and it encourages institutional and residential developments.

HYDROPOWER

Hydropower (or hydroelectric power) involves generating electricity using moving water. Flowing water from streams, rivers, and other sources pushes against and moves the blades of turbines, spinning generators to create electricity. According to the USEIA, hydropower was the largest source of total annual renewable electricity generation in the United States until 2019, when increasing generation from other renewable sources overtook hydroelectricity generation.

In the Will County area, the Lockport Powerhouse not only manages waterways for the Metropolitan Water Reclamation District (MWRD) of Greater Chicago, but also harnesses the power of water flowing through the Chicago Sanitary Ship Canal to spin two turbines generating electricity. According to the MWRD, the Lockport Powerhouse has **generated over $1,000,000 worth of electricity over the past 17 years**.

The Brandon Road Lock and Dam along the Des Plaines River in Joliet could be another source of hydropower in Will County soon. Its 6.8-MW capacity is **expected to generate 40,000 MWh each year**. For now, the contractors on the project, Northern Illinois Hydropower, LLC, expect to begin constructing the hydropower infrastructure in 2022 and to complete construction in 2025.

WIND ENERGY

Wind energy uses the power of moving air to generate electricity. It involves the use of turbines with blades that spin as the wind blows against them. The USEIA estimates that total annual wind electricity generation in the country grew from six billion kWh in 2000 to 300 billion kWh in 2019, demonstrating high growth nationwide.

Some wind turbines have been installed within Will County, both in the New Lenox area and in the Crete area. However, after assessing the potential for expanded use of wind energy, it was determined wind energy opportunities are not feasible at this time for the County's government. Will County is situated in urban, suburban, and rural areas, with large tracts of land no longer available for wind developers. Studied locations also did not have the ideal wind conditions to generate the energy required to justify the infrastructural costs. Still, the County may investigate alternative locations, and it encourages interested parties to evaluate whether or not wind energy benefits them.

RENEWABLE ENERGY CREDITS

Between June 2019 and May 2020, residential and commercial ComEd

2

HYDROPOWER STATIONS IN WILL COUNTY

50%

ELECTRICITY USED IN LARGER WILL COUNTY-OWNED BUILDINGS GENERATED BY IOWAN WIND FARMS

ENERGY GENERATION RESOURCES

customers consumed over 6,600 GWh of electricity in Will County, with about 70% of this use coming from commercial customers. Energy consumers can offset the effects of their use with Renewable Energy Credits (RECs), which are tradable certificates that allow purchasers to claim the environmental benefits of a renewable energy resource. These purchases allow developers to fund research and deployment of renewable energy technologies. All utility customers contribute to the purchase of RECs from local renewable energy generators in Illinois, and customers who want to contribute further can also purchase RECs from renewable generators out of state. Illinois-based companies and organizations are currently on track to reach the target 3,000,000 RECs from new solar and wind projects by the 2025 delivery year. Last year, clean and renewable energy was available to serve 94% of energy delivered to ComEd customers.

Will County started purchasing RECs in the summer of 2018. Through an energy broker, **the County now purchases 50% of the electricity used in larger buildings from wind farms in Iowa**.

COMBINED HEAT AND POWER (CHP)

Not all of the energy used to generate electricity contributes to the actual generation; due to inevitable system inefficiencies, some of that energy is lost as heat. CHP systems attempt to remedy this problem by generating electricity and, at the same time, capturing lost heat for use in other processes, such as space heating and cooling. The United States Environmental Protection Agency (USEPA) reports that over 4,400 facilities in the country use CHP technology, including commercial and residential buildings, municipal facilities, and manufacturing plants.

The USDOE CHP Technical Assistance Partnership conducted a CHP Feasibility Analysis for the River Valley Justice Center in 2014, finding that River Valley could benefit from such a system. Unfortunately, due to financial limitations, no CHP system was installed in the center. Subsequent capital equipment replacements in 2016 also rendered CHP system installation unnecessary in this building. There are no plans to conduct feasibility analyses or to pursue CHP in other Will County buildings at this time.

ANAEROBIC DIGESTION

Anaerobic digestion is a process occurring in an oxygen-free environment in which microorganisms break down organic material to create biogas and a solid byproduct. Although the process is used primarily for waste reduction in the United States, it has also been used to generate energy in other nations.

Will County does not currently invest in anaerobic digestion. The high cost of constructing and running anaerobic digestion facilities, combined with the long payback period on costs as a result of low energy prices, makes anaerobic digestion a less economical option than relatively low-cost landfilling.

ENERGY STORAGE

Interest in storing energy for later use has increased along with the popularity of renewable energies. By allowing extra energy generated during off-peak hours to be used during periods of high

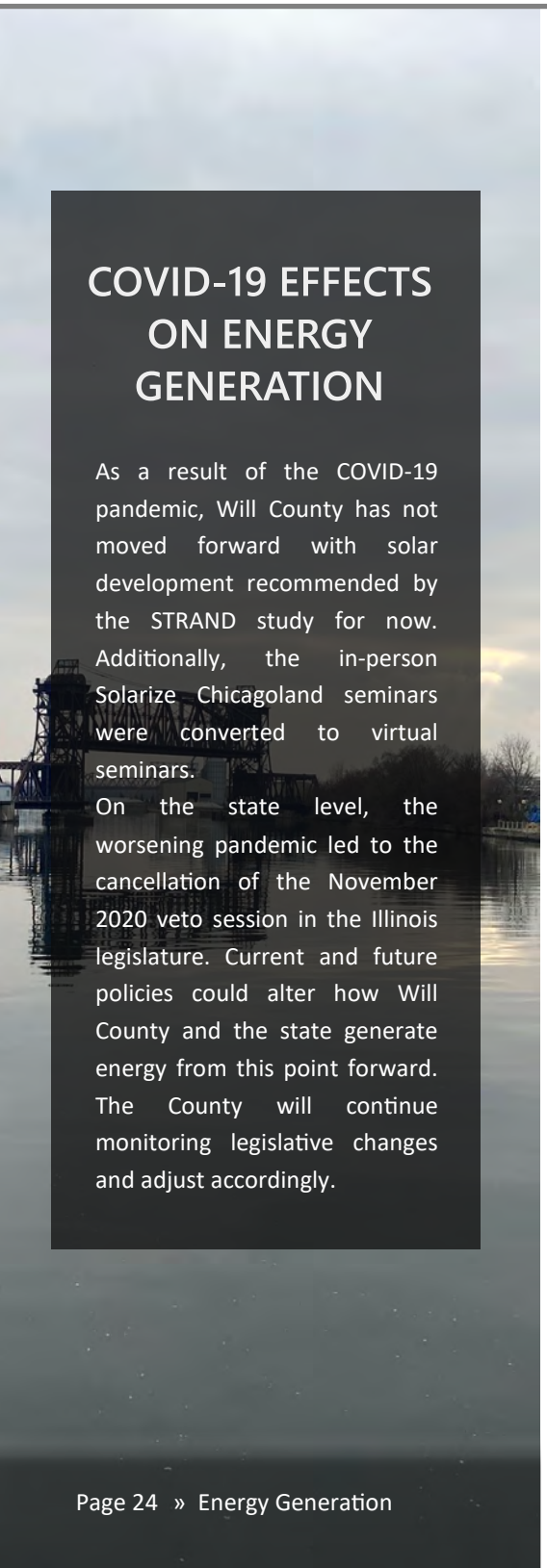
431

MEGAWATT-HOURS OF ELECTRICITY STORAGE AVAILABLE IN US IN 2017

15

MICROGRIDS IN ILLINOIS IN 2018

ENERGY GENERATION RESOURCES



COVID-19 EFFECTS ON ENERGY GENERATION

As a result of the COVID-19 pandemic, Will County has not moved forward with solar development recommended by the STRAND study for now. Additionally, the in-person Solarize Chicagoland seminars were converted to virtual seminars.

On the state level, the worsening pandemic led to the cancellation of the November 2020 veto session in the Illinois legislature. Current and future policies could alter how Will County and the state generate energy from this point forward. The County will continue monitoring legislative changes and adjust accordingly.

consumption or low generation, energy storage can help the grid meet peak demand and improve the reliability of renewable energies that depend on the weather. Many different types of energy storage have been developed at this point, including pumped hydroelectric, compressed air, hydrogen, thermal energy, and battery storage, among others. The Environmental and Energy Study Institute (EESI) estimates that the United States generated four billion MWh of electricity but had just 431 MWh of available electricity storage in 2017. Given the falling costs of energy storage and the rising interest in grid resilience around the country, greater investments in energy storage can put the nation on the path toward shrinking that gap.

Although energy storage is becoming more popular in other parts of the US and the world, Will County does not have plans to pursue this technology at this time. Again, because energy prices are so low in Illinois, the County would not earn enough money for the investment to be financially reasonable. Still, for homeowners and business owners, it may be worth evaluating different kinds of battery storage to determine if some energy storage options make sense for them.

MICROGRIDS

A microgrid is a localized source of energy that normally operates connected to the main grid, but also has the ability to disconnect from the main grid and operate on its own. The United States has about 160 microgrids, with most of them concentrated in only seven states, as reported by the Center for Climate and Energy Solutions. Microgrids can be useful for offsetting pressure on the main grid during periods of peak demand, supplying power when the main grid goes down (such as during storms), and improving local energy resilience.

Microgrids have become a trend in the last couple of years, as there is great value in gaining control over the energy supply that facilitates the microgrid. In addition to microgrids being a safety net after storms, or some other type of natural disaster, it can also help municipalities and local governments gain control over the energy costs, provides sought-after industry and local jobs, improves air quality and energy efficiency, and incorporates more renewable energy technologies. Because microgrids reduce the potential of power outages, it can also save lots of energy costs that would be lost from a power outage. It Is estimated that the U.S. economy pays as much as $75 billion annually for power outages, according to the White House.

Will County has looked into the option of creating and establishing its own microgrid, as a couple of County-owned buildings have generators, renewable

374

MW SOLAR INSTALLED IN ILLINOIS AS OF SEPTEMBER 2020

>3,400

SOLAR PERMITS ISSUED IN INCORPORATED AND UNINCORPORATED WILL COUNTY SINCE 2012

WILL COUNTY'S FUTURE PLANS

energy such as solar, and the ability to lower their electricity usage during peak demand hours. However, while the beginning potential of a microgrid is present, there is not enough renewable energy and capacity to become a truly independent source at the moment. This option will be looked at in finer detail within the next decade.

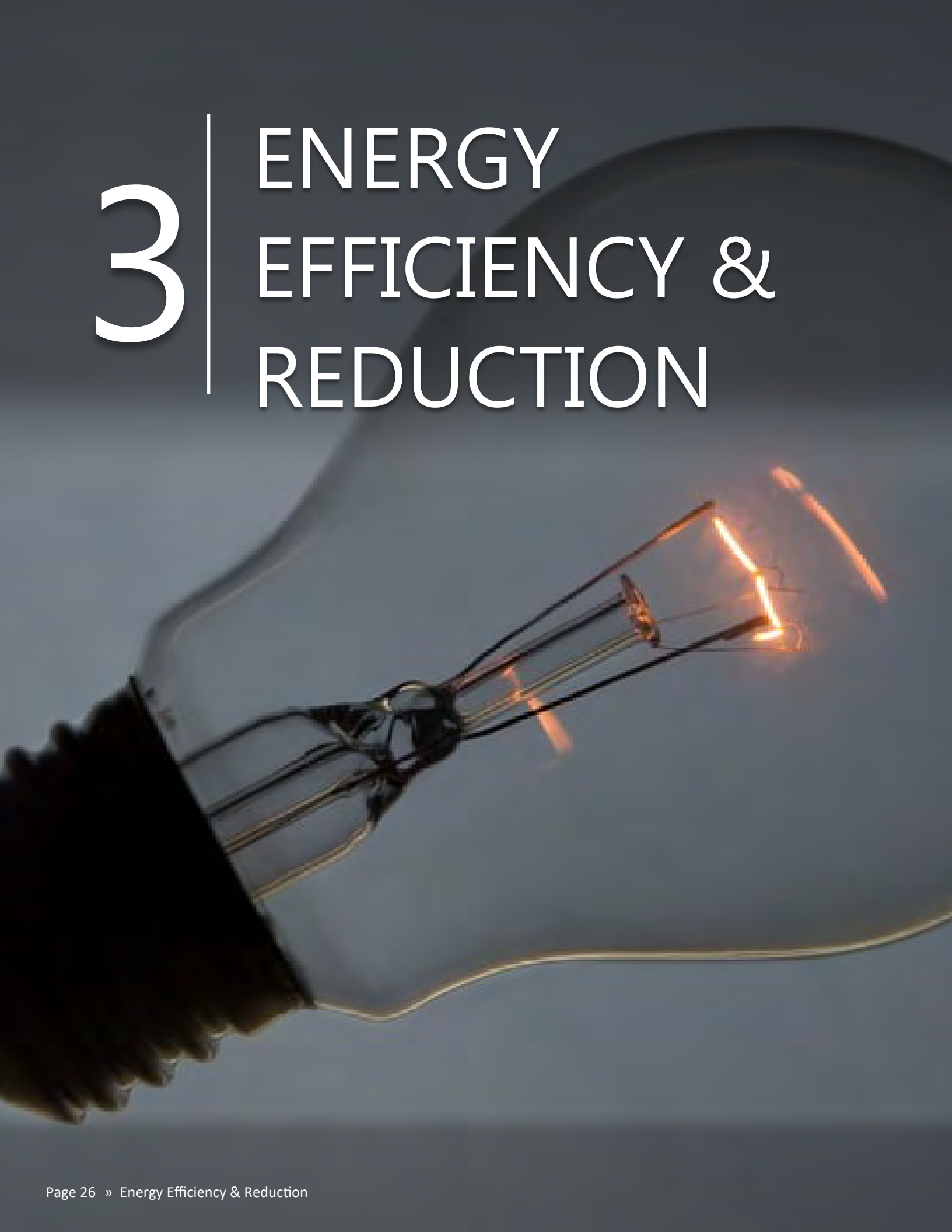
WILL COUNTY'S FUTURE PLANS

Many potential energy policies currently going through Illinois' legislature have won support from different advocacy groups, utilities, plant owners, unions, and other entities. Depending on the changes in legislation that are enacted, the future of energy in Will County could shift in different directions. Still, Will County plans to continue pursuing clean and renewable energy by purchasing RECs, evaluating renewable energy projects and implementing feasible ones, and encouraging residents, businesses, and others to consider alternative energy systems to power their homes, facilities, and communities. Connected to this is an interest is future research and policy regarding in the long-term effects of generating power from the variety of sources discussed here. It is important to consider the long-term disposal of hazardous waste generated from nuclear power, methods for recycling and/or disposing of silicon and other toxic materials in retired solar panels, and other potential issues down the road. Will County looks forward to staying informed on these developments and looking into solutions for these issues as they come more into focus.

FUTURE GOALS: ENERGY GENERATION

1. **Preserve and expand clean and renewable energy generation in Will County and encourage alternative energy systems for commercial, governmental, and institutional sectors**: Continue encouraging residents and businesses to consider and pursue solar energy generation. When feasible, install solar in Will County buildings according to recommendations in the STRAND assessment. Additionally reevaluate the potential of energy generation methods not yet implemented, like anaerobic digestion and microgrids, if changing economic or other conditions warrant it. Stay up-to-date on renewable and alternative energy system developments in the community by regularly communicating with local schools, businesses, and industries about their interests and energy projects. Support the deployment of renewables in learning institutions, homes, and businesses in the community.
2. **Purchase green energy and allow County residents to "opt in" to purchase green energy from renewable sources**: Continue purchasing renewable energy through renewable energy credits (RECs) and/or other programs. Evaluate the benefits and costs of purchasing more renewable energy from these sources depending on present and future public and governmental interest.
3. **Inform the Will County community on local and national energy policy changes**: Stay well-informed on impactful state and federal energy policy changes pertaining to all relevant energy sources in Will County, including but not limited to nuclear, solar, wind, geothermal, natural gas, and all other sources discussed in this section. Through educational programs, e-newsletters, social media posts, and other informational campaigns, share information on these policies and adjustments with interested residents, business owners, industrial groups, and others.

3 ENERGY EFFICIENCY & REDUCTION



Contents »

Goals »

1. **Reduce energy consumption in County-owned buildings by 20%**
2. **Pursue energy efficiency and reduction programs and projects when feasible**
3. **Encourage and support Will County residents, businesses, and municipalities pursuing energy efficiency**

In the *2012 Energy Efficiency and Conservation Plan*, the original goal was to reduce energy use by 20% of the 2009 baseline by 2020. Since that plan was published, the Resource Recovery and Energy (RR&E) Division has made significant progress toward completing this goal by participating in a number of energy efficiency programs and initiating several projects aimed at lowering energy waste. Among these initiatives are the ComEd Energy Efficiency Program; demand response programs, which pay the County (anticipated to be at least $10,000 for 2020) for participating in reducing energy use during peak demand periods; the Commercial Property Assessed Clean Energy (C-PACE) program; and the Better Buildings Challenge (BBC). Many of these energy efficient project expenses were partially covered with grants and rebates, and a capital improvement replacement fund was established years ago from the rebates which can help fund other projects whenever needed. Through its energy broker, the County has also negotiated extremely low prices for energy in its larger buildings, saving the County additional dollars.

Overall, Will County has reduced total energy use (including electricity and natural gas consumption) in our buildings by **11%** since 2009, saving about 1,600 metric tons of CO_2 equivalent in emissions each year. (This figure excludes buildings that are no longer in use and set to be demolished as of 2020).

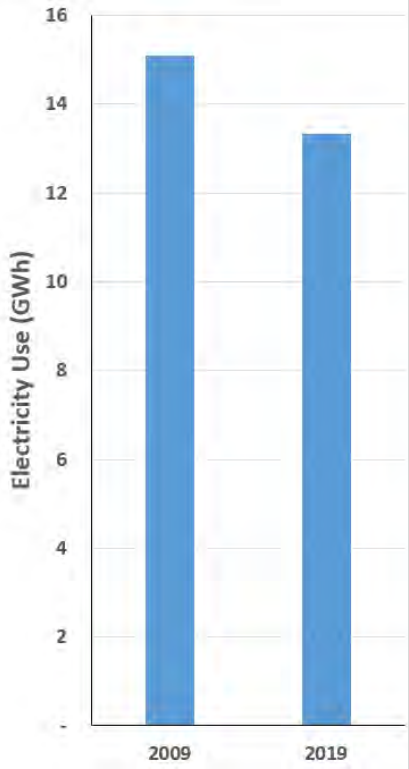
1,600

METRIC TONS OF CO_2 EQUIVALENT SAVED IN WILL COUNTY EMISSIONS IN 2019 (COMPARED TO 2009)

567,000

GALLONS OF GASOLINE CONSUMED (ENERGY EQUIVALENT OF EMISSIONS REDUCED IN WILL COUNTY IN 2019 COMPARED TO 2009)

ENERGY EFFICIENCY IN COUNTY BUILDINGS



Electricity use in Will County buildings (excluding buildings demolished as of 2020) has fallen by 10.6%.

ENERGY EFFICIENCY IN LARGER WILL COUNTY BUILDINGS

Below are highlights of a few larger buildings central to energy efficiency programs between 2009 and 2020.

The **Adult Detention Facility** and the **Adult Detention Center Video Visitation Facility** together have reached a total energy savings of **17%** since 2009. In January 2015, the Adult Detention Facility participated in the Smart Energy Design Assistance Center's (SEDAC) level 2 Energy Assessment & Feasibility Report. Since that report, these were some of the energy saving measures that have been completed:

- Installation of LED exit signs
- Installation of new high-efficiency hot water boilers
- Installation of occupancy sensors in non-secure locations
- Replacement of old dishwasher with a new high-efficiency Energy Star dishwasher
- Installment of more efficient interior lighting

The **Community Health Center** has achieved a total energy savings of **27%** since 2009. This is a result of the following energy efficiency initiatives:

- Installation of a thermal barrier ceiling and LED lighting
- Partial retrofit of interior lighting with LED
- Partial retrofit of interior compact fluorescent (CFL), high-pressure sodium (HPS), and halogen lights with LED
- Replacement of old rooftop units (RTUs) with new efficient RTUs
- Installation of faucet aerators, wall switch occupancy sensors, as well as

LEED GOLD

WILL COUNTY COURTHOUSE

The new LEED-certified Will County Courthouse in downtown Joliet opened to the public for cases in November 2020. Designed and constructed by Wight & Company, the ten-story building incorporates a number of sustainable features, including a solar array, radiant heating and cooling systems, rainwater harvesting for irrigation, a green roof, and plenty of glass windows to make use of natural daylight. This courthouse uses 73% less energy than the average courthouse.

Will County Community Health Center in Joliet

vending machine and snack machine misers
» Installation of LED lights in parking lot

Finally, the **River Valley Juvenile Detention Center** has achieved a total energy savings of **9%** since 2009. The following projects contributed to these savings:

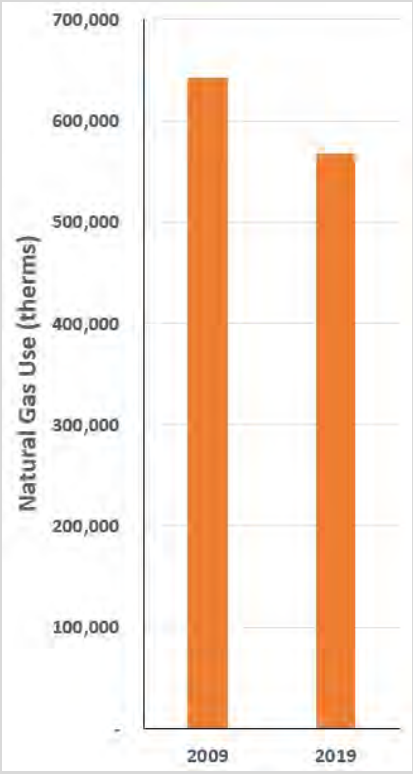
» Partial lighting retrofit
» Replacement of HVAC equipment (boilers and chillers)
» Installation of property-managed building automation system (BAS)
» Installation of ultralow-flow shower fixtures
» Installation of vending machine misers
» Upgrade to condensing boilers

Will County increased energy efficiency and reduction in these buildings and others by following several strategies: routinely conducting energy audits in municipal facilities; supporting energy audits and retro-commissioning studies in residential, commercial, and institutional facilities; budgeting for short- and long-term efficiency equipment and upgrades; pursuing greener building codes and standards; and participating in a number efficiency programs. Some of these strategies are discussed in greater detail in the following pages.

GREEN BUILDING CODES AND OTHER STANDARDS

While the aforementioned initiatives were performed in individual buildings, the County's building codes encourage sustainable practices across a multitude of structures. These building codes were last updated in 2014, when the voluntary **Green Construction Code** was implemented. Some limitations exist—making the codes mandatory would require a substantial increase in staffing, and some green codes, like those recommending building placement near public transport and reuse of existing spaces, work better for municipalities than for counties. Still, as building codes and ordinances are updated, following staff recommendations to create a Will County Green Code for a lower permit cost, as well as incorporating other sustainability items as a separate ordinance, could improve building sustainability.

Will County has also implemented and taken inspiration from other green building standards to realize energy-efficient and cost-saving initiatives. For example, as detailed in the spotlight on the previous page, the new Will County Courthouse in downtown Joliet achieved **Gold certification** under the US Green Building Council's **Leadership in Energy and Environmental Design (LEED)** building rating system.



Natural gas use in Will County buildings (excluding buildings demolished as of 2020) has fallen by 11.7%.

Additionally, **greener zoning ordinances** improve energy efficiency. Updates in

>13,500,000,000

BTUS OF ENERGY SAVED IN WILL COUNTY BUILDINGS BY 2019 (COMPARED TO 2009)

$49,140

MONEY SAVED EACH YEAR THROUGH MORE EFFICIENT LIGHTING IN THE ADULT DETENTION FACILITY

ENERGY EFFICIENCY PROGRAMS

2012 removed barriers to and encouraged adoption of sustainability practices, such as voluntary use of solar, geothermal, and wind energy.

COMED ENERGY EFFICIENCY PROGRAMS

Will County first started energy efficiency work through grants and funding opportunities provided on the state and federal levels. The County then participated in an energy efficiency rebate program run through the Illinois Department of Commerce and Economic Opportunity (DCEO) in conjunction with assessments run by SEDAC for eight years. These free building assessments evaluated the different energy needs of County-owned buildings and provided incentives and rebates funded by ratepayers through utility billing, making it possible for Will County to act on the opportunities offered.

Eventually, the Future Energy Jobs Act (FEJA), which passed in December 2017, shifted the energy efficiency program administration from the DCEO to utility companies, including ComEd. Since then, Will County has participated in the ComEd Energy Efficiency program and continues to facilitate these energy assessments throughout various County buildings.

After assessing designated buildings, the ComEd Energy Efficiency team generates a report detailing efficiency recommendations and measures, and when Will County implements these energy efficient measures, it receives a rebate or incentive check. These funds are put into the Capital Equipment Replacement Fund, a pot of money that covers the costs of future energy efficiency projects.

Additional ComEd programs enabled upgrades to lighting, HVAC systems, and IT equipment in buildings. For example, ComEd's Public Buildings in Distressed Communities program, announced in November 2019, provided eligible public buildings with free lighting kits and other incentivized HVAC upgrades. As a participating building, the Adult Detention Facility received roughly **$50,000 worth of interior lighting**, saving an estimated **614,248 kWh of energy** and about **$49,140 each year.**

Will County plans to continue taking part in ComEd's energy efficiency programs to further implement energy- and money-saving projects.

DEMAND RESPONSE PROGRAM

Demand response is a method to change the power consumption of an electric supply customer to better match the demand for power with the supply. In recent years, the method has become very prominent across the U.S.

In 2018, different vendors approached Will County with opportunities for

$2,000,000,000

WORTH OF QUALIFIED IMPROVEMENTS FUNDED THROUGH C-PACE IN THE UNITED STATES

37

STATES, INCLUDING ILLINOIS, IN WHICH C-PACE FINANCING IS AVAILABLE

WILL COUNTY'S C-PACE PROGRAM

demand response programs. The County started to see what the benefits of the program would be, as well as what vendor would be best fit for them.

Will County decided to go with Enel-X and have the Sunny Hill Nursing Home participate in the program. Because Sunny Hill is a critical care facility, it is obligated to have a generator, in case of a power outage. Before officially participating, the diesel generator passed an emissions test and attained approval from the Illinois EPA. Once a permit was issued, Will County signed the contract and moved forward with the program. The first Enel-X test was in the summer of 2019, and subsequent tests are run every year. By participating in the program, Will County receives a payment every quarter, and those funds are used for other energy efficiency projects of interest.

In the winter of 2019, different vendors approached Will County for demand response once more, but instead of relying on the generator for the tests, staff implemented a "power down" method. Under this easier method, five more buildings were able to participate. After evaluating the vendors, Will County made an agreement with NRG and held its first "power down" test in June 2020.

Altogether, the County expects to earn **at least $10,000** through demand response in 2020. Given the program's success, the County plans to continue with it in the future.

COMMERCIAL PROPERTY-ASSESSED CLEAN ENERGY (C-PACE) PROGRAM

Commercial Property Assessed Clean Energy, also known as C-PACE, is a financing mechanism that **enables fixed-rate interest, long-term financing for energy efficiency, renewable energy, water conservation, and resiliency projects**. PACE financing is then repaid as an assessment on the property's regular tax bill.

When Illinois was first updating its legislation to be inclusive of C-PACE, Will County first read and heard of C-PACE programs through emails, newsletters, other various energy sources, and peers. Following this, a small working group with Cook County and the City of Urbana was formed to discuss how this program could be brought to Will County. With persistence, Resource Recovery & Energy (RR&E) staff engaged with leadership and the Illinois Finance Authority (IFA) to map out a plan to implement a C-PACE Program in Will County. Through numerous interdepartmental staff meetings, and generous feedback from the IFA, RR&E

Will County Public Safety Complex in Joliet

Former (left) and current (right) Will County Courthouses in Joliet

was able to get all the various departments, such as the Clerk's Office, the Treasurer's Office, the IT Department, and the Assessor's Office to understand their tasks and to collaborate together.

Once RR&E got approval from all internal departments and leadership to continue forward with a C-PACE Program, a Request for Proposal (RFP) was drafted for a Program Administrator, which was put out in February 2020.The closing bid was on March 6, 2020, and the Illinois Conservation Energy Authority (IECA) was awarded the bid on April 16, 2020. Will County then signed a services agreement with IECA on June 15, 2020, in order to start developing a C-PACE Program within Will County.

Throughout the summer of 2020, RR&E, IECA, and the internal departments worked together to draft and edit the documents necessary to formally set up the C-PACE program. During the November 19, 2020, County Board Meeting, the documents were approved and signed, which officially established the Will County C-PACE program. Will County looks forward to the financing of energy-efficiency projects through this program.

SAVINGS THROUGH EFFICIENT PRODUCTS (STEP) PROGRAM

Via the Savings Though Efficient Products (STEP) program, the Midwest Energy Efficiency Alliance (MEEA) awarded energy-efficient products to public facilities to help them reduce energy consumption at no material cost.

Between October 2015 and the program's conclusion in December 2017, Will County received ultra-low flow showerheads, faucet aerators, vending and snack machine misers, wall switch occupancy sensors, LED lamps, outdoor lighting, and exit signs, all of which were outfitted in several County-owned properties. The retail value of these items surpassed **$18,500**, and the estimated lifetime value of their use (including both retail value and cost savings of energy efficiency) is over **$130,000.**

BETTER BUILDINGS CHALLENGE (BBC)

The Better Buildings Challenge (BBC), led by the U.S. Department of Energy, is a voluntary initiative that encourages businesses, manufacturers, universities, school districts, and other organizations to commit to improving energy efficiency of building portfolios by at least 20% over ten years.

Since joining the program in 2012, Will County (1) pledged to reduce energy consumption by 20% of the 2009 baseline across 1,000,000 square feet by 2022; (2) created a showcase project featuring the Sunny Hill Nursing Home; (3) developed an implementation model focusing on low-cost energy conservation measures and an education and outreach program for Health Department staff;

$130,000

WORTH OF ITEMS RECEIVED BY WILL COUNTY FROM MEEA'S STEP PROGRAM

$461,000,000

MONEY SAVED COLLECTIVELY BY BETTER BUILDINGS CHALLENGE PARTNERS IN LOCAL GOVERNMENT

and (4) tracked water, electricity, and natural gas use in the USEPA's EnergyStar Portfolio Manager benchmarking program. (For more on Portfolio Manager, see the *Energy Management* section.) As a BBC participant, Will County also receives exclusive resources, such as project analysis tools, webinars, forums, and access to other energy and water efficiency materials.

The County's BBC portfolio includes 19 properties. These buildings are currently in use and are the focus of ongoing and future energy efficiency projects. Among these buildings, energy consumption was reduced by **16%** between 2009 and 2020. Fortunately, there is no penalty for falling short of the 20% reduction goal, but a number of challenges limited energy reduction in this portfolio.

For one, the County did not have an energy demand estimate for these buildings prior to tracking them. Now that the County has remedied this lack of critical information by monitoring energy use data, the County better understands the monetary and time-based investment required to reduce energy use. Additionally, aging buildings and changing property uses away from originally intended uses make achieving energy efficiency goals more difficult. Unnecessary energy-intensive behaviors on the part of building staff, such as leaving lights and computers on after hours when they are not needed, also slows progress on energy reduction goals. Because occupants do not assume a monetary cost for engaging in other wasteful energy practices, there is less incentive to contribute to energy conservation measures.

Ultimately, sustained operational and behavioral change in buildings is crucial to reducing energy use. The diversified structure of authority in the County also prevents the Resource Recovery and Energy Division from mandating green behaviors, so the Division works to set an example by pursuing efficiency projects in owned buildings, as well as educate and encourage others to use energy and water more wisely.

EFFICIENCY PROGRAMS FOR RESIDENTIAL AND BUSINESS CUSTOMERS

In Will County, between 2018 and 2020, 47,000 residential, commercial, and public sector customers took part in ComEd's energy efficiency programs, **saving almost $18,000,000 over only two years of participation**. The first step to achieving these sorts of savings involves requesting a free energy assessment from ComEd.

Residential customers can schedule virtual or in-person assessments in which ComEd representatives inspect their homes for efficiency opportunities, provide personalized reports on those opportunities, and deliver or install free energy-saving products. Multi-family

COVID-19 EFFECTS ON ENERGY EFFICIENCY & REDUCTION

The COVID-19 pandemic has impacted electricity consumption in all market segments, according to ComEd representatives. Residential customers have seen an increase most likely due to working and learning from home. Commercial offices have seen a decrease due to lower building occupancies, but some of this decrease is offset by HVAC strategies implemented to increase ventilation and address pandemic concerns. Impacts to manufacturing and retail facilities vary depending on the pandemic's effects on consumers' needs. Pandemic-influenced energy use may distort the results of energy efficiency projects unless pandemic impacts are accounted for in reduction calculations. Will County intends to look into accounting for those impacts.

Additionally, further updates to zoning policies have been put on hold until a COVID-safe method for updating the Land Resource Management Plan has been determined.

47,000

RESIDENTIAL, COMMERCIAL, AND PUBLIC SECTOR COMED CUSTOMERS PARTICIPATING IN EFFICIENCY PROGRAMS FROM 2018 TO 2020

$17,960,400

MONEY SAVED BY COMED ENERGY EFFICIENCY PROGRAM PARTICIPANTS BETWEEN 2018 AND 2020

ENERGY EFFICIENCY PROGRAMS

building owners can similarly obtain free energy assessments and receive free energy products to save money and reduce their buildings' environmental impact. Residential customers can also take advantage of a variety of rebates and discounts that can help reduce the energy consumption in their homes, such as appliance and smart thermostat rebates, lighting and home product discounts, and more.

Businesses can schedule a facility assessment in which an energy engineer visits and assesses the facility to spot energy-efficiency opportunities. Within weeks, ComEd delivers a report detailing energy efficiency projects, whether for lights, HVAC system, chillers or motors. Each recommendation includes estimated energy savings, cost savings, project cost, potential incentives and simple paybacks. Businesses can also sign up online to access ComEd's free Business Energy Analyzer, which pinpoints high use periods in their business' energy use data and suggests efficiency solutions that may add up to big savings. For more information on these programs and additional energy programs from ComEd, see Appendix A as well as Table 3 on page 42 in the *Energy Management* section.

GREEN BUILDING DESIGNS

While homes and buildings need to be heated and cooled to make them comfortable in all types of temperature conditions, Net Zero and passive design structures in the area take energy efficiency goals to the ultimate level. Net Zero buildings may use energy for heating, cooling, equipment, appliances, and so on, but that energy use is lower through efficient design, material structure, low energy appliances, possible use of geothermal, and energy generation from solar to offset the small amount of energy required. A great example of this is Plainfield's Recreation Center on Renwick Road.

Passive design takes this concept even further by striving to eliminate the need for a heating and cooling system altogether. They use energy sources inside the building such as the body heat from the residents or solar heat entering the

Energy dashboard in Net Zero Recreational Center in Plainfield

121,221

METRIC TONS OF CO_2 EQUIVALENT REDUCED BY COMED EFFICIENCY PROJECTS IN WILL COUNTY FROM 2018 TO 2020

26,200

HOMES POWERED FOR ONE YEAR (ENERGY EQUIVALENT REDUCED BY COMED EFFICIENCY PROJECTS IN WILL COUNTY FROM 2018 TO 2020)

WILL COUNTY'S FUTURE PLANS

building. A passive design includes not only windows with excellent insulation but also a building shell consisting of highly insulated exterior walls, roof, and floor slabs to keep the heat in during the winter and out during the summer. The ventilation system consistently supplies fresh air, providing superior air quality without causing unpleasant draughts. This tends to guarantee low radon levels and improves health conditions. A highly efficient heat recovery unit allows the heat in the exhaust air to be reused.

In addition to these designs, the US Green Building Council has a residential LEED program honoring sustainable homes. LEED homes, like Net Zero and passive houses, are constructed to be energy- and water-efficient, healthy, and resilient; they often incorporate similar design and construction strategies. ComEd is also working with SlipStream, MEEA, and other groups to research the potential for energy savings via building policies. See Appendix A for more links on these building designs.

WILL COUNTY'S FUTURE PLANS

Will County has made significant progress so far in improving the energy performance of its buildings, but there is still work to be done. To move beyond 11% and even closer to the 20% goal requires continued investment in energy efficiency measures, from building retro-fits to policy and educational changes. Further progress made on this goal has the potential to save the County energy, water, and money, as well as to create a more sustainable community.

Moving forward, Will County plans to seek more efficiency and reduction opportunities through programs like the ComEd Energy Efficiency program and demand response. The County also looks forward to encouraging local residents, businesses, and municipalities to pursue efficiency and reduction projects and supporting them if they choose to do so, whether they voluntarily track and benchmark energy use, adopt building performance standards, follow voluntary green building codes, or simply commit to shutting off lights when not in use.

FUTURE GOALS: ENERGY EFFICIENCY & REDUCTION

1. **Reduce energy consumption in County-owned buildings by 20%**: Push forward with this 20% goal by participating in continued energy reduction projects. Seek out and pursue funding opportunities from the US Department of Energy for efficiency projects. Continue participating and consider expanding demand response program participation.
2. **Pursue energy efficiency and reduction programs and projects when feasible**: Have Will County energy efficiency staff join listservs and remain in touch with ComEd representatives to stay informed on available energy efficiency rebates, discounts, and promotions, and programs. Connect more often with Nicor Gas representatives and other energy providers to learn more about their programs. Evaluate benefits and costs of participating in those programs and pursue them when benefits outweigh costs and the County is eligible to participate.
3. **Encourage and support Will County residents, businesses, and municipalities pursuing energy efficiency**: Promote the commercial property-assessed clean energy (C-PACE) program to business owners in Will County through public webinars. Share information with the community on efficiency projects, local efficient homes, and businesses through social media and newsletters. If welcome, help connect municipalities with technical assistance on researching energy savings from building policies.

4 ENERGY MANAGEMENT

Contents »

Goals »

1. **Determine and implement energy management tools that best suit the County's needs**
2. **Attain Energy Star certification for one or more County-owned buildings**
3. **Recommend more energy management policies and procedures in Will County buildings**
4. **Continue securing competitive energy prices through energy procurement**
5. **Share information with the community on opportunities to track and reduce energy use**

To target energy efficiency solutions, it is necessary to understand how much energy different properties are consuming. This cannot be done without the help of energy management tools and other data systems, which help identify key items and nuances that otherwise would not have been caught by the regular observer. These energy management tools and data systems can take a deeper dive in analyzing where there could be faulty equipment, errors, or changes in energy settings that maintenance staff may not always notice right away. Will County has evaluated and in some cases made use of several tools that help visualize the big energy picture, including building automation systems (BAS), submeters, energy benchmarking platforms such as the US Environmental Protection Agency (USEPA)'s Portfolio Manager, and a number of energy management information systems (EMIS) and fault detection and diagnostics (FDD) software.

5

SUBMETER MODELS UNDER CONSIDERATION FOR WILL COUNTY BUILDINGS

$0.54

MONEY SAVED IN OPERATIONS PER SQUARE FOOT IN ENERGY STAR BUILDINGS COMPARED TO STANDARD BUILDINGS

ENERGY MANAGEMENT TOOLS

COVID-19 EFFECTS ON ENERGY MANAGEMENT

With many more workers staying at home and a share of energy consumption moving to the residential sector during the COVID-19 pandemic, building operators have had to adjust to lower occupancy levels in commercial and governmental buildings. (Hospitals and other care facilities are an exception, working overtime to care for the influx of ill patients.) The County continues to use BAS and Portfolio Manager to track and handle changing energy use in buildings.

As far as Energy Star certification goes, the rules have been adjusted to account for the pandemic. An extended application deadline and additional options for site visits are among the changes. This is not applicable to Will County in particular, given that the County does not expect to apply for certification within this deadline period.

BUILDING AUTOMATION SYSTEMS (BAS)

BAS are electronic technologies that allow building operators to monitor, control, and collect data on heating, ventilation, and air conditioning (HVAC) units, lighting fixtures, and other building equipment all in one interface. Will County monitors the operations of associated buildings with a Johnson Controls BAS, which helps facilities managers understand what pieces of equipment are functioning at what level at any given time. With this critical information, the facilities managers can **detect issues and correct them more quickly and efficiently** than they would have without a BAS, saving energy and money.

For example, room temperature and boiler power readings as indicated by the BAS can suggest to staff that an old boiler is currently unable to warm a space sufficiently, implying that a repair or replacement is due. Additionally, lighting power and time readings can indicate that lights have been left on after hours, allowing building managers to turn them off remotely. These advancements keep Will County buildings safe, comfortable, and energy- and cost-efficient for staff and visitors alike.

Moreover, an energy management information system (EMIS) and fault detection and diagnostics (FDD) software can be used in conjunction with a BAS for greater management capabilities. These systems and their relevance to Will County are discussed further in the following pages.

SUBMETERING

Within the Will County Office Building in downtown Joliet, the IT Department uses a disproportionate amount of energy compared to the office spaces. Since the building's energy meters read electricity and gas use for the entire building, it is not currently possible to estimate the amount of energy that the office spaces alone are using. This makes it difficult to determine the effectiveness of energy-efficiency projects taking place in these office spaces. Fortunately, one way to solve this problem is to set up submeters in buildings.

Submeters are installed devices designed to record energy consumption for individual sections of a building. Some building owners, for example, install submeters to gain a better understanding of energy use in different portions of their buildings. Will County could do the same to further **break down energy consumption and increase the level of detail surrounding energy distribution** in the County Office Building and beyond. At this point, Will County has researched different submeter models based on ease of use, availability of particular features, and cost-effectiveness, and the County anticipates incorporating submeters in select properties in the future.

35%

GREATER ENERGY EFFICIENCY LINKED TO ENERGY STAR BUILDINGS COMPARED WITH STANDARD BUILDINGS

35%

FEWER GREENHOUSE GAS EMISSIONS LINKED TO ENERGY STAR BUILDINGS COMPARED WITH STANDARD BUILDINGS

ENERGY MANAGEMENT TOOLS

ENERGY STAR PORTFOLIO MANAGER

Believing that good information leads to good management, the USEPA first launched Portfolio Manager in 1999 to help organizations increase energy efficiency in their buildings.

Since 2010, Will County has entered electricity, natural gas, and water use data into the platform, with data going as far back as 2008 for some buildings. As the first program the County has used to track energy consumption, Portfolio Manager allows the County to **compile information on the use of resources for affiliated properties over time**, as well as **benchmark energy use each year beyond the 2009 baseline**. Currently, Will County benchmarks energy use for 42 individual properties.

When ComEd, Nicor Gas, Joliet Water, and other utilities send bills to the County every month, specialists manually enter consumption (in kWh for electricity, BTU for natural gas, and gallons for water) and associated monetary costs for the range of dates in which the consumption occurred for each property. With month-by-month granularity, the County can look for trends and anomalies in energy and water use for different buildings.

Depending on the information entered, Portfolio Manager can calculate metrics including source, site, and weather-normalized energy use and water use intensity. Portfolio Manager can also calculate a building's Energy Star score, which is a measure of the building's energy performance compared to a modeled estimate based on size, climate, and operating hours.

After having tracked energy consumption in buildings for several years with Portfolio Manager, Will County continues using this free, user-friendly platform because it now stores a vast history of information on County buildings. Given that the County receives physical bills as opposed to digital ones at this time, Portfolio Manager is also the most logistically- and financially-advantageous tool available. Will County encourages schools, businesses, and other institutions to benchmark and monitor their energy consumption as well, either through Portfolio Manager or through another program.

ENERGY STAR CERTIFICATION

Will County wants to attain Energy Star certification in eligible buildings. Portfolio Manager provides a portal through which the County can apply for this certification. To achieve this certification for a particular building, that building must have an eligible property type (such as office space, school, or hospital), reach an Energy Star score of 75 or higher, and have its application for certification verified by a licensed professional. Energy management must be maintained to keep the certification current, for the building must re-apply each year.

Will County buildings that have already achieved a score of 75 or higher include the Child Advocacy Center (86), Community Health Center (76), Executive Building (95), Regional Office of Education (84), and Specialty Courts (77). Additionally, Will County buildings that are close to achieving a score of 75 include the Sheriff's Administration (First Midwest Bank, 74) and the Main Health Department (70). Unfortunately, all of these buildings face barriers to Energy Star certification. For some, their primary property types are not eligible for certification, or the energy use data includes estimations instead of exact values; for others, the County owns only part of the building, or the building is no longer in use. Although the County plans to pursue certification for buildings wherever possible, it intends to bolster energy efficiency in all buildings, regardless of certification eligibility.

>50

EMIS/FDD SYSTEMS SURVEYED BY LBNL AND SEAC

20-30

EMIS/FDD SYSTEMS EVALUATED BY WILL COUNTY STAFF

ENERGY MANAGEMENT TOOLS

ENERGY MANAGEMENT INFORMATION SYSTEMS (EMIS) AND FAULT DETECTION AND DIAGNOSTICS (FDD) SOFTWARE

For several years, Will County sought to increase energy efficiency through the Better Buildings Challenge, but the percent reduction in energy consumption did not seem to improve beyond 2017. Unfortunately, Portfolio Manager could not provide the level of detail needed to isolate the problem, so another strategy was necessary to gain a better understanding of the County's energy data.

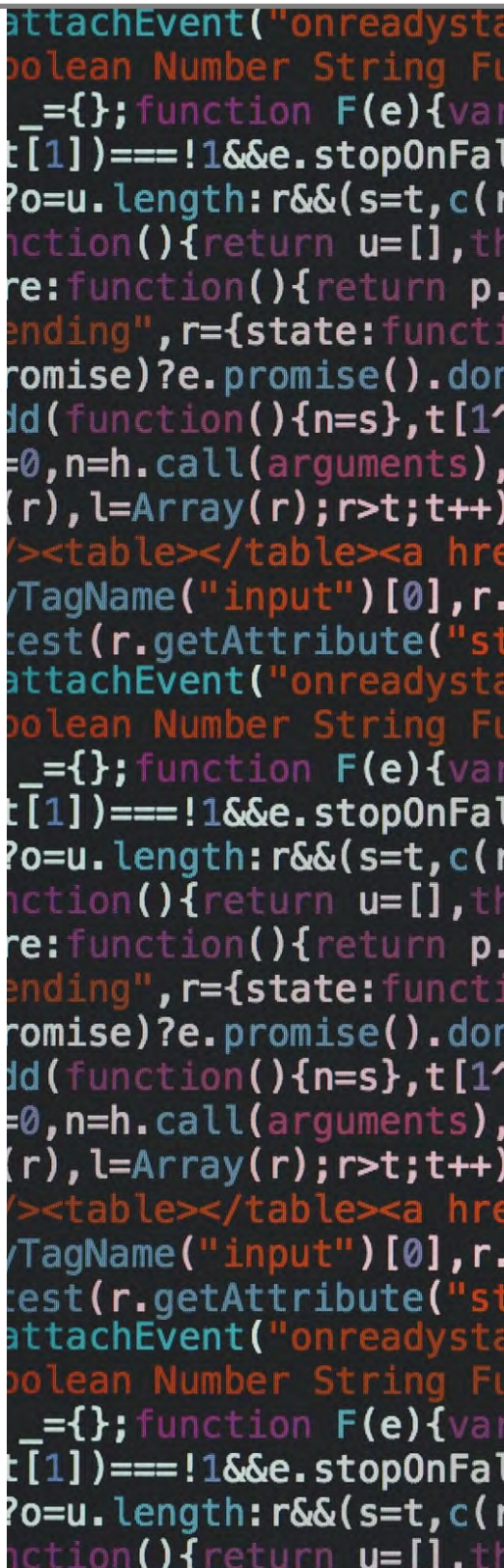
In 2019, the County started investigating the use of an energy management and information system (EMIS) to streamline energy management across County-affiliated buildings. EMIS software communicates with BAS and network-connected equipment (including boilers, chillers, and lights) to track energy consumption data. The County primarily sought EMIS software that could connect and share data with Portfolio Manager, which would greatly improve the efficiency of bill management.

The County researched the commercial providers of these programs, including those pre-approved for functionality by the Lawrence Berkley National Laboratory (LBNL) as part of the United States Department of Energy (DOE)'s Smart Energy Analytics Campaign (SEAC). The County originally evaluated dozens of EMIS for potential use. This list was narrowed down to three staff-recommended EMIS software that could best meet the County's needs.

Along with an EMIS, the County investigated the use of a fault detection and diagnostic (FDD) system. FDD systems can identify anomalies in the data collected by EMIS software or BAS, alert facilities managers to potential malfunctions in equipment, and help managers correct the malfunctions, better maintain their equipment, and save energy and money. For buildings that operate at all hours of the day or generally consume a lot of energy, this system could be valuable for finding and fixing inefficiencies.

While searching for a FDD system, the County followed a similar process to evaluating EMIS software, including those pre-approved for functionality by the LBNL as part of the SEAC. In addition, the County considered how well each system complemented the recommended EMIS software. Of the several FDD systems originally evaluated for potential use, three staff-recommended FDD systems were found to best meet the County's needs.

Although these software offer many benefits, the County ultimately chose not to purchase an EMIS or a FDD system at this time. The County does not currently have the required funds available to purchase these software.



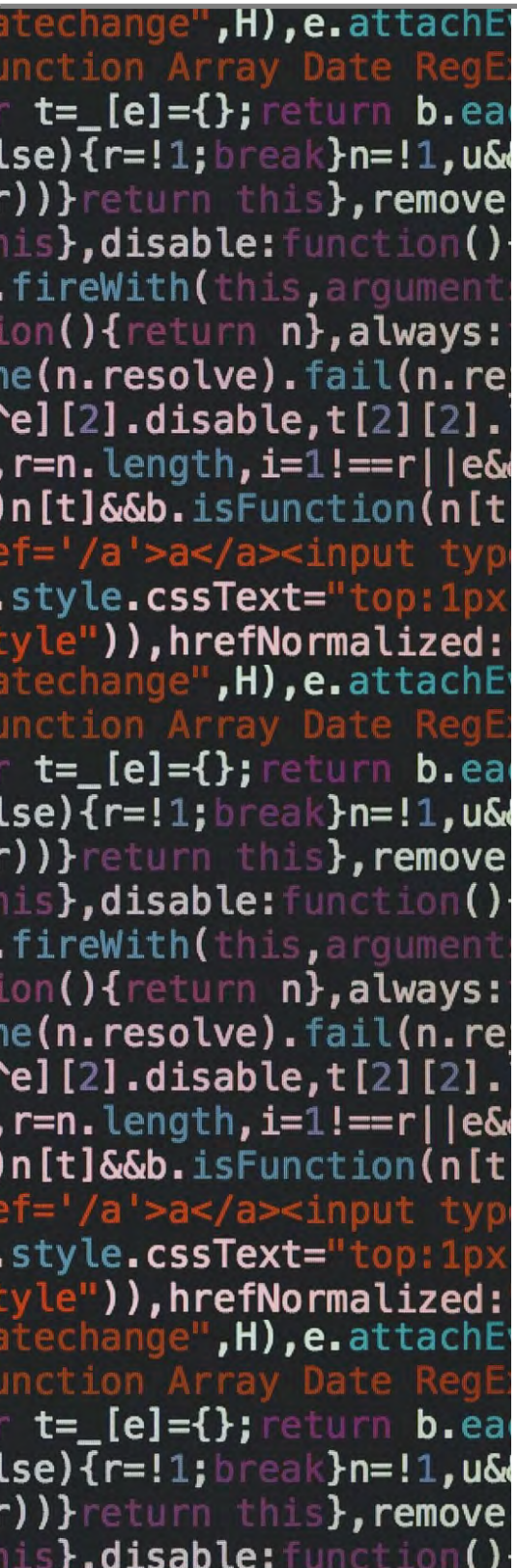
3

EMIS RECOMMENDED BY WILL COUNTY STAFF

3

FDD SYSTEMS RECOMMENDED BY WILL COUNTY STAFF

ENERGY MANAGEMENT TOOLS



The County also has reservations about granting outside organizations access to data through the IT Department, which may lead to security concerns. The lack of an automated system for receiving and paying bills in the County's Finance Department would further complicate software implementation, use, and performance, as would the need for County staff to learn how to optimize an unfamiliar system. Still, Will County intends to revisit this discussion if it is later determined that using these software would be in the County's best interest. The County also recommends that local institutions look into how suitable these software may be for their organizations depending on their energy management goals and particular circumstances.

OTHER ENERGY TOOLS FOR RESIDENTIAL AND BUSINESS CUSTOMERS

ComEd residential customers can take advantage of several different programs and tools to manage their energy use and savings. See Table 3 on the next page for more information.

ENERGY PROCUREMENT

Energy procurement is the act of buying energy strategically to secure the most competitive contracts from energy suppliers. Procurement energy, especially electricity, is the most volatile commodity an organization purchases; since it tends to be one of the most significant yet unpredictable items of one's budget, ongoing performance analysis is critical.

Obviously, using more energy costs more money, but it is not always that straightforward. Understanding one's use pattern is just as important as knowing one's overall usage costs. For example, peak load, the highest amount of energy used at any one time during a month, can hike up a price for a given year even if average monthly energy use is low. Over- and under-usage clauses, common but easily overlooked, can also penalize customers for using less energy than initially contracted.

There are two key pieces to any sound energy risk management program: the supply-side elements and the demand-side elements. Demand-side measures, including all strategies that reduce energy use, involve a capital investment to reap future savings from lower energy use. Supply-side initiatives, involving the actual procurement of the energy commodities themselves, can produce immediate benefits via lower rates and should result in more favorable contract terms. These two sides of your energy equation need to balance out, and the smartest time to tally them is during contract negotiations.

Budget priorities and the ability to manage actual usage help determine the right energy supply program. Common solutions for managing overall

Table 3: ComEd Energy Management Tools for Residential Customers

Customers whose homes have smart meters can participate in the following programs for managing their savings.

» **Peak time savings**: Customers can earn a credit on their electric bill when they participate voluntarily on days with Peak Time Savings Hours.

» **Time of day pricing**: Customers can shift use of electric appliances, such as their washing machine, dishwasher, or air conditioner, to times when demand is lower and potentially save on their electric bill.

» **Hourly pricing**: Customers pay a rate based on hourly market prices for electricity; manage costs by running appliances when the price of electricity is lower, such as nights and weekends.

» **Central AC cycling**: Customers who own their own home and have central air conditioning can earn up to $40 dollars in bill credits from May 1 to October 31 and reduce energy use during the hottest summer days. ComEd cycles their ACs only when needed for a limited period of time.

» **Smart meter-connected devices (SMCD)**: Customers receive SMCDs, in-home displays that show their near real-time electricity usage data.

My Account Online Tools allow a customer to view their detailed energy usage information. Customers whose homes have ComEd smart meters can track the home's energy usage shortly after consuming the energy, compare usage trends, and discover the results of energy-saving practices.

» **Analyze Your Usage tool**: Customers access hour-by-hour and day-by-day energy usage information to understand how much energy is being consumed and when.

» **Home Comparison**: Customers can compare their home's energy usage to other similar sized homes in the area to see if they consume less energy than their neighbors.

» **Personalized Tips**: By answering a few simple questions about their home, a customer can learn what uses the most energy and receive customized energy-saving tips.

» **Notifications**: Customers can opt in to receive High-Usage Alerts when their energy use trends higher than usual, as well as Weekly Usage Reports that help them keep eyes on their energy use.

These tools help customers better understand and manage how much electricity they use and when they use it.

For business tools, see pages 33-34 in the *Energy Efficiency & Reduction* section.

energy cost include using the right type of "energy product" such as a fixed price, an index price, or a block & index price. Fixed-price commodities provide more budget certainty and safeguard against market volatility because the customer agrees to a set price, regardless of fluctuations. In contrast, index products assume a high risk, given that costs could increase over the duration of the contract, but allows for flexibility and savings if the price falls. Block & index pricing falls between the two in the risk profile—organizations fix the price for a portion of their load (providing budget certainty), while allowing additional load to float with the market on index (allowing for savings if rates go down).

The choice between short-term and long-term contracts in relation to current market conditions ties back into annual evaluations. If the market is falling, choosing short terms to keep negotiating for lowest price is wise. In a rising market, long terms will lock in good rates. The "best choice" varies depending on an organizational goals: long-term fixed price approaches may work better for government entities prioritizing stability and budgetary targets; shorter terms tend to benefit large manufacturers seeking the lowest price if the market is falling to achieve better rates by taking on market risk and floating with an index rate.

In the ever-changing energy market, consistent evaluations and adjustments of risk management strategies win the day. It is strongly recommended that organizations procuring energy (1) carefully and continually monitor energy use, (2) review of all the elements within their energy risk management program at least annually to evaluate strategies, (3) read contracts closely, (4) negotiate contract terms as usage changes and renegotiate as goals evolve, and (5) mitigate or eliminate penalties, or adjust the supplier's expectations at the beginning of the contract.

Based on critical evaluations of ongoing energy efficiency projects, goals to achieve budget stability and incorporate renewable energy, Will County crafted a

50%

GREEN ENERGY SOURCED FROM RECS IN WILL COUNTY BUILDINGS

100%

SWING PROVISIONS IN WILL COUNTY'S ENERGY PROCUREMENT CONTRACTS

WILL COUNTY'S FUTURE PLANS

unique approach on the electricity procurement front: **Implementing a fixed price energy-only product incorporating 50% GREEN Energy sourced from GREEN-E Certified Renewable Energy Certificates for the County facilities**. This helps provide budget stability and also allows the County to take advantage of lower capacity costs as the facilities' peak demand is reduced. Likewise on the natural gas supply contract, the County took a fixed price position to obtain budget stability and avoid price volatility. Both power and natural gas contracts include 100% swing provisions allowing true flexibility in the monthly consumptions without price risks.

WILL COUNTY'S FUTURE PLANS

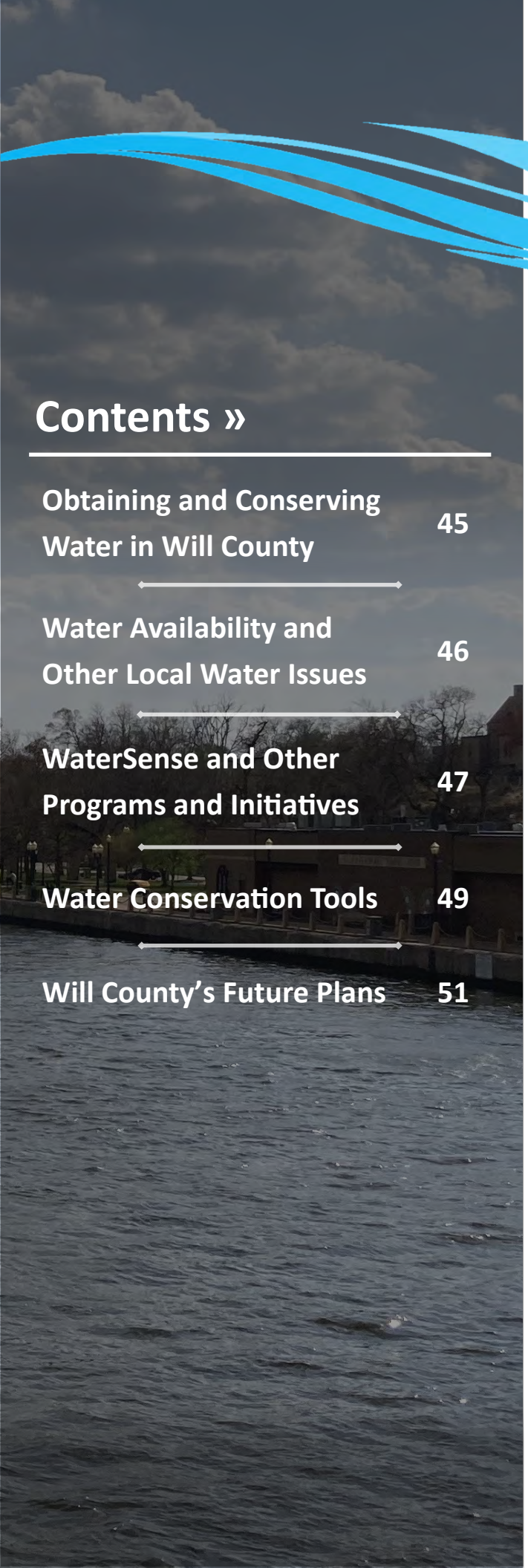
Will County plans to incorporate useful energy management practices when financially and systematically feasible. This includes maintaining use of technological systems to ensure buildings are running efficiently, looking further into other tools that the County can use in the future to bolster its energy management efforts, and securing competitive energy rates.

The County also anticipates sharing more information with interested residents, businesses and other local organizations to support constituents interested in understanding their energy use on a deeper level and managing it effectively to save energy and money.

FUTURE GOALS: ENERGY MANAGEMENT

1. **Determine and implement energy management tools that best suit the County's needs**: Maintain use of the building automation system (BAS) and continue fixing issues that arise. Install submeters to increase granularity of energy use data in select Will County buildings. Check in regularly with maintenance staff to ensure systems are running properly. Revisit the discussion on energy management information systems (EMIS) and fault detection and diagnostics (FDD) software in five years to determine if future budgetary and systemic conditions make their use more viable for Will County.
2. **Attain Energy Star certification for one or more County-owned buildings**: As energy performance in County properties improves, monitor Energy Star score progress in eligible buildings in Portfolio Manager. Research the application process for Energy Star certification by connecting with US Department of Energy and other resources. When conditions have been met, complete application process. Reapply each year to maintain certification.
3. **Recommend more energy management policies and procedures in Will County buildings**: Revive Will County employee cooperation with voluntary and mandated energy management policies and procedures. Communicate regularly with employees through signage and other outreach methods to encourage them to join in energy management practices.
4. **Continue securing competitive energy prices through energy procurement**: Continue consulting with energy professionals and follow their recommendations to ensure Will County is receiving the most advantageous energy prices. Stay informed on the energy pricing market by communicating regularly with energy partners.
5. **Share information with the community on opportunities to track and reduce energy use**: Host webinars for interested attendants in the public, private, not-for-profit, residential, and industrial sectors, encouraging them to save energy and money by being intentional about their energy management.

5 WATER CONSERVATION



Contents »

Goals »

1. Educate the Will County community on local and global water issues and solutions
2. Promote water conservation in commercial, residential, industrial, and agricultural sectors
3. Strengthen partnerships among local water groups and municipalities
4. Leverage Will County's WaterSense partnership
5. Continue pursuing water conservation measures within County buildings
6. Support other water initiatives in the community

In this region, water can be found in rivers like the Kankakee and Des Plaines, as well as shallow and deep underground aquifers. Given the myriad uses of water, from drinking and washing to heating to cooling, conserving water will be an important strategy for limiting energy expenditures, confronting rising economic costs, and ensuring future generations will have access to such a precious resource. The government of Will County does not own or operate water collection and distribution facilities and therefore cannot directly influence how much water businesses and residents consume. Still, by becoming a WaterSense partner, promoting water efficiency behaviors and tools, and engaging with water suppliers and consumers, Will County can educate others and encourage the pursuit of wiser water practices.

<1%

SHARE OF WATER ON EARTH AVAILABLE FOR HUMAN USE

88

GALLONS OF WATER USED AT HOME BY THE AVERAGE AMERICAN EACH DAY

LOCAL WATER ISSUES

LOCAL WATER AVAILABILITY

Water availability in Will County is slated to become an even more pressing issue in coming years. For years, regional users have pulled water out of our current source, the underground aquifers, at a greater rate than the water source is being replenished. Consequently, these aquifers are rapidly depleting, and by the end of the decade, parts of Will, Kendall, and Kane counties will be unable to rely on them to meet their water demand, according to a study by the Illinois State Water Survey (ISWS). Gathering water from a new source will be necessary. As discussed in the following pages, the City of Joliet has already put in extensive work navigating such a monumental shift for the city and the surrounding region.

JOLIET'S SEARCH FOR A NEW WATER SOURCE

In January 2020, after evaluating 14 water source alternatives for quality and quantity of water supplied, the City of Joliet decided that drawing water from Lake Michigan, the second largest lake in the Great Lakes and the current source of high-quality water for over 5,000,000 Illinoisans, would be the best long-term option. During the rest of the year, Joliet also simultaneously investigated two alternatives: drawing Lake Michigan water from a to-be-constructed, city-funded pipeline through Indiana (the New Indiana Intake alternative), and paying the Chicago Department of Water Management (CDWM) to supply Lake Michigan water (the CDWM alternative).

Under the New Indiana Intake alternative, Joliet would have control over water rates and implementation, as well as incur a lower 50-year total cost. However, Joliet also has greater implementation risk as a result of crossing into another state and managing such a complex project. Meanwhile, under the CDWM alternative, the city will receive water from an established water supplier with labs continually testing for safety, suffer less of an implementation and operation and maintenance risk, and face a lower initial monthly bill increase. Still, the city would have less control over the water supply, remaining vulnerable to possible future price increases from Chicago.

It will be imperative for Will County to encourage and support residents and organizations to use water as wisely as possible.

>$1,000

MONEY SPENT BY THE AVERAGE AMERICAN FAMILY ON WATER EACH YEAR

9,400

GALLONS OF WATER WASTED BY AVERAGE FAMILY FROM HOUSEHOLD LEAKS EACH YEAR

LOCAL WATER ISSUES

Water Refill Station Grant Program

In 2020, Will County launched the Water Refill Station Grant Program to help schools, institutions of higher education, and park districts replace existing water fountains with water bottle refill stations in prominent, high-use areas. By promoting the use of tap water while limiting water loss from standard water fountains, this program contributes to water conservation efforts. The use of the stations will also save energy and reduce pollution by limiting the amount of water transported from afar, as well as the amount of plastic needed to produce the single-use bottles containing the transported water.

Ultimately, up to $500 of the purchase and installation costs for each station was made available. Find more information on page 54 in the *Resource Recovery* section of this plan.

In January 2021, Joliet's City Council voted to pursue the CDWM alternative. New infrastructure, including Joliet-owned and -operated water transmission mains, will be built to convey water to the city. Once preliminary and final designs are completed mid-decade, the city plans to have access to this new source of water by 2030. The hope is that their work will ensure water availability not just for the city, but for the region as well.

It will be imperative for Will County to encourage and support residents and organizations to use water as wisely as possible. Running pumps and other machinery to move water from their natural sources to homes and businesses, as well as to heat or cool the water to desired temperatures, requires energy and money. Conserving water means using less of it, so that less water needs to be moved, heated, and cooled, and less energy and money are needed to use water overall. Conservation also reduces the environmental impact of our water use and helps ensure that resources will be available for years to come.

OTHER WATER-CENTRIC ISSUES

Aside from potential water availability problems, flooding and contamination from stormwater runoff are additional local water concerns. Applying salt to roads and paths not only melts ice and helps prevent slippage, but also impacts water quality when salt is carried by stormwater runoff to the aquifers, increasing chloride concentrations.

Water is an important resource, and Will County and other organizations have taken strides to address these issues through conservation and other efforts.

WATERSENSE

Launched in 2006, WaterSense is a voluntary, USEPA-sponsored partnership program that promotes water-efficient products, buildings, and programs. The ultimate goal is to increase awareness about water-pertinent issues, conserve resources for future generations, and lower infrastructural costs through reduced water use. As part of their program, the USEPA assigns the "WaterSense" label to faucets, shower

>2,000

WATERSENSE PARTNERS IN THE UNITED STATES IN 2020

20%

GREATER WATER EFFICIENCY ASSOCIATED WITH WATERSENSE PRODUCTS COMPARED WITH STANDARD MODELS

LOCAL WATER SOLUTIONS

heads, toilets, and other appliances that use less water than regular models. Utilities, manufacturers, governments, and other organizations can become WaterSense partners for free, gaining exclusive access to information, promotional materials, webinars, and more to support their advocacy for WaterSense-labeled products and programs.

The City of Joliet became a WaterSense partner in 2020 and has taken advantage of the materials offered by the WaterSense partnership. For example, the city launched a rebate program to encourage eligible Joliet Water customers to replace high volume toilets with WaterSense-certified low-flow toilets, saving water with every flush.

Inspired by Joliet's partnership, Will County **became a WaterSense Partner** in November 2020. As a local government agency, the County will be responsible for being a promotional partner, such as sharing information about WaterSense products and programs with consumers and encouraging eligible constituents to participate in the program. Fortunately, newer County-owned buildings already incorporate water-efficiency measures such as low-flow and motion sensor faucets. The County intends to advance these measures further as a new WaterSense partner.

OTHER WILL COUNTY PROGRAMS

Given that residential water users have an important role to play in water conservation, Will County has **hosted educational water conservation events**, including the **Water Conservation is a Grand Slam** event in 2019, which covered the Joliet aquifer issue. (Read more about this event in the *Education & Outreach* section of this plan.) In 2007, Will County also established a year-round **Medication Take Back** program with funding assistance from the IEPA and partnerships with police departments and pharmacies. Expired or unwanted prescriptions, over-the-counter medications, and other items are collected and handled safely. By collecting medications and educating residents not to flush their prescriptions, this initiative protects local water resources from pharmaceutical contamination. Launching programs, **promoting water-saving tips through County media, collaborating with water-conscious organizations, and making use of other tools** like the following in the present and future allows everyone in Will County to support water resiliency.

LOCAL AND REGIONAL WATER GROUPS TAKE ACTION

Agricultural workers have counteracted issues with runoff by **engaging in no till farming and incorporating buffer strips** to manage nutrients, pollinators, and their habitats. (Coordinating detention locations between farmers and the Highway Department could help prevent flooding on this front.) The Lower Des Plaines Watershed Group and one of its

13,000

GALLONS OF WATER SAVED BY AVERAGE AMERICAN FAMILY EACH YEAR BY REPLACING INEFFICIENT TOILETS WITH WATERSENSE ONES

$130

MONEY SAVED BY AVERAGE AMERICAN FAMILY EACH YEAR BY REPLACING INEFFICIENT TOILETS WITH WATERSENSE ONES

WATER CONSERVATION TOOLS

committees, the Southwest Water Planning Group (of which Will County is a part), additionally brings communities, private industries, and the County together to **fund ISWS studies of water quality and quantity** in the aquifers.

The Illinois Sustainable Technology Center (ISTC) **offers free water audits** to industrial clients through the Technical Assistance Program (TAP). Other groups, like the Conservation Foundation based in Naperville, **host webinars on rain barrels, gardens, and other water-pertinent tools** for residents and businesses alike to use. The Will South Cook Water & Soil Conservation District and Will County Stormwater Committee additionally help supply resources for water conservation and stormwater management projects by **providing or administering grants** for green infrastructure like permeable pavements and bioswales.

The following are just some of the tools many individual property owners can use to help protect water resources in this region.

BIOSWALES

Bioswales are channels designed to concentrate and convey storm water runoff, which can also be beneficial in recharging groundwater.

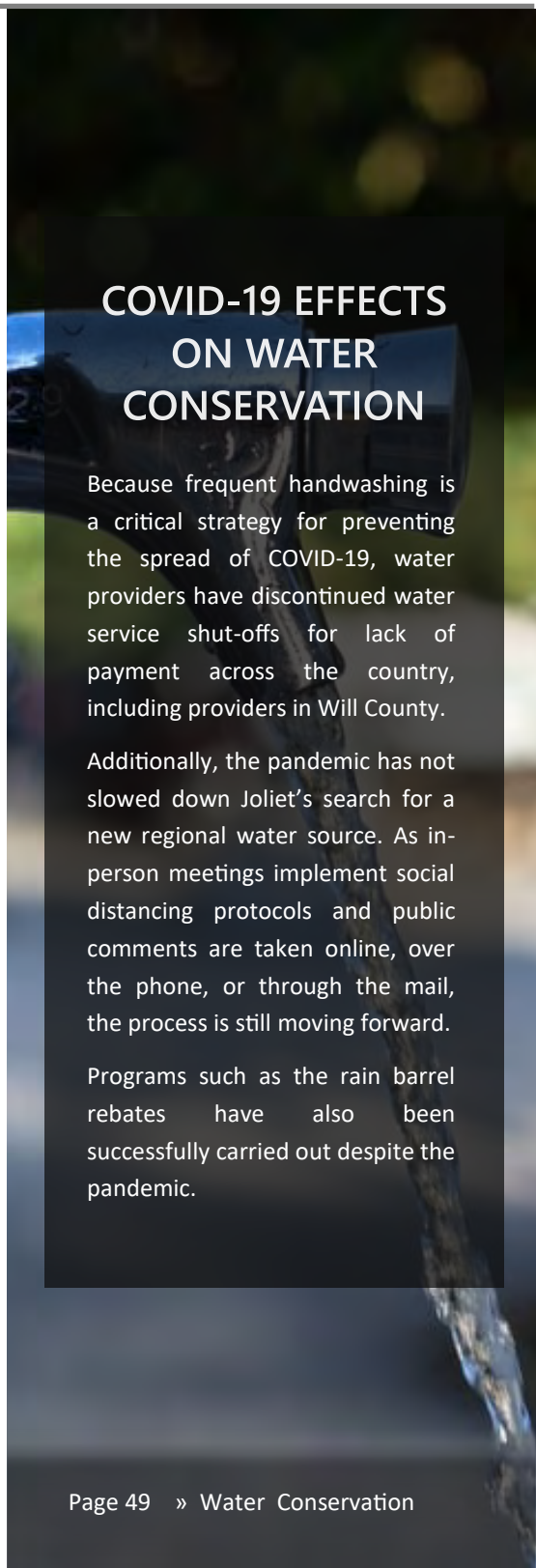
Named one of the greenest colleges in the U.S. by the Princeton Review, Lewis University is home to many green projects, including the installation of multiple bioswale channels. The bioswales were originally planted throughout the Lewis University campus as a way to maintain clean runoff water and prevent flooding. Since the planting of these bioswales, there have been no issues with flooding in their parking lots, and the cost of the project was minimal. Native plugs for these bioswales are planted every spring, where students can learn and participate, too.

PERMEABLE PAVEMENTS

Serving as alternatives to traditionally impervious pavements, permeable pavements are ground-level surfaces through which water can pass. These surfaces allow rain and storm water runoff to infiltrate the ground, filter pollutants from the water, and consequently reduce water pollution and flooding. Will County commends institutions that implement this infrastructure on their properties. Joliet Junior College and the University of St. Francis in Joliet, Governors State University in University Park, and Panduit's HQ in Tinley Park, for example, have all incorporated permeable pavements in their roads and lots.

RAIN BARRELS

Along with graywater, rainwater is another source of water that can be used instead of potable water for certain purposes. During downpours, rainwater



COVID-19 EFFECTS ON WATER CONSERVATION

Because frequent handwashing is a critical strategy for preventing the spread of COVID-19, water providers have discontinued water service shut-offs for lack of payment across the country, including providers in Will County.

Additionally, the pandemic has not slowed down Joliet's search for a new regional water source. As in-person meetings implement social distancing protocols and public comments are taken online, over the phone, or through the mail, the process is still moving forward.

Programs such as the rain barrel rebates have also been successfully carried out despite the pandemic.

Permeable pavements at Governors State University in University Park

often runs down driveways and other impervious surfaces, gathering pollutants like fertilizers and pesticides before flowing into sewers and contaminating water supplies. To help mitigate this problem, homeowners can collect and store some of the rainwater that falls on their roofs by connecting large water containers, or rain barrels, to down spouts. **Rain barrel use** can improve water quality by decreasing the amount of water carrying pollutants to water sources, as well as ease the stress on local rivers and minimize flooding. It also provides homeowners free water to wash cars, water plants, and more, reducing demand for potable water and saving energy and money.

Students planting bioswales at Lewis University in Romeoville

The Conservation Foundation sells rain barrels in Naperville from April to September, with delivery available to residents in several counties including Will. Since March 2019, Joliet has also offered rain barrel subsidies for Joliet Water customers. Please see Appendix A for more resources.

GRAYWATER REUSE

The term graywater (also spelled gray water, greywater, and grey water) refers to used water from baths, showers, bathroom sinks, and washing machines. This water has been contaminated by soaps and other non-pathogenic substances, but is still safe to use for purposes that do not require potable water, such as lawn irrigation, car washing, and toilet flushing. (Potentially pathogenic water coming from kitchen sinks, dishwashers, and toilets are not considered graywater.) Redirecting gray-water for use in other tasks takes advantage of an often overlooked resource and helps conserve water.

In the United States, state-wide laws determine whether or not graywater reuse is permitted. Illinois' Department of Public Health currently allows graywater reuse only on a case-by-case basis, but proposed changes to the Illinois Plumbing Code may soon set more widespread standards to permit and simplify graywater reuse. Supporters claim Illinois could save $1 billion yearly if changes are approved.

OTHER WATER CONSERVATION STRATEGIES

Residents and businesses can also use smart water strategies to help conserve water, especially outdoors. Designing lawns with native plantings that require less water to flourish in this climate and installing water-efficient irrigation systems are a couple of ways property owners can take great care of their plants, limit excess runoff and water waste, and save money. Being aware of local water use ordinances, watering lawns and plants only when necessary, and contacting municipalities for some

141

RAIN BARREL REBATES GRANTED IN JOLIET BY NOVEMBER 2020

50%

SHARE OF HOUSEHOLD WATER USE ATTRIBUTED TO GRAYWATER

information on their water use tips and programs can also make a difference. For more on these strategies, see links to the USEPA's water use tips in Appendix A.

WILL COUNTY'S FUTURE PLANS

Continuing to educate the Will County community on many different water issues is essential to ensuring they are aware of the latest developments. Regularly communicating with those in the commercial, industrial, and agricultural sectors, coordinating between the various water-conscious groups in the area, and supporting them however possible are other ways Will County intends to help protect water quantity and quality in the area. At the same time, as the County begins making use of WaterSense materials, it would like to begin encouraging other communities in the area to become WaterSense partners themselves. Offering incentives for WaterSense low-flow fixture installations in unincorporated areas, perhaps by offering discounts on permitting fees, could help get the ball rolling on some of these initiatives.

FUTURE GOALS: WATER CONSERVATION

1. **Educate the Will County community on local and global water issues and solutions**: Dedicate particular Resource Recovery and Energy division staff to staying informed on important water-related happenings near and far. Write e-newsletter articles and social media posts, host webinars, coordinate events, and/or otherwise inform the public about these happenings.
2. **Promote water conservation in commercial, residential, industrial, and agricultural sectors**: Communicate regularly with business owners, residents, industrial workers, farmers, and others in the Will County community to understand their water-related concerns and, when possible, encourage the use of water conservation practices.
3. **Strengthen partnerships among local water groups and municipalities**: Promote greater collaboration and communication among water-centric groups and Will County municipalities by connecting them and encouraging regular cooperation to address pertinent water issues.
4. **Leverage Will County's WaterSense partnership**: Encourage municipalities in Will County to become WaterSense partners by sharing information on the program and guidance for applying. Host informational WaterSense programs to encourage the public to conserve water.
5. **Continue pursuing water conservation measures within County buildings**: Follow the example of the new LEED-certified Will County Courthouse and push for the use of water-efficient equipment in Will County buildings (e.g. by requiring low-flow fixtures for new construction).
6. **Support other water initiatives in the community**: Offer incentives for installing water-efficient equipment in homes and businesses in unincorporated communities. Publicize local events to help inform residents on water-related topics, including potable water, flooding, and storm water developments.

6 RESOURCE RECOVERY

Contents »

Goals »

1. Reduce the volume of waste generated in Will County
2. Encourage reuse and recycling in Will County through events and programs
3. Promote the circular economy
4. Create new systems of recovering resources
5. Communicate regularly with other organizations on creating a more circular economy

Recycling is an important part of any plan to save energy because, by its very nature, recycling reduces the need to extract new raw materials, and usually uses less energy to process into new products than starting from scratch. Furthermore, some materials can be reused, without using energy to convert them, saving even more energy than recycling.

Following Illinois law, Will County first approved a Solid Waste Management Plan in 1991 and adopted the most recent plan, the 2007-2016 Solid Waste Plan Update, in 2017. Each SW Plan reports developments in technology, programs, federal and state statutes, data related to disposal, recycling, composting, along with demographic information, and projections to clarify future needs in Will County. Significant growth in residential, governmental, institutional and commercial sectors in recent years led the Resource Recovery and Energy (RR&E) Division to implement and expand various solid waste programs, such as the Household Hazardous Waste (HHW) and Electronics Collection/Recycling events. Serving and encouraging residents with their reducing, reusing, and recycling efforts by hosting events and providing public access to recycling infrastructure remain top priorities for RR&E.

38

COMMUNITIES IN WILL COUNTY SERVICE AREA

7.56

ESTIMATED POUNDS OF WASTE GENERATED PER CAPITA PER DAY IN WILL COUNTY SERVICE AREA

WASTE REDUCTION EFFORTS

THE CIRCULAR ECONOMY

RR&E is interested in promoting the circular economy—a closed-loop form of using resources in which the end products, or "wastes," of one process become the source materials needed for another process. Reusing, repurposing, refurbishing, recycling, and composting materials are some ways to do this.

WASTE REDUCTION IN THE OFFICE AND IN THE COMMUNITY

One of RR&E's goals is to eliminate waste before it is even generated. RR&E sets an example by encouraging staff to read documents electronically when possible and, when printing is necessary, to print on both sides of the paper. These efforts limit the amount of paper waste generated within the office.

Will County further promotes waste reduction by providing means and motivation for community members through a variety of programs and projects. In general, RR&E has developed **promotional campaigns** regarding source reduction for schools, businesses, and organizations. Waste audits are done with schools and businesses to determine how best to reduce their waste stream.

The County also provides technical assistance to municipalities striving to reduce waste generation. Informational materials, including tips on reducing waste at home and at work, are also available on the willcountygreen.com site, through various social media posts, and within monthly e-newsletters.

Educational signage used as table toppers to encourage employees to pack waste-free lunches is on the County's green website, available for any organization to print and place in break areas. Encouraging employees to reduce single-use items such as paper napkins, plastic utensils, plastic bags, and other disposable containers by switching to durable lunch containers, cloth napkins, durable utensils, glass or ceramic mugs, cups and containers. This reduces waste and saves employees money.

The 2020 **Water Refill Station Grant Program** (discussed in the *Water Con-*

1,621,448

PROJECTED TONS OF WASTE GENERATED ANNUALLY BY WILL COUNTY POPULATION BY 2040

3,049,696

PROJECTED TONS OF WASTE GENERATED ANNUALLY IN PRAIRIE VIEW LANDFILL SERVICE AREA BY 2040

RECYCLING PROGRAMS

servation section of this plan) is one such program that helps residents and institutions eliminate waste before producing it. 71% of single-use water bottles do not get recycled even though they are accepted in all curbside and drop-off container program. By encouraging the use of refillable water bottles, the program limits the amount of plastic needed to produce the single-use bottles traditionally used to hold water. Ultimately, up to $500 of the purchase and installation costs for each station was made available. Twelve stations were installed in 2020, two of which were funded by a grant of $500 each. The total cost of all installations was $11,700. The Peotone School District chose to install a refill station in each school, and the Forest Preserve chose a location in Lockport. The number of **single use bottles estimated to be eliminated at the schools is over 20,000** because of a district wide education effort informing children, their parents, faculty, and staff to bring reusable bottles. The Forest Preserve District of Will County will begin eliminating hundreds each year as staff adapt and visitors become informed.

Other education programs include **encouraging the purchase of used items** from thrift stores, garage sales, and online shopping programs. Purchasing gently-used clothing, home goods, toys, and more reduces waste by eliminating the need for more "new" items while also saving money.

MUNICIPAL SOLID WASTE (MSW) RECYCLING

Where waste is inevitably created, reuse and recycling are the next steps taken to limit waste going to landfills.

Municipalities in Will County contract for waste collection for the residential homes in their jurisdiction along with service to their buildings. Will County offers a trained professional as a consultant to assist them with specifications for refuse, recycling and landscape waste collection services. The County

COMPOSTING

PUMPKIN LAUNCH EVENTS

Just after Halloween, residents bring their old jack-o-lanterns to Will County's annual **Pumpkin Launch** at Lewis University in Romeoville. Lewis University, a local proponent of composting, joins the Will County Farm Bureau, the University of Illinois, and Will County Land Use to host the event.

Students in the Lewis Physics Club launch the collected pumpkins into dumpsters for participants to watch. The pumpkins are eventually taken to another site to be given new life as composting material to be used on crops and in gardens.

See Appendix A for a link to sustainability at Lewis.

Willow Ranch Commercial Compost Site in Romeoville

tracks each community's services and prices every couple of years and advocates for improvements to increase recycling and improve education to the residents. Through efforts like these, the County **achieved the goal to divert 40% of waste generated countywide from landfill disposal using recycling and composting options**. Given the push in cities across the country to minimize waste sent to landfills, the 2007-2016 Solid Waste Management Plan Update raised this goal to a 55% diversion rate through recycling and composting by 2022.

In 2016, the County achieved a 43% diversion rate, but in 2018 international markets for many items contracted. A new standard for materials sent to the world's largest consumer of recyclables, China, resulted in a global drop in recycling rates as Material Recovery Facilities (MRFs) struggled to adjust. The County participated on a **Statewide Task Force** to address recycling contamination. In 2020, Will County estimated diversion at 38%. To reverse this trend, the County has made consistent and concerted efforts to promote proper recycling through the Will County Green website, at various events, in presentations, in newspaper inserts timed for Earth Day (April 22) or America Recycles Day (November 15) and through a variety of social media outlets.

FOOD AND COMPOSTING

In 1990, food waste and landscaping waste composting came to the forefront of public attention in Illinois when the Illinois Environmental Protection Agency (IEPA) banned landscape waste from landfills to create additional space for future waste operations. Residents were told to separate grass clippings, leaves, and other yard wastes out from garbage and recycling and place it in a bag or container for pick-up. These materials were sent to commercial compost sites to be processed into compost, a nutrient-packed fertilizer for crops and garden plants.

At the same time, homeowners, farmers, schools, and some grocers and restaurants were composting food and garden scraps. In 2016, the Illinois Food Scrap Coalition (IFSC) became an incorporated statewide organization dedicated to examining why and how so

37,400,000

TONS OF SINGLE-FAMILY RECYCLABLES GENERATED IN THE UNITED STATES

370,000

FULL-TIME EQUIVALENT AMERICAN JOBS SUPPORTED IF ALL U.S. HOUSEHOLD RECYCLABLES ARE KEPT OUT OF LANDFILLS

much food was being wasted here. 20 to 40% of food is wasted every day across the country, and IFSC attempts to support and connect food donation efforts, community gardens, composting, and hybrid food diversion systems.

In Will County today, four businesses are dedicated to collecting landscape waste and food waste for both finished compost and/or animal feed: Smits Farm in Beecher, Waste Management's Willow Ranch in Romeoville, Christiansen Farms in Peotone, and Organix Recycling Inc. in Mokena. In addition, Will County promotes and supports composting by **offering standard composting and vermicomposting (worm) bins**, **hosting pumpkin collection events, creating community gardens, and sharing educational presentations** with residents.

The benefits of making and using finished compost are many. Composting reduces waste while creating a fertile soil amendment that retains water, assists in stopping erosion, and filters storm water for less pollution and run-off, according to the United States Composting Council. Road construction crews, professional landscapers, farmers, and homeowners use finished compost to yield strong ground covers and plants.

Lastly, composting greatly reduces emissions of methane, a dangerous greenhouse gas, by working with oxygen as opposed to apart from it. This aerobic action creates a valuable, saleable product, and it makes composting organics more environmentally beneficial than landfilling organics.

CONSTRUCTION AND DEMOLITION (C&D) WASTE RECYCLING

As one of the nation's fastest growing counties, Will County has for years been concerned with the waste generated from the construction process, as well as the demolition or renovation of homes and businesses, as a significant portion of the waste stream is comprised of C&D materials. To assist in the recycling effort, **a law passed requiring all asphalt shingles removed from a structure to be recycled** if facilities existed within a 25 mile range of a project. Every community in Will County is within this radius, improving the recycling of shingles the past few years. The County also **added General C&D Recycling Facility requirements into its Zoning Ordinance** to assist firms locating a General C&D Recycling Facility in unincorporated Will County.

Clean lumber (free of paint, stain, etc.) can be reused or recycled. Treated lumber can be recovered for energy use. For nearly a decade, Will County has offered an **annual collection of all types of wood** to residents to improve awareness of these services and reduce the amount of wood sent for disposal. Concrete and asphalt are also C&D materials. According to the Construction Business Owner, "…if all the concrete and asphalt generated annually in the United States were recycled, it would save the energy equivalent of one billion gallons of gasoline." Switching to "green concrete," which incorporates more waste materials or takes less energy to create than traditional concrete, would further reduce energy use and greenhouse gas emissions.

Additional C&D materials that can be reused or recycled include bricks, concrete, wiring, pipes, and even drywall depending on markets. Cardboard is also a prime material generated during any construction project. The General C&D recycling facilities located in Joliet, Lockport, and Plainfield, as well as outside Will County, are **required to recycle at least 75% of the material brought to them**, usually in roll off dumpsters. Staff are currently reviewing

96,000,000

METRIC TONS OF CO_2 EQUIVALENT IN EMISSIONS REDUCED IF ALL U.S. HOUSEHOLD RECYCLABLES ARE KEPT OUT OF LANDFILLS

154,000,000

BARRELS OF OIL (ENERGY EQUIVALENT) CONSERVED IF ALL U.S. HOUSEHOLD RECYCLABLES ARE KEPT OUT OF LANDFILLS

RECYCLING PROGRAMS

Illinois statutes to determine if the requirement percentage is too high when markets are strained, and it is understood that some traditional recycling facilities are reaching only 50 to 60% due to contamination issues.

SHAREFEST WILL COUNTY

Since 2007, Will County has partnered with a group known as Sharefest, formed by members of various churches. At first the County supported their reuse event by adding some recycling elements and a medication take-back in New Lenox. As the years passed, they supported the County when it offered Recyclepalooza events, where the County **contracts with recyclers to have electronics, wood, scrap metal, foam, and more taken from the public.** SharefestWillCounty.org supplies the County with nearly 100 volunteers, as well as trucks for clothing, books, toys, home goods and more. Sharefest goes on to give away these items at events of their own, along with food purchased through Northern Illinois Food Bank. In 2013, they earned recognition from the Illinois Recycling Association, and they have inspired additional events, such as the Plainfield Really, Really Free Event held each August and the Love Monee Event held each July. They **encourage donation and reuse** throughout the year, as well as complete work on several of the **community garden projects** around the County.

PILCHER PARK BOOK EVENT

Every year (with the exception of 2020 due to COVID-19), RR&E holds a three-day book reuse and recycling event at Pilcher Park Nature Center in Joliet. Residents are invited to bring books or magazines to share or recycle, free of charge. Think of this event as a book exchange and donation, for any books that are left over will be recycled. This is a great opportunity for participants to donate the books they no longer read, as well as find new ones for their collections. This and other exchange events provide **fun and interactive ways for participants to reduce their waste and impact on the environment**.

ELECTRONIC PRODUCT RECYCLING

In 2000, Will County offered its first one-day Electronics collection accepting televisions, music and movie players, computers, and much more. By 2007, it established permanent drop-off sites hosted in a variety of communities. In 2015, Will County broke all previous collection records, **taking over 4,400,000 pounds of electronics, the most of any county in Illinois that year**. The program collapsed a few months later due to a loophole in state law, but it was rebuilt and thriving by mid-2016. Will County has been a leader in promoting the Illinois Electronic Manufacturer legislation, which resulted in a significant portion of the costs being the

responsibility of manufacturers. Since 2018, a new law has restricted the County's permanent sites but allowed for some creativity. Now, one permanent site is open twice a week, seven community sites are open once or twice a month for limited hours, and up to seven one-day Saturday events are held each year. As the weight of items such as TVs goes down, the County is collecting more data on participants at the small events. Due to the high demand for recycling electronics, several communities have added to their curbside services as a collection from residents' doors, but never from the curb due to confidential data concerns.

Additionally, Will County informs residents of other ways they can drop off electronics, such as visiting local stores and making use of the County's front-door service contract through its website, electronic newsletter, and social media. Will County hopes to address more greenhouse gas emission concerns through a contract for collection of refrigerators, window air conditioners, dehumidifiers, and other white goods.

TIRE RECYCLING

RR&E, working with county and township road crews, keep lands clean of waste tires. Tires are found dumped along highways, in parks, and on residential and farm properties. Tires do not decompose and, when dumped, collect rain water and mosquito larvae. This causes unsightly pollution and can spread the West Nile Virus. The IEPA's Used Tire Program was established in 1989 to collect fees on every tire sold in Illinois. These fees created a fund to cover the recycling of old tires turned in at tire dealers and to assist counties with large cleanup projects. RR&E includes township and county road departments in a yearly tire recycling event and enacts residential and farm tire collections when possible. Through the fees collected by the program, the IEPA has cleaned up more than **20,000,000 used/waste tires** that were improperly discarded in Illinois since the start of the program.

HAZARDOUS WASTE DISPOSAL PROGRAMS

Will County partnered with the IEPA to host the first Household Hazardous Waste (HHW) Collection event in 1993, then began funding its own in 1998. These events are offered in various cities and villages a few times each year. Free of charge, residents in the County bring

Site of dumped tires before and after clean-up by the Illinois Environmental Protection Agency's Used Tire program. Over 20,000,000 improperly-discarded tires have been collected and recycled since 1989.

699,050

POUNDS OF HHW COLLECTED AT NAPERVILLE SITE IN 2019

22,485

VEHICLES WITH HHW SERVED AT NAPERVILLE SITE IN 2019

DISPOSAL PROGRAMS AND ENFORCEMENT

unwanted oil-based paints, stains and thinners, cleaning products, automotive fluids (including old gasoline), solvents, aerosols, fluorescent light bulbs, rechargeable batteries, and more to be recycled or safely disposed of by hired contractors. (This also includes certain medications. For more information on Will County's Medication Take Back program, see page 48 in the *Water Conservation* section.) Between 2012 and 2019, **2,131,256 pounds of HHW** were collected from **24,868 participants**.

In addition to holding these events, Will County helps to fund a permanent HHW Drop-Off open every weekend (except holidays) in Naperville. Between 2015 (the year it went from a pilot program open only to city residents to a regional site) and 2019, this location **served well over 104,000 vehicles and collected over 3,444,000 pounds of materials** including flammable liquids, oil-based paint, adhesives or paint-related materials, toxic liquids and solids (like pesticides), aerosol cans, automotive fluids, asbestos materials, fire extinguishers, used batteries, fluorescent bulbs, household cleaners, peanut oil, poison, fertilizers, propane tanks, solvents, strippers, and thermostats.

Open dump properties before and after clean-up arranged by waste analysts and inspectors.

Will County uses its social media platforms and electronic newsletters to inform residents and business of less toxic alternatives, as well as retail programs that accept some of these items. While this is important, to make a significant impact on greenhouse gases, Will County partners with other governmental agencies to encourage manufacturers to take an active role in reducing toxics in their products and becoming involved in the recovery of their unused product, in hopes they can recycle it and move to a more circular economy.

ENFORCEMENT & INSPECTIONS

RR&E employs three certified IEPA waste analysts that regularly inspect permitted landfills, compost and land application sites, transfer stations, and construction and demolition recycling facilities. Waste analysts also respond to citizen complaints of open dumping and burning on land in Will County. All interaction with the public on these matters are guided by the IEPA delegation agreement (Environmental Protection Act 415 ILCS 5/1 et seq.), the Will County Zoning Ordinance, and court decisions and mandates.

This robust enforcement program began in 1988 when the County entered a delegation agreement with the State of Illinois. Through these efforts, RR&E has

33

YEARS OF OPERATION FOR RR&E'S ENFORCEMENT PROGRAM

1,071

NEW OPEN DUMPING AND BURNING CASES OPENED IN WILL COUNTY BETWEEN 2012 AND 2020

DISPOSAL PROGRAMS AND ENFORCEMENT

enforced the cleanup of hundreds of thousands of cubic yards of material and tires while attempting to keep all permitted facilities in compliance.

If RR&E receives a justified complaint, a case will be opened. The waste analyst, or inspector, will work with the property owners to use corrective actions and get the site back in compliance. If dumped items cannot be recycled, then land-filling is warranted. The goal is to get waste in its proper place and promote best waste practices.

The open burning of waste also hinders fresh air circulation and energy efficiency. Some residents want to regularly burn landscape waste while others complain about not being able to open their windows to breath fresh air, especially in the fall. Smoke-filled neighborhoods where leaf burning is allowed push many homeowners into closing their windows and/or running air conditioners. RR&E staff works with the Sheriff's Office to respond to burning complaints and both educate residents on the rules and limits of burning using the Zoning and Nuisance Ordinances. Public safety information is shared with residents on the dangers of burning, as high concentrations of carbon monoxide and particulate matter harm human health, especially in children, senior citizens, and those with breathing conditions. The Will County Board regularly discusses and revisits the Will County Nuisance Ordinance for

COVID-19 EFFECTS ON RESOURCE RECOVERY

Waste collection and recycling services were unchanged, as the Illinois Governor deemed both as essential services during the COVID-19 pandemic. Landscape collection was about to begin when the Shelter-In-Place order was issued, and Will County, along with others, urged the Governor to recognize the statewide composting service and industry as essential, as waste collection companies spoke of eliminating the service. At no time was this service stopped in Will County during the pandemic. Will County was also the only county in Illinois to keep its Electronics Drop-Off sites open with permission of our Health Department. Several other programs were canceled, such as the Book Reuse and Recycling event and one-day events scheduled on school properties that did not wish to send the public conflicting information. The textile and home good annual event was postponed but surged in participation.

All events were held with employees wearing masks and social distancing, with residents instructed to remain in their vehicles. Commercial collection of both waste and recyclables decreased due to office and restaurant closures. However, use of disposable personal protective equipment and delivery services for food and various goods increased, causing a worldwide surge in waste volume and cardboard that must be managed.

RR&E is especially proud of the successful launch of the new Water Refill Station Grant program, and the establishment of two new electronic drop-off sites during the pandemic. A special celebration program for the 50th anniversary of Earth Day was also able to adapt and continue safely through 2020.

modifications. Lastly, RR&E promotes backyard composting and commercial pick-up of landscape waste over burning this material.

Between 2012 and 2020, RR&E recognized over 1,000 new open dumping and burning cases, or an average of 119 new cases each year. Given the frequency of these issues and the importance of resolving them, enforcement programs demonstrate their value by limiting pollution and protecting the environment.

WILL COUNTY'S FUTURE PLANS

RR&E has historically completed a lot of work in this realm, so staff are no strangers to carrying on projects related to the use and reuse of materials of all kinds. Regular communication with other local governmental and non-governmental organizations will also be important for completing these goals. Collaborating with them to share ideas on effective resource recovery practices and test, adjust, and expand projects would be beneficial as well.

The Illinois Solid Waste Planning and Recycling Act of 1988 sets a minimum goal for recycling throughout the state and requires all Illinois counties to plan for the management of solid waste generated within the County for a 20-year planning period, as well as to update their plans every five years. As RR&E prepares to draft an update to the existing Solid Waste Plan, gathering more data on recycling and disposal trends will be important. Currently, RR&E is working with the best estimations on the volumes of materials being generated, being recycled, and coming into landfills locally. Still, getting a tighter grasp of these numbers is an interest Will County plans to pursue. This requires improved communication between the County and local waste haulers.

Given the popularity of electronics and HHW collection events, Will County will continue providing these resources to the community, making adjustments and improvements as necessary to make the events as seamless as possible for attending constituents.

Will County also plans to build on the success of useful and popular programs not just by continuing them, but by improving and expanding them. Limiting the waste of resources can be promoted with programs like Sharefest and the Pilcher Park Book Event, so the County can lean into initiatives like these. The County plans to create systems of resource recovery, such as a material exchange in which people trade items they no longer want and would otherwise throw away with useful items like money, other desired goods, or simply closet space. The County can also research what it takes to establish a food waste drop-off location to encourage and facilitate food composting, though it would have to be carefully designed and consistently maintained. Getting in contact with grocery stores, restaurants, hotels, universities, and other establishments in Will County that commonly come across food excess and waste can help initiate collaborative projects on composting.

43%

SHARE OF WASTE DIVERTED FROM LANDFILLS (RECYCLED/COMPOSTED) IN WILL COUNTY IN 2014

>300

COMPANIES REPORTING WASTE COLLECTION ACTIVITY IN WILL COUNTY BETWEEN 2006 AND 2014

WILL COUNTY'S FUTURE PLANS

FUTURE GOALS: RESOURCE RECOVERY

1. **Reduce the volume of waste generated in Will County**: Continue efforts to divert materials from landfills by staying up-to-date on reduction strategies implemented successfully by like organizations. Improve efforts to measure impact by adding a more strict reporting mechanism for waste haulers carrying materials in all sectors.
2. **Encourage reuse and recycling in Will County through events and programs**: Continue hosting collection events in collaboration with other public and private organizations. Consider costs and benefits of expanding these collection events, and evaluate potential for opening a year-round site.
3. **Promote the circular economy:** Encourage residents and businesses to reuse, repurpose, refurbish, and recycle items, or use as a fuel whenever other options are not applicable or readily available. Promote the purchase and use of items produced from locally generated materials, including but not limited to tires (i.e. as a road base), landscape and food waste (as compost, wood chips, compostable ware), grease (as a fuel), concrete & asphalt (as recycled road material), bricks (converted into pavers, sidewalks, and road bases), plastics (as various products and a fuel), food, and electronics (refurbished for continued use). Identify methods for encouraging the patronage of reuse organizations like Goodwill, Habitat For Humanity Stores, USAgain, Sharefest, Food Pantries, Garbage into biogas to compressed natural gas (CNG) and many more, to encourage reuse of for home goods, construction materials, textiles, and so on. Consider recruiting the Green Restaurant Certification Group and other trade groups, including the Will County Center for Economic Development and the Chambers of Commerce.
4. **Create new systems of recovering resources**: Establish a local material exchange for the residential, commercial and institutional sectors. Provide information on reusable items such as furniture, eatable food (grocery stores, others) and byproducts to connect people together and divert reusable materials from being disposed. Consider setting up a food waste drop off location to increase food composting.
5. **Communicate regularly with other organizations on creating a more circular economy**: Reach out to other governmental, commercial, and industrial organizations more often to find out what they are doing to promote the reuse and recycling of their materials. Seek out more examples of these businesses and organizations that are within the circular economy and share information that other governmental bodies are doing. For example, do so in a revived Green Business Star Program. (See Education & Outreach goals on page 75 in the *Education & Outreach* section.) Communicate regularly with the institutional sector (including Lewis University, the Will County Governmental League, municipalities, and townships) to promote activities to achieve the other goals.

7 EDUCATION & OUTREACH

Contents »

Goals »

1. Recruit ten new schools per year as part of the Earth Kids' education program
2. Organize an Adult Environmental Education Program
3. Host voluntary county-wide "Restore Our Earth Days"
4. Partner with municipalities and other groups to host water conservation sessions
5. Bolster the Green Business Star Recognition Program
6. Update the Will County Green website to reach 10,000 more residents annually
7. Build on the success of Will County Green's Facebook following by growing users on other social media platforms

Communicating with residents, businesses, and outside organizations is essential to enabling their participation in sustainable practices, so education and outreach efforts impact every other topic covered in this plan. It is the job of the entire staff of the Resource Recovery and Energy (RR&E) Division to interact with the public with the goal of creating a more green and healthy county for residents, educational institutions, and commercial entities. Whether it be answering phone calls, doing field work and inspections, conducting workshops and school outreach, or performing recycling events—RR&E is constantly educating. This section highlights the effort that goes into developing these programs and involving the Will County community in sustainability initiatives.

>10

TYPES OF EDUCATION AND OUTREACH EVENTS, PROGRAMS, AND PLATFORMS

>10,000

CHILDREN AND FAMILIES ATTENDING EDUCATIONAL EVENTS EACH YEAR

SCHOOL EDUCATIONAL EVENTS

SCHOOL EDUCATIONAL EVENTS

Since 2012, RR&E's Environmental Educator has provided **in-person and e-learning programs** at 40 to 50 schools each year. Schools can request a sole presentation or enroll in the **Earth Kids' program**. The latter asks that schools complete a group of earth friendly activities. Upon completion of these activities, schools are awarded a 3' x 5' Earth Flag and an award ribbon. In addition, schools are invited to an end of the year field trip.

The Environmental Educator also takes part in the yearly Will County Regional Office of Education STEM Fair and is invited to library, park district and scout group functions. Yearly, well over 10,000 children and their families are seen through these efforts.

Will County Earth Kids' Pledge

We will do our best to reduce, reuse and recycle at home and at school. We will create positive change in our communities and take part in fun and educational actions this school year.

Schools will receive a 3' x 5' Earth Flag and yearly award ribbon by completing the first 2 tasks along with 2 additional tasks shown below.

☑ Students watch 2 of 4 in person or E-learning presentations from RR&E. Titles include: Recycling at Home, Composting-Nature's Recycling, Solar Energy & Towards Zero Waste.

☑ Teachers assign a companion lesson to follow each of the two presentations shown.

CHOOSE 2 ADDITIONAL SCHOOL TASKS:

-Recycle two materials at your school building

-Invite Will County educator to lead a lunchroom waste audit

-Conserve paper by using both sides at the copy machine and in class

-Discuss energy and water conservation in class

-Create an outdoor learning space or garden at your school

-Design a trash to treasure project from reused or found objects in class

-Create a virtual photography fair. Students photograph weather, animals/insects, plants or water. Schools submit three finalists to Will County by April 15th

To become an Earth Kids' School, contact the Resource Recovery and Energy Division by phone: 815-774-3354, Fax 815-722-3410, or Email: jokeefe@willcountygreen.com


INFORMATIONAL GREEN EVENTS

RECYCLING AND FOOD WASTE WORKSHOP

In 2018, RR&E held a two-part school **Recycling & Food Waste Workshop**. It began with a bus tour to a commercial compost site and ended with a no-waste dinner and workshop at Lewis University. Area teachers and waste professionals addressed food waste concerns and solutions for school buildings, and the Will County Educator and other professionals shared examples of lunch room waste audits and vermicomposting bins for classrooms.

Because of the information shared at this event, the Central and East campuses of Plainfield High Schools took part in a seven-month food waste pilot program. **Over 150 vermicomposting bins** have been shared with schools and libraries in the area in the past eight years, helping to engage students and staff in resource recovery efforts.

GREENTOWN

Will County, the City of Joliet, and the South Metropolitan Higher Education Consortium (SMHEC) brought together "**GreenTown: The Future of Community**" in the Joliet Junior College Renaissance Center in October 2018. This one-day educational seminar was designed to join the public and private sectors so that they could identify and coordinate the action steps needed in order to create

healthy, sustainable communities.

The day began with the Elected Officials Breakfast, which was an invitation-only gathering of elected office holders, appointed public officials, government staff and the policymakers who would learn about the sustainable initiatives happening within the region.

Following the Elected Officials Breakfast was the keynote presentation by Debra Rowe, PhD, a professor at Oakland Community College in Detroit and a leading advocate in sustainability and education for sustainable development. The full program's presentations covered a variety of topic areas, including Energy and Ecosystems, Local and Sustainable Food, Water, Transportation, Health, Waste Diversion, Composting, Recycling, and Food Recovery.

The event spurred sustainability groups who continue to work for positive change in our area. In fact, GreenTown Will County launched the Will County Sustainability Network also known as WCRSN, which had been organized to connect people, communities and resources with the goal of **making lasting improvements to Will County's economy, ecology and social equity**. WCRSN is a network for collaboration and gathering for like-minded individuals and entities that are passionate about the environment.

BLUESTEM FEST

Each year, the University of St. Francis and local community groups committed to environmental sustainability come together to execute the **BlueStem Fest.** Attracting 1,000 to 1,500 visitors when held in person, the event addresses a

1,900

KILOWATTS OF SOLAR POWER GENERATED BY VALLEY VIEW SCHOOL DISTRICT

216,000

ESTIMATED TOTAL POUNDS OF PRODUCE GROWN IN WWGSCGP GARDENS

INFORMATIONAL GREEN EVENTS

variety of topics such as social injustice, the devastation of natural resources, global warming, human trafficking, racism, and pollution. Residents learn how to care for the environment while enjoying live demos, entertainment, and children's activities.

RR&E staff sits on the planning committee and joins the event each year, doing live presentations on recycling, composting and food insecurity. The Will County Green information table, paper shredding event, and vermicomposting bin giveaways are a few ways RR&E staff has been involved.

KIDZFEST

Each year, RR&E staff interacts with the families at a favorite summer event known as **Kidzfest**. Downtown Joliet's Chicago Street comes alive with families dancing to music, climbing in and out of huge trucks and blowing bubbles. Those visiting the Will County Green booth play a recycling game and leave with a recycled content Frisbee. Different area organizations come out and show residents the meaning of community and fun.

ENERGY TALKS

In 2018, Will County and Valley View School District 365U hosted **5 Solar Roofs**, a talk on solar energy at Lukancic Middle School in Romeoville. The Will County Board, school administrators, and facility teams learned how VVSD 365U got approval and paid for their solar installations. The school district's Facilities Director Michael Lopez led the discussion.

Energy was also the topic at the **Energy Summit for Schools** hosted by School District 33C in Homer Glen. This 2015 event was packed with informative speakers from Lockport High (an Energy Star school), Shedd Aquarium, and the University of Illinois at Chicago (UIC) to name a few, covering topics from energy data to boiler and lighting efficiencies.

WATER CONSERVATION EVENTS

In July 2019, Will County teamed up with the City of Joliet and the Joliet Slammers to host **Water Conservation is a Grand Slam,** a water-conservation-themed baseball game at the Slammers Stadium.

>30

MICRO PANTRIES IN WILL COUNTY

$1,449,000

MONEY INVESTED IN FAIRMONT DRAINAGE SYSTEM BY WILL COUNTY

COMMUNITY PROGRAMS

As the first event of its kind focused on teaching residents about Joliet's depleting water source, the Slam had an educational emphasis, showing game goers how to curtail water usage and save money at the same time. WaterSense educational videos played on the Jumbo Tron, and water pledge cards and leak detection kits were passed out to all who attended. The event culminated in raffling off a new water-efficient dishwasher and many other prizes.

COMMUNITY GARDENS

The Will County Land Use Department, with support of Will County Farmer and former County Executive Lawrence M. Walsh, began to address the gaps in food access in 2014 with the **We WILL Grow School and Community Garden Program (WWGSCGP)**.

When the program was under development, staff selected gardens with an application process and site visits (using methods outlined by the American Community Garden Association). Each qualified garden was located in a food desert and/or connected to (1) an operating food pantry, (2) a school with a low-moderate income population participating in a summer meals program, (3) a school under agreement to donate the majority of its harvest to a local pantry, or (4) an organization whose mission is to donate garden harvests to area pantries in their community. After two years, the applications were replaced with referrals from organizations who learned of the program and reached out either directly to Land Use or through a garden partner.

30 gardens are now part of the program, and all gardens constructed or supported by the program are provided all plants annually. Garden partners are also provided funding for tools, irrigation, and soil amendments needed to support their garden as long as they remain in the program. The annual $30,000 budget supports existing gardens in the program, expands current gardens that can handle added growing space, creates new gardens, and supports existing gardens outside the program that do not have funds to meet production needs.

The program added four gardens in 2020, including two newly-constructed raised

NATIVE PLANTS IN WILL COUNTY

Native plants, such as Will County's coneflowers, orchids, and goldenrods, have historically grown in the area and are accustomed to the local environment. They do not require the water, fertilizer, and pesticides that non-native plants need to thrive. They can also prevent erosion, build organic material in soil, sequester carbon from the atmosphere, and provide habitat for local wildlife. All of these benefits create a better environment, and Will County encourages interested residents to consider using native plants in their gardens.

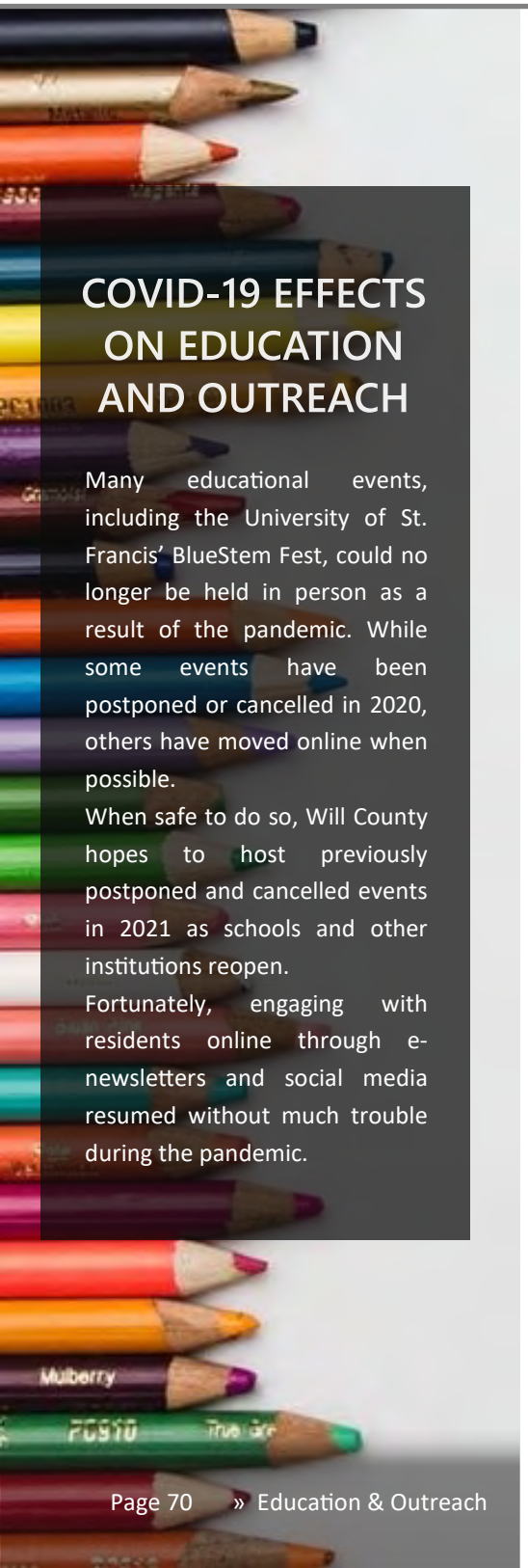
>$234,000

VALUE OF FAIRMONT SCHOOL PARKING LOT AND DETENTION POND

>450

PLANTS PREVENTING FLOODING IN FAIRMONT RAIN GARDEN

COMMUNITY PROGRAMS



COVID-19 EFFECTS ON EDUCATION AND OUTREACH

Many educational events, including the University of St. Francis' BlueStem Fest, could no longer be held in person as a result of the pandemic. While some events have been postponed or cancelled in 2020, others have moved online when possible.

When safe to do so, Will County hopes to host previously postponed and cancelled events in 2021 as schools and other institutions reopen.

Fortunately, engaging with residents online through e-newsletters and social media resumed without much trouble during the pandemic.

bed gardens. Plants were provided to all gardens, and since the plants required hand tools, additional planting materials and equipment were given to one new and two existing gardens that needed them. In the same year, the garden program paid for staff at two hard-hit pantries located on the south end of Joliet who maintained the garden and worked in the weekly food distributions.

At the current funding level, the goal for 2021 is to provide continued support to existing gardens and construct two to four new gardens.

DRAINAGE PROJECTS IN FAIRMONT

To address flooding issues in the Fairmont community near Joliet, Will County initiated an eight-phased plan culminating in the **Fairmont Drainage projects**. Fairmont Drainage Phase 1, the **Fairmont Rain Garden program**, included the installation of rain gardens as a green infrastructure initiative in 2017. Four applicants in total followed through with the installation of the rain gardens. Additionally, in 2018, Will County helped install a **water detention basin** and redesign a parking lot to control flooding along North Avenue and Green Garden Place. When the new Fairmont School District 89 was built, engineers did not anticipate the elevation of the school parking lot (approximately five feet higher than residential properties) would negatively impact the properties to the immediate north and west. Implementing green infrastructure by constructing a prairie grass-bottomed detention basin (pond) proved to be a solution.

This basin incorporates native Illinois prairie plants that can survive being submerged in water for multiple days until the basin empties into the existing storm sewer system. A detention pond holds water and controls the flow of storm water into the existing storm system; the prairie grass filters the water entering the storm water sewer system. Unlike the turf grass at the bottom of some basins, prairie grass also does not require mowing and provides a beautiful feature for the community.

The elevation of the parking lot and its negative impact on neighboring properties were alleviated with the installation of the basin and a new parking lot that incorporated bioswales. Islands used to control traffic were landscaped with deep-rooted plants to further control flooding, with the overall system designed to direct water to the detention pond.

LITTER CLEAN-UP PROGRAMS

Regular litter clean-up programs have been held in the Fairmont neighborhood of Lockport over the years. In 2015, RR&E and additional Land Use staff partnered with Lockport Township

4,726

ACTS OF GREEN COMPLETED BY WILL COUNTY EARTH DAY PARTICIPANTS IN 2020

>40,000

ANNUAL USERS OF WILLCOUNTYGREEN.COM

COMMUNITY PROGRAMS

to clean up a township culvert that had been severely dumped on.

Over the next year, RR&E planned several roadside litter clean-ups with the grassroots group Helpers of Mother Earth. The entire community got involved to perform many clean-ups, and a no-litter campaign was started. To highlight the work done in the neighborhood, **Earth Day in Fairmont** was celebrated in 2016. Educational speakers discussed the roots of farming in the Black community and how community gardens positively offset food deserts in Will County. Children's games and vegetable plant giveaways helped make this a great day for all.

RECOGNITION PROGRAMS

Will County first launched the **Green Business Star** recognition program in 2011 to promote businesses that recycle resources, practice energy efficiency, conserve water, and engage in other environmentally-friendly behaviors. Businesses can demonstrate their efforts to be sustainable and care for resources by engaging in a number of energy- and money-smart behaviors, such as shutting off lights, providing recycling bins for customers, and so much more.

Recognized businesses so far include Denny's in Joliet, GreenChoice Bank in Lockport, Continental/Midland LLC in Park Forest, the Greater Joliet Area YMCA, and several others. Through this program, the County encourages business practices that contribute to resource recovery efforts. In addition to the Green Business Star program, the Will County Land Use Department partnered with the Will County Health Department, the Forest Preserve District of Will County, and the Will County Sustainability Network/SMHEC to celebrate the **50th Anniversary of Earth Day** with constituents through the **Will County Earth Day** passport program. The activity-based, self-guided program lasted from mid-March to mid-September 2020. Participants received copies of the WCED50 Passport, which offered 50 Acts of Green to learn, take action, attend events, and get outside to celebrate. Participants who completed and logged at least 15 Acts of Green qualified for raffle prizes. In the end, **423 participants completed 4,726 Acts of Green, and 123 participants qualified for raffle prizes**.

4,200

FOLLOWERS ON FACEBOOK

420

FOLLOWERS ON INSTAGRAM

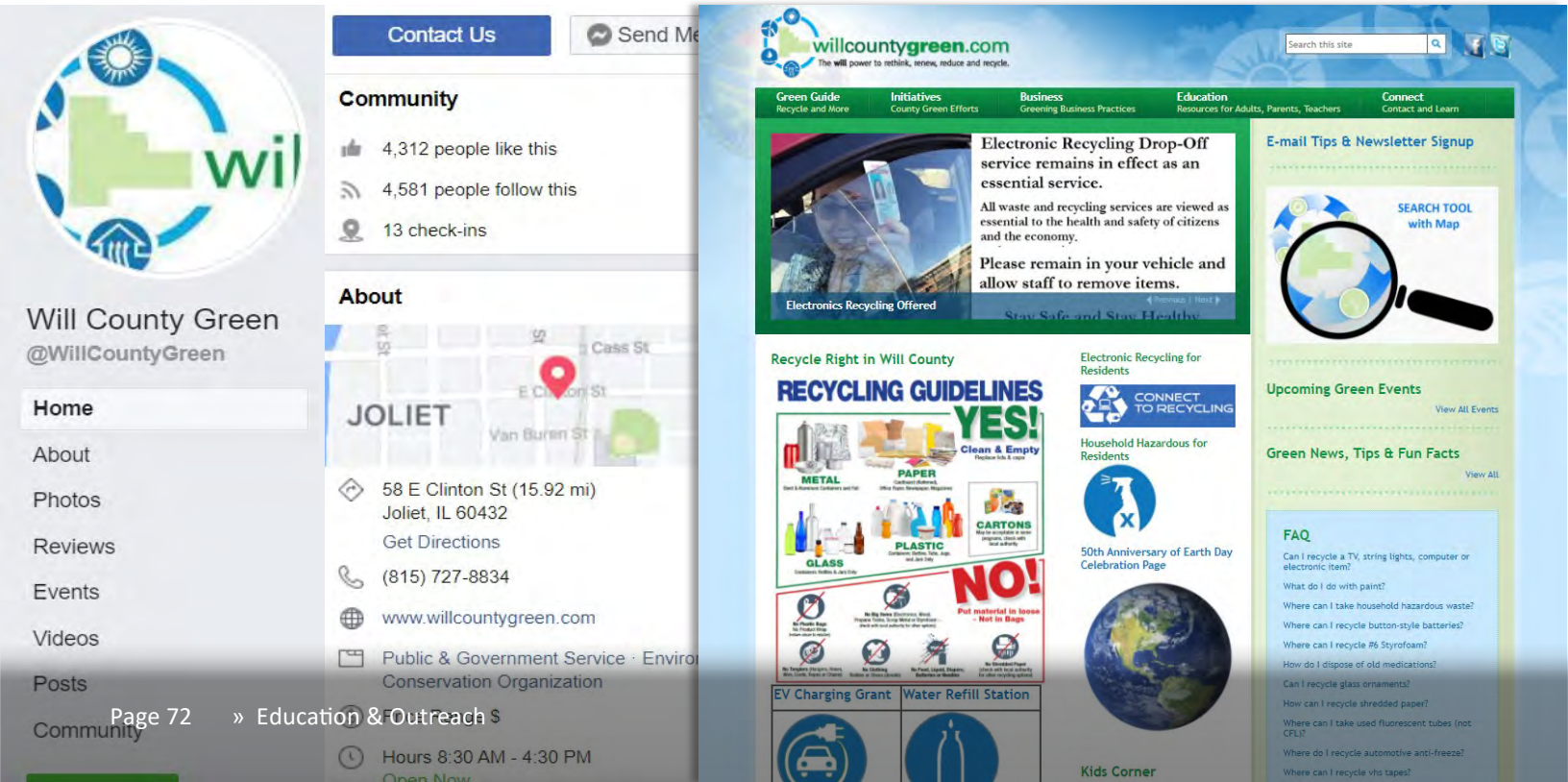
VIRTUAL OUTREACH

Many of the most popular Acts of Green, such as using reusable straws and cups, opting for paperless billing, taking plastic bags and wrap to grocery stores to be recycled, and purchasing items from second hand shops, all contribute to preserving and recovering valuable resources.

WILLCOUNTYGREEN.COM

Using funds from the Energy Efficiency and Conservation Block Grant (EECBG), RR&E launched the **Will County Green website** on America Recycles Day in 2010. Over the last ten years, the website improved access to information for residents tremendously, going from less than 1,000 visits a year prior to launch, to **over 40,000 unique visits annually**. The website now has hundreds of pages covering a wide variety of green topics, from recycling and waste disposal tips and events to water conservation tools, food and community garden resources, countywide energy efficiency initiatives, green business practices and related job opportunities, along with an abundance of educational materials. The website has converted some paper forms to paperless electronic forms to save additional resources, including a reduction in faxes and printed materials within the RR&E offices. Recently, RR&E also partnered with the Will County GIS team to enhance the search guide and more.

In 2020, per Google Analytics, the website had over 40,000 unique users (up 0.2% from the previous year) and 57,000 viewing sessions (up 2.4%). 63% of users came to the website from social media referrals, and 26% came to the website from organic searches for information on the internet. The most popular pages visited are similar to the phone calls RR&E receives, which are about paint and electronics more than anything else. These are the main landing page (41,421 views), the electronics recycling info page (23,902 views), the FAQ page (8,222 views), the Green Guide Search page (7,860 views), and the household hazardous waste info page (5,465 views).



WILL COUNTY GREEN SOCIAL MEDIA PAGES

In September 2010, RR&E started reaching out to constituents through several social media platforms including Facebook, Twitter, LinkedIn, YouTube, and blog posts in local online newspapers. Over the years, they added Pinterest and Instagram social media accounts but reduced blog posts and YouTube efforts. By far, the Facebook account has been the most popular, with residents not only liking but sharing daily posts and making appointments to attend events. In 2020, RR&E was able to fill all appointments for September's collection event without any paper advertising thanks to the success of social media outreach efforts.

ELECTRONIC NEWSLETTERS

Since 2011, RR&E has published a free electronic newsletter each month, highlighting green items of interest, tips, events, and programs. This makes it easier for residents, students, professionals, and other subscribers to keep up with and participate in green programs throughout the County. Currently, there are **over 7,400 emails registered to receive the newsletter**, with an average open rate of 36%, which is considered high by the industry. To date, **nearly 120 e-newsletters have been sent**, and each one is forwarded to all County employees. Most have also been captured and saved to the website for people to access later, recognizing green improvements made by businesses, organizations around the County and by the County itself.

Altogether, these virtual outreach efforts are critical to reducing green-house gas emissions—they streamline access to valuable information and give over a million residents and businesses the tools to lower emissions as well.

>200

PUBLIC AND PRIVATE SCHOOLS IN WILL COUNTY

10

NEW SCHOOLS TO BE REACHED BY EARTH KIDS' PROGRAM EACH YEAR TO MEET GOAL

WILL COUNTY'S FUTURE PLANS

WILL COUNTY'S FUTURE PLANS

The current successes of programs like the Earth Kids' program are promising signs that they should be expanded to reach more students and families. Therefore, RR&E's Environmental Educator will strive to recruit ten more schools to the Earth Kids' program each year. Including religious schools and daycares, Will County has over 200 public and private schools, and there is plenty of room to recruit more to the program.

While educating kids is crucial, reaching out to adult constituents is also important for creating and maintaining a thriving and environmentally conscious community in Will County. Developing an environmental education program for adults, with programming taking place on topics and in times and locations that would interest them, is one way RR&E can encourage engagement with adults. RR&E already hosts events like these, so organizing them as part of a series of regularly-held events could be lead to a greater turnout and valuable connections with the community.

In the future, Will County plans to use many of the programs discussed here as case studies to carry over into other parts of the community. As it is in many other sections of this plan, working with other local organizations more often to develop, promote, and host programs for the community is an excellent way to create more engaging content for constituents as well as strengthen Will County's relationships with residents, businesses, and learning institutions.

For example, partnering with local schools and geocaching groups would enrich the no-litter campaign and clean up programs. Some educational institutions already have smaller-scale clean up programs in place, and for years local geocaching groups have hosted Cache In Trash Out (CITO) events in which participants pick up litter, build trails, plant trees, remove invasive species, and take care of the environment. Partnering with these organizations to expand litter clean ups into potential County-wide "Restore Our Earth Days" would allow Will County and those organizations to reach more neighborhoods in need of cleaning and/or restoration. Inviting any interested residents to join in as volunteers would benefit the community, too.

As another example, given the rising concerns about local water issues, Will County can continue hosting water-related events in partnership with the City of Joliet and other municipalities to support water conservation efforts.

Although the reach of the Green Business Star program has slowed recently, strengthening it can reinforce public-private partnerships between the County and local for-profit and not-for-profit

>40,000

UNIQUE VISITS MADE TO WILL COUNTY GREEN WEBSITE EACH YEAR

10,000

NEW VISITORS TO BE REACHED THROUGH WILL COUNTY GREEN WEBSITE EACH YEAR TO MEET GOAL

groups. Working with the Will County Center for Economic Development would be a great place to start.

Of course, effectively making members of the community aware of these events is vital to their success. To expand the County's communicative reach in the future, Will County plans to continue interacting with community members through social media and to connect with 10,000 new residents through the Will County Green website each year. Consistently sharing engaging content will be key in doing so.

FUTURE GOALS: EDUCATION & OUTREACH

1. **Recruit ten new schools per year as part of the Earth Kids' education program**: Continue building on the success of the Earth Kids' education program by reaching out to schools that have not yet joined in.
2. **Organize an Adult Environmental Education Program**: Arrange RR&E staff's existing adult-targeted education and outreach presentations under one Adult Environmental Education Program. Reach more adult residents with a series of quarterly educational sessions. Feature RR&E and Land Use staff as well as guest speakers from other local institutions.
3. **Host voluntary county-wide "Restore Our Earth Days"**: Announce, promote, and recognize "Restore Our Earth Days" as county-wide litter clean-up days to be repeated around the same time each year. Make it a voluntary program for any K-12 schools, universities, corporations, and grassroots groups. Direct focus to local playgrounds, parks, streets, and open areas to create a cleaner Will County.
4. **Partner with municipalities and other groups to host water conservation sessions**: Hold water conservation sessions in Will County communities to engage residents, businesses and governments in adopting EPA WaterSense habits and smart fixtures. Collaborate with water groups and municipalities for greater impact. (See also Water Conservation goals on page 51 in the *Water Conservation* section.)
5. **Bolster the Green Business Star Recognition Program**: Partner with the Will County Center for Economic Development and other organizations to strengthen the Green Business Star Recognition Program. Renew public relations, goals, and recognition by sharing information on digital media and/or holding an annual awards ceremony to share successes. Find new ways to recognize local businesses for their green efforts.
6. **Update the Will County Green website to reach 10,000 more residents annually**: Attract more visitors each year to the Will County Green website by including up-to-date information on green projects, events, and other materials. Streamline the site to make visits more efficient and user-friendly.
7. **Build on the success of Will County Green's Facebook following by growing users on other social media platforms**: Offer consistent, interesting, and engaging content on Will County events, job opportunities, news, and more through growing Facebook, Twitter, LinkedIn, and Instagram profiles. Continue to recognize the need to reach constituents in not only print media, but the evolving world of social media as well.

8 TRANSPORTATION

Contents »

Goals »

1. **Encourage electrification of transportation**
2. **Collaborate with utilities, advocacy groups, and other organizations to create a cleaner, safer transportation network**
3. **Investigate converting a greater percentage of Will County's fleet to CNG or EV**
4. **Encourage greater use of alternative modes of transportation**

Highways, railroads, bike trails, and waterways crisscross Will County, seated in the largest intermodal region in the Midwest. While this heavy traffic brings plenty of economic vitality to the area, the barrage of single-passenger vehicles and freight trucks also clogs up arterial expressways and other roads, increasing average travel time and wearing down infrastructure. The limited capacity of established roads and pathways for motor vehicles and alternative modes of transportation additionally make travel less convenient.

Many different organizations are involved in advocating for, building, maintaining, and expanding roads, bike paths, trails, and other transportation infrastructure. Some parties, such as the Will County Department of Transportation (WCDOT) and the Forest Preserve District of Will County (FPDWC), are governmental agencies that create and take care of the roads and pathways. Others, such as Metra and Pace, are affiliations with larger transportation systems that maintain and operate trains and buses. Others still are advocacy organizations working to improve laws and share information with the public. Creating a seamless transportation network through which travelers can get from one place to another in a safe and environmentally-friendly manner is a priority for all of these groups.

306,130

WILL COUNTY COMMUTERS TAKING PERSONAL VEHICLES TO WORK IN 2019

21,528

WILL COUNTY COMMUTERS TAKING PUBLIC TRANSIT OR WALKING TO WORK IN 2019

MOVING PASSENGERS IN WILL COUNTY

MODES OF TRANSPORT IN WILL COUNTY

According to data collected by the Census Bureau's American Community Survey, almost 88% of the nearly 350,000 workers in Will County commuted to work in a car, truck, or van in 2019. This share is far greater than the remaining 12% of Will County workers who commuted via public transportation (including buses, rail systems, and taxis), rode motorcycles or bicycles, walked to their place of employment, worked from home, or used some other means of getting to work that year. In fact, personal vehicle use has been the primary means of commuting to work for many years, this percentage hovering between 87% and 91% for the last 14 years.

Reducing the level of motor vehicle use—that is, **increasing the level of alternative transportation use**—can mitigate the environmental impact of transportation in Will County.

Part of this is related to encouraging people to travel less on a regular basis. As stated in Will Connects 2040 Plan, Will County's latest transportation plan, more than two-thirds of employed Will County residents work outside of the County, and about half of Will County workers commute from outside the County. Increasing job opportunities within the County, perhaps paired with more work-from-home opportunities, could help reduce the heavy traffic coming into and leaving the County every day. Additional initiatives, as discussed in the following pages, pair less frequent gasoline-powered travel with more frequent reduced-emission travel.

WCDOT VEHICLES AND ROADWAYS

The Will County Division of Transportation (WCDOT) builds and maintains 255 miles of roads as well as bridges, facilities, signage, signals, and many other features of the transportation system. Their diligence helps ensure that the wear-and-tear from the millions of vehicles riding over the roads does not leave them in disrepair. As detailed in the Will Connects 2040 Long Range Transportation Plan, WCDOT works to meet expanded transportation needs while protecting historic, cultural, and environmental resources.

To fulfill Motor Fuel Tax (MFT) funding

Taking public transit and working from home tend to be slightly more common than walking or biking to work, but taking a personal vehicle to work is still the most popular commuting method by far, holding steady around 90%.

Data source: American Community Survey

requirements and Illinois Department of Transportation (IDOT) standards for road projects, WCDOT has begun enacting policies that **preserve and restore wetlands, protect and restore soil integrity,** and **guide future developments to conserve natural, historic, and cultural assets**. WCDOT has also integrated four additional yards in different locations across the County to **reduce the amount of travel to and from WCDOT's campus** on Laraway Road. WCDOT's fleet is maintained so that **old and inefficient vehicles are replaced** with new ones at appropriate intervals, helping to prevent excess emissions from their vehicles. Additional management practices, such as incorporating **green infrastructure elements and sustainable practices into roadway design and upkeep, including sustainable roadways into capital improvement planning,** and **collaborating with other agencies to maximize transportation connectivity**, all help WCDOT contribute to a more resilient and reliable transportation network.

PUBLIC TRANSPORTATION

Well-used public transit systems can reduce traffic by taking more cars off the road and produce far lower emissions than less-efficient personal vehicles.

Two major institutions involved with public transportation in Will County are Metra, which runs the commuter trains, and Pace, which runs the public buses. Their parent organization, the Regional Transportation Authority (RTA), outlines the environmental benefits of public transport in the Chicago area and strategies to further sustainability efforts in their 2012 Green Transit Plan. **Increasing public transit ridership**, **promoting transit-oriented development** that makes it easier for commuters to choose alternative transportation, and **improving the operational efficiency of their vehicles** are the main sustainability priorities set forth by these organizations. Installing diesel particulate filters on Pace buses, recycling water used to wash vehicles and waste products like tires and oil, and complying with anti-idling laws are just some of the ways these agencies work to green public transportation.

For example, in an effort to reduce emissions, Metra has looked into cleaner ways to power their commuter trains. The RTA hired engineers to assess the feasibility of running Metra's diesel-electric locomotives on **alternative energy fuels**. In 2019, after weighing safety, financial, infrastructural, and environmental concerns, the engineers proposed a dual fuel approach to run some or all Metra trains on both compressed natural gas (CNG) and diesel fuel. The conversion could save millions of dollars in fuel costs each year and reduce exhaust emissions, but also requires expensive infrastructural changes and has a long payback period. These factors and more will impact the RTA's final decision.

Additionally, one of Pace's top priorities is reducing the company's carbon footprint and improving the community's environmental quality by using ultra-low sulfur fuels that meet all federal requirements, providing monthly incentives to employees to commute in a vanpool, and recycling tires for playground flooring and even fuel, among other initiatives. Pace continues to encourage transit supportive land use and pedestrian infrastructure within corridors to improve access to transit services.

Illinois school districts also have options available to help decarbonize their school buses. The Illinois Department of

42

PUBLIC EV CHARGING STATIONS IN WILL COUNTY AVAILABLE AS OF MARCH 2021

862

PUBLIC EV CHARGING STATIONS IN ILLINOIS AVAILABLE AS OF MARCH 2021

MOVING PASSENGERS IN WILL COUNTY

Education will reimburse any qualifying school district for the cost of converting gasoline buses to more fuel-efficient engines or to engines using alternative fuels, though restrictions may apply. Adding diesel filters and converting to electric are some ways districts can green their school buses. See the link to 105 Illinois Compiled Statutes (ILCS) 5/29-5 in Appendix A for more information.

ELECTRIFICATION

Electrifying the transportation sector—making our modes of transport less dependent on fossil fuels by making it more reliant on electricity—involves designing cars, trucks, refueling stations, and truck stops to run on and supply electricity.

ELECTRIC VEHICLES (EV) AND EV CHARGING STATIONS

Electric vehicles are automotive cars, trucks, and buses that operate on battery -stored electricity rather than gasoline. As a result, EVs can transport people without the emissions associated with burning gasoline, reducing the local environmental impact of transportation.

In recent years, several automakers have set goals to switch from producing gasoline-powered vehicles to battery-powered vehicles. General Motors plans to fully electrify its model lineup by 2035, and Volvo aims to do the same by 2030. Many other manufacturers anticipate unveiling more EVs in the US in the next few years, so the widespread transition to EVs is eminent. To be prepared for these changes, Will County will need to transition County vehicles to battery power and encourage residents to use EVs themselves.

Three primary barriers currently hinder greater EV adoption: (1) the considerable upfront costs of necessary technologies and infrastructure (although many consumers may purchase EVs at a lower price, since the technology has been on the market for a decade); (2) range anxiety, or the fear that EVs cannot get drivers to their destinations due to limited distance capabilities and insufficient charging station availability; and (3) a lack of widespread education and outreach on EVs and their importance. Tackling the first barrier requires state policy changes and is outside of Will County's governmental reach; however, the County has options for addressing the latter two.

One way to alleviate range anxiety is to install more EV charging stations in the area. Making them more available for use around the community encourages residents and workers to invest in EVs and makes the County more attractive to businesses and home buyers. Recently, Will County funded installations of **EV charging stations** at the new Courthouse and Health Department. In the first six months of operation, the Health Department averaged six unique users, three of them employees, encouraging use of the station by offering it at no charge. Over

EV charging station near Will County Courthouse in Joliet

0

TAILPIPE EMISSIONS FROM EVS RUNNING ON ELECTRICITY ONLY

539

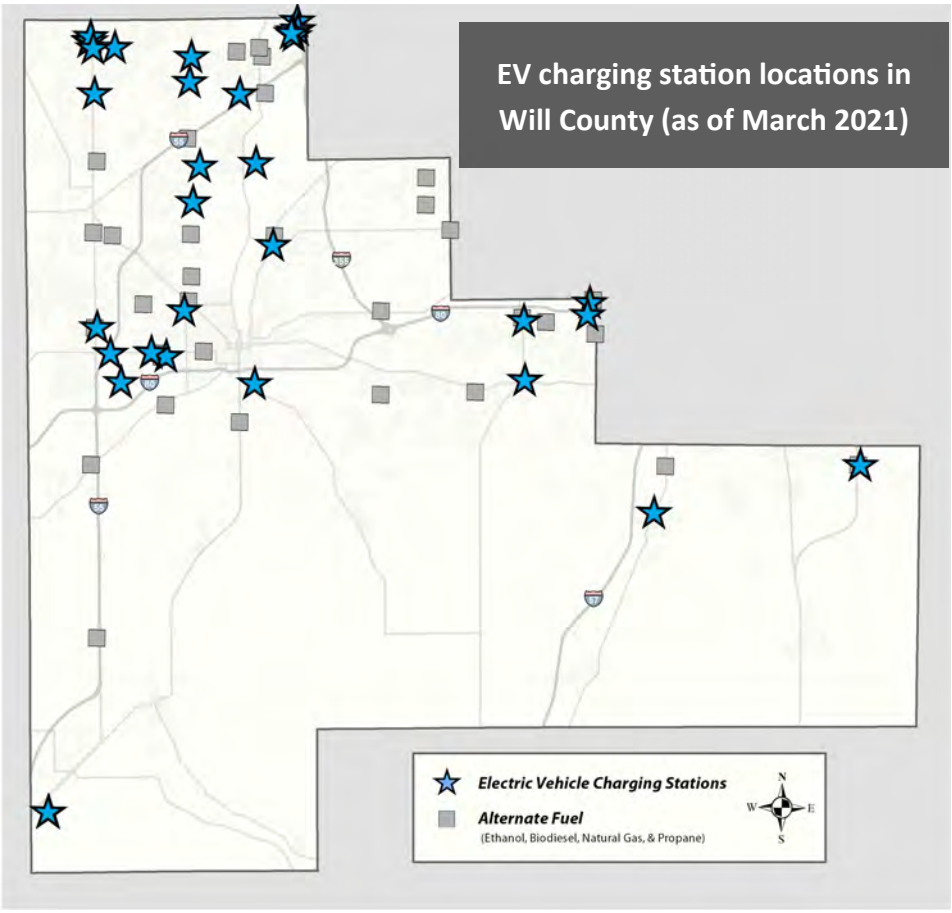
KILOGRAMS OF GREENHOUSE GAS EMISSIONS REDUCED BY HALF A YEAR'S USE OF THE HEALTH DEPARTMENT'S EV CHARGING STATION

MOVING PASSENGERS IN WILL COUNTY

that time, the amount of electricity used from June 1 through December 31 was 1,282 kWh, at an estimated cost to the County of $38.46. This has reduced greenhouse gas emissions by 539 kg, resulting in cleaner air for residents. Studies indicate that cleaning the air cuts the number of people suffering asthma attacks and other respiratory conditions, as well as reducing cardiovascular complications. To date, the cleaner air provided by use of this station is the equivalent of planting 15 trees!

The County also **offered grants up to $3,500**, partnering with the Forest Preserve and the City of Lockport, which installed a station at the City Hall. These stations are also free to users. While more stations can be found around the County, including at some stores, malls, a movie theatre and two college institutions, more infrastructure is needed to overcome range anxiety. As EVs become less expensive and more popular, more will come online in the future.

Will County can also encourage municipalities to change ordinances to allow for the growth of EV use. The **EV-Ready program** offered through the Metropolitan Mayors Caucus provides a checklist of actionable items towns can pursue to ensure locals will have the means to use EVs, as well as funding resources. Going forward, Will County can encourage municipalities to look into this program.



EV charging station locations in Will County (as of March 2021)

Finally, as far as education goes, the Will County Green website and social media has for years extolled the benefits of EVs, including lower maintenance costs, the option to refuel at home, away from wind, rain and snow; along with the quick acceleration and quiet ride. In 2019, a PowerPoint was created to offer local officials more insight into the benefits of offering EV charging stations on public properties. Sharing resources like ComEd's EV Toolkit to help residents learn about EVs is yet another way Will County can guide residents interested in purchasing EVs.

In the future, if paired with supportive policy actions both locally and nationally, EV adoption can be more widespread than it is today. See Appendix A for links to EV resources.

BIKEWAYS AND PEDESTRIAN PATHWAYS

Riding a bike or walking instead of driving a personal vehicle comes with many benefits—saving money on gas, tolling, and other car-related expenses; reducing emissions and environmental harm associated with personal motor vehicle use; and enjoying the health benefits that

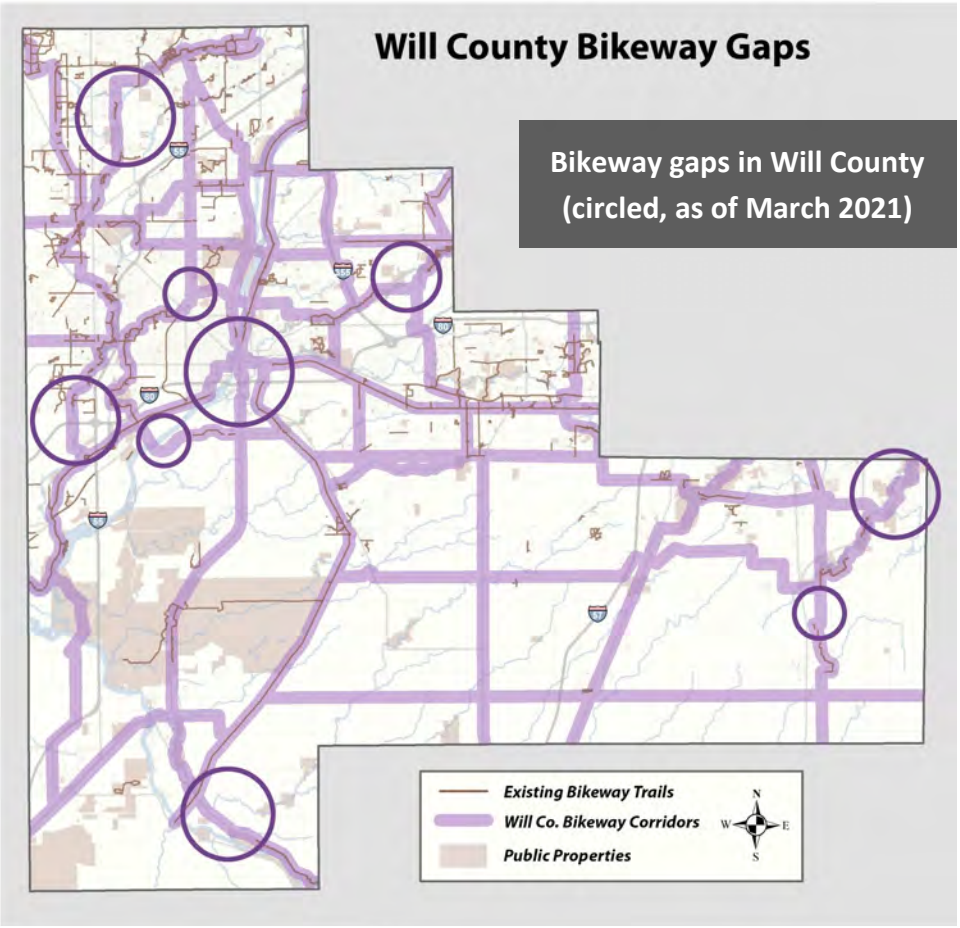
31

MILES OF NATIONAL AND STATE-OWNED BIKEWAYS IN WILL COUNTY

374

MILES OF COUNTY- OR LOCALLY-OWNED BIKEWAYS IN WILL COUNTY

MOVING PASSENGERS IN WILL COUNTY



come with exercise and cleaner, less polluted air.

As detailed in part of Will County's 2040 Long Range Transportation Plan—its 2016 Bikeway Plan, specifically—over 400 miles of bikeways exist within the County, with hundreds more miles currently proposed or in development. **Gaps in pedestrian and bicycle networks and barriers to active modes of travel** are identified, and plans to address these difficulties are underway.

The Forest Preserve District of Will County (FPDWC), which led the way on preparing the Bikeway Plan, is not the only organization working on better bike and pedestrian paths in Will County. WCDOT, Ride Illinois, and the Active Transportation Alliance all have programs to help remove barriers to using these paths.

Unfortunately, betterment programs often struggle to get off the ground due to lack of funding, staff capacity, data, political will, and community awareness and engagement. Weak implementation, inconvenient land use policies, and competing priorities also hinder efforts to move beneficial projects forward.

To help remedy these problems and encourage more residents to bike and walk, either for workday commutes, errands around the neighborhood, or leisure, several local organizations have advocated for, built, and renewed bikeway paths. Since ownership and maintenance responsibilities for different paths are scattered across different groups, collaboration between these groups is critical for creating a bikeway network that users from all parts of Will County can fully enjoy.

For instance, Ride Illinois provided assistance to the FPDWC on the Will County Bikeway Plan, advocated for improved WCDOT policies, and conducted other campaigns and events to better accommodate bikers and pedestrians across the County.

The Active Transportation Alliance is considering working directly with governmental entities on messaging and outreach, as well as sharing success stories, supporting communities as they

270

MILES OF MAJOR ARTERIAL ROADS IN WILL COUNTY (SUCH AS IL 59 AND IL 394)

1 IN 6

VEHICLES ON ILLINOIS' URBAN INTERSTATES THAT ARE TRUCKS

MOVING GOODS IN WILL COUNTY

apply for funding, and reforming state local match requirements for walking and biking improvements. WCDOT's Complete Streets policy additionally allows the Division to include sidewalks and bikeways in their projects in conjunction with other organizations.

Other laws exist to protect bikers. For example, bikes are legally allowed to use all state, county and township roads except tollways and specifically posted highways in Illinois. While cyclists are required to follow many vehicle rules of the road, it is important to note that drivers must also share the road. When a motor vehicle passes a bicyclist, they must give them at least three feet of clearance and are permitted to pass in a no passing zone on a two lane road when there is no oncoming traffic. When opening a car door from a parallel parking situation on a street, drivers are to reach over with their right arm to open the door, causing them to look for bicyclists that may be passing them on the street. As the Will County community encourages greater use of standard bikes and electric assist bicycles, community members must also become more aware of ways to safely share the roadways with other travelers.

The continued efforts of all these groups and more can lead to improved bikeway and pedestrian infrastructure and laws across Will County.

FREIGHT TRUCKS

Will County residents and workers do not have to look far to find freight trucks carrying goods to and from distribution centers throughout the area. With lots of diesel-powered trucks sharing much of the road with residential drivers in local neighborhoods, heavy freight traffic can lead to roadway congestion, lower air quality, and a reduced quality of life for many in the County.

DISPOSAL COMPANIES

USING COMPRESSED NATURAL GAS

Until EVs and other vehicles powered without gas become more mainstream, cleaner alternatives to diesel fuel are smoothing out the transition away from diesel. Compressed natural gas (CNG) is an odorless, colorless fuel that is available domestically and burns more cleanly than diesel. Running vehicles on CNG reduces emissions from garbage trucks and reduces dependence on the foreign petroleum market. Since garbage trucks are the heaviest service vehicles and tend to have very low fuel economies, addressing them as sources of greenhouse gases is important.

In a survey of the five haulers that service Will County, Homewood Disposal reported that they began converting their fleet in 2012 and are now 100% CNG. Furthermore, Homewood opened a public CNG fueling station in 2016 just outside of Will County. Groot, part of Waste Connections, reported that 55% of their fleet is CNG, and their parent company is experimenting with EVs and Hybrid collection vehicles. Waste Management runs approximately 22% of their collection trucks on CNG and opened a CNG fueling station in Rockdale in 2015. Republic is reviewing EV options but still uses diesel. Environmental Disposal did not respond to the survey, so they are assumed to run on diesel currently.

Will County is excited by this progress and expects to see more innovation in the coming years. Through efforts like these, organizations in the County and the surrounding area can limit the environmental impact of transportation.

180

IDOT INFRASTRUCTURE PROJECTS PLANNED IN WILL COUNTY FOR 2021-2026

$2,150,000,000

IDOT FUNDS EARMARKED FOR WILL COUNTY INFRASTRUCTURE PROJECTS FOR 2021-2026

MOVING GOODS IN WILL COUNTY

After investigating the existing conditions for freight and impacted land uses in November 2020, the Chicago Metropolitan Agency for Planning (CMAP) has nearly completed a Truck Routing Study covering 2,565 miles of roadway in the Will County area. The goal is to lay the groundwork for a **continuous system of designated truck routes** that help trucks travel through the area without impacting the quality of life for local communities. The study is expected to produce a recommended truck routing network, a recommended investment plan, a set of national best practices for accommodating trucks, and a guide for local communities in designating truck routes. In addition, Will County's Center for Economic Development (CED), WCDOT, IDOT, and other public and private entities have been involved with other infrastructure projects designed to improve mobility, such as a study on the Eastern Will County Freight Mobility Corridor, the extension of Houbolt Road, and reconstruction along I-80, I-55, and IL Route 59. All of these developments could help Will County and municipalities create safer roadways and reduce the heavy truck traffic in the County's residential communities.

TRANSFER STATIONS IN WILL COUNTY

As they make their rounds, garbage trucks collecting municipal solid waste in neighborhoods may fill up completely before completing their routes. Rather than drive directly to far-off disposal and recycling sites to unload, fully-loaded garbage trucks can stop at local waste transfer stations. At these stations, garbage trucks unload trash and free up the space needed to finish their routes. Larger long-distance transport vehicles at these transfer stations then ship all the collected waste to disposal facilities. Compared to hauling waste directly to disposal and recycling sites, stopping at these transfer stations increases the efficiency of waste collection vehicles and saves money on labor and operating costs.

Four transfer stations currently exist in Will County: Rockdale Transfer Station, Joliet Transfer Station and Material Recycling Facility, Citiwaste Transfer Station, and Moen Transfer Station. Additional nearby stations outside of Will County can also accept waste from Will County homes and businesses. As critical components of the municipal solid waste cycle, the County will continue to support their use in the future.

ETHANOL

IN WILL COUNTY

Ethanol is a cleaner-burning fuel additive made from plant materials such as corn grains. Fuels containing ethanol (like E10 and E85) produce less air pollution than fuels containing no ethanol or similar additives. The U.S. Department of Energy estimates that 98% of the gasoline in the United States contains ethanol currently.

According to the Will County Farm Bureau, people in Will County purchase approximately 300,000,000 gallons of gasoline each year. Given that ethanol makes up about 10% of the local fuel blend, people in Will County purchase about 30,000,000 gallons of ethanol each year.

30,000,000

GALLONS OF ETHANOL PURCHASED IN FUEL IN WILL COUNTY EACH YEAR

≥8,000

GROSS WEIGHT RATING (IN POUNDS) FOR EACH VEHICLE SUBJECT TO ANTI-IDLING POLICY 625 ILCS 5/11-1429

MOVING GOODS IN WILL COUNTY

ANTI-IDLING POLICIES

In recognition that vehicles waste fuel and add emissions to the environment when idling, more than two dozen states and many municipalities have passed a variety of anti-idling regulations. Some of these set idling limits for all types of vehicles, and others target only a narrow set of vehicles, like school buses or city vehicles. According to Illinois law, a person operating a diesel-powered motor vehicle with a gross vehicle weight rating (GVWR) of 8,000 pounds or more may not cause or allow the motor vehicle, when it is not in motion, to idle for more than a total of ten minutes within any one-hour period. If the vehicle is waiting to weigh, load, or unload cargo or freight, it may idle for up to 30 minutes within any one-hour period. Applicable areas include the counties of Cook, DuPage, Lake, Kane, McHenry, Will, Madison, St. Clair, and Monroe, and the townships of Oswego (in Kendall County) and Aux Sable and Goose Lake (in Grundy County), as well as any other county with more than 3,000,000 people but outside a municipality with less than 2,000,000 people when within 200 feet of a residential area. Exceptions apply, including those pertaining to emergency vehicles, vehicle weight, traffic, auxiliary power unit use, remote starter systems, school buses, outside temperature, and more. However, statistics on driver awareness of the law and enforcement are difficult to find.

COVID-19 EFFECTS ON TRANSPORTATION

Although WCDOT noticed a significant decrease in vehicle miles traveled (VMT) in March and April 2020, the VMT had nearly returned to pre-COVID levels by October 2020. Interestingly, because more people are ordering products online, delivery truck travel has increased beyond pre-COVID levels, leading to greater wear-and-tear on the roads. Public transit ridership plummeted, requiring Metra to either cut expenses or seek financial assistance. Will County hopes to encourage more public transit use once the health crisis ends.

Interest in walking and biking increased, making more apparent the gaps in pedestrian pathways.

Fortunately, aside from adjusting to remote communication methods, the transportation agencies included here did not share that any sustainability or advocacy plans have been postponed or dropped in the wake of the pandemic.

Additionally, many more events traditionally held in person, from two-person conference calls to entire symposiums, have moved online. For those with computers and internet connections, attending a meeting from far away has limited the need to travel. Event organizers have another option open to reach people in different locations near and far. Continued use of virtual platforms to host meetings may have long-term effects on transportation by reducing or outright eliminating some workers' commutes (if they work from home part time or all the time as a result of the pandemic).

546,500

TONS OF FOOD AND FARM PRODUCTS DELIVERED THROUGH LOCKPORT LOCK & DAM IN 2017

663,700

TONS OF FOOD AND FARM PRODUCTS DELIVERED THROUGH BRANDON ROAD LOCK IN 2017

MOVING GOODS IN WILL COUNTY

Automotive manufacturers recommend that diesel cars and trucks avoid idling more than five minutes. More information on steps the County and municipalities can take to address pollution and the loss of fuel due to idling should guide improvements in conservation. See links to Senate Bill 1256 (2019) and 625 Illinois Compiled Statutes (ILCS) 5/11-1429 in Appendix A for more.

BARGE TRANSPORT

Will County transportation is diverse and includes the use of barges on the Des Plaines River Canal. River barges have flat bottoms and are usually 200 feet long and 35 feet wide. Based on data supplied by the American Waterway Operators Association, the average barge used in Will County is an open dry cargo barge, 195 feet in length with a capacity of 1,530 tons. These barges typically transport coal, steel, ore, sand, gravel, and lumber.

One barge has the capacity of 1,500 tons of products. In a large river, such as the Mississippi, a typical 15-barge tow is capable of hauling 22,500 tons.

Comparing these capacities to other transport modes:

» One barge has the capacity of 15 jumbo rail hoppers or 58 truck trailers.

» One 15-barge tow is equivalent to 2 1/4 100-car unit trains or 1,050 trucks.

Approximately 13,000,000 tons of goods are transported through Will County each year; of them, about 4.5% are agricultural, such as corn feedstock for animals and soy. Much of the remaining amount is gravel, sand, salt for roads, and other materials that would be transported by at least 383 semi-trailers if not for the Illinois Waterway System.

Economically speaking, barge rates are almost 54% lower than rail and nearly 95% lower than truck rates. This discrepancy in rates leaves barge transport second only to pipelines as the most economical mode of transport today. Shipping goods on barges also lightens the burden of transporting them in freight trucks, reducing roadway traffic and vehicular emissions.

Will County's Resource Recovery and Energy (RR&E) division is not currently involved with barge transportation, but increased collaboration with other groups that are could help the County

HYDROGEN AS A FUEL IN WILL COUNTY

More than just an element on the periodic table, hydrogen can also function as a zero-carbon fuel producible from many different resources including natural gas, nuclear, and renewable power. It can be burned in power plants or reacted in fuel cells to generate electricity for use in space heating and long-haul transportation; as an energy carrier, it can also be used in energy storage.

While not widespread in the Midwestern US, hydrogen fuel cell production is planned in Will County's business sector. According to Crain's Chicago Business, Hyzon Motors plans to start manufacturing a major component of hydrogen fuel cells and conduct research development in Bolingbrook in 2021; currently under construction, the plant is slated to be the largest of its kind in the country, with the potential to produce enough of these fuel cell components for up to 12,000 trucks each year. As an emerging technology, hydrogen could be another important resource for generating energy in the US and around the world.

22,500

TONS OF GOODS CAPABLE OF BEING CARRIED IN ONE 15-BARGE TOW

1,050

TRUCKS NEEDED TO HANDLE THE SAME QUANTITY OF GOODS AS ONE 15-BARGE TOW

better understand how making use of barges to transport goods more often may or may not affect the overall impact of transportation on the environment. Not only is it important to keep roadways and pathways clean and safe for those who travel in the area, but keeping the waterways clean and navigable also keeps the transport of goods smooth and benefits the community.

WILL COUNTY'S FUTURE PLANS

Investing in low-carbon and carbon-free modes of transportation by changing local infrastructure to accommodate them—installing more EV charging and CNG stations in the area, helping to solve physical and safety issues with bikeways and pedestrian pathways, advocating for more regional and national policies to stimulate the growth of alternative modes of transport, and so on—enables Will County to play a greater role in creating and maintain a safe, reliable, and environmentally sustainable transportation network for all travelers, whether they drive semi-trucks along the highways, ride bikes along side streets, or walk along beaten paths. The County intends to work more closely with other transportation organizations to make it easier for people and goods to get where they need to go in ways that benefit people and environment.

FUTURE GOALS: TRANSPORTATION

1. **Encourage electrification of transportation**: Continue providing grants to install EV charging stations in the Will County community. Encourage municipalities to reference the Metropolitan Mayors Caucus' EV-Ready program, change local ordinances, and otherwise take action to allow for the growth of EV in Will County. Look into truck and truck stop electrification in the surrounding area to further promote electric transportation.
2. **Collaborate with utilities, advocacy groups, and other organizations to create a cleaner, safer transportation network for drivers, bicyclers, and pedestrians alike**: Strengthen partnerships with local and statewide organizations, such as the Forest Preserve District of Will County, Will County Center for Economic Development, Chicago Metropolitan Agency for Planning, Metra, Pace, Active Transportation Alliance, Ride Illinois, ComEd, and others. Collaborate with them to study and fill gaps in the transportation network, especially in underfunded or overlooked areas of Will County. Inform the Will County community on legislative changes and other developments impacting local transportation.
3. **Investigate converting a greater percentage of Will County's fleet to CNG or EV**: Research the benefits and costs of lowering carbon emissions from the Will County fleet (perhaps including the sizeable Will County Sheriff's fleet) by converting to CNG and/or EV. Encourage local businesses to look into converting their fleets as well.
4. **Encourage greater use of alternative modes of transportation**: Promote the use of low-carbon transportation modes, including but not limited to riding in vehicles using alternative fuels, taking bikes, and walking, to help reduce vehicle miles traveled (VMT) with diesel-powered vehicles and reduce the impact of transportation on the environment. Connect with the Will County community through educational programs, social media posts, e-newsletter articles, and other modes of communication to share information with residents and business owners.

9 CONCLUSION & APPENDICES

Contents »

Within the topics covered in this Plan—Energy Generation, Energy Efficiency & Reduction, Energy Management, Water Conservation, Resource Recovery, Education & Outreach, and Transportation—Will County has made significant progress over the last several years, launching and continuing various projects, programs, and initiatives to advance sustainability in the County.

Ultimately, Will County is committed to protecting local environmental spaces and resources, limiting energy and monetary waste in County operations, and enhancing the quality of life for people in the County. The County also fully intends to continue informing, encouraging, and serving residents, businesses, and institutions in their efforts to increase their positive impacts on energy, water, and other resource use.

See the following appendices for more information on particular organizations and programs discussed here, as well as a breakdown of results from the Will County 2021 Energy & Conservation Plan Public Survey and the signed Resolution of Adoption for this document.

Appendix A: Additional Resources

Will County Resource Recovery & Energy Division Plans

Will County 2012 Energy Efficiency and Conservation Plan: http://www.willcountygreen.com/initiatives/energy_plan.aspx

Will County 5-Year Review of Energy and Water Conservation Actions: http://www.willcountygreen.com/assets/1/AssetManager/5YearReview_CIC_041618_.pdf

Will County Solid Waste Plans: http://www.willcountygreen.com/initiatives/will_county_solid_waste_plan_.aspx

Energy Generation

Renewable Portfolio Standard: https://programs.dsireusa.org/system/program/detail/584

USEIA on nuclear power in Illinois: https://www.eia.gov/state/analysis.php?sid=IL

Exelon on Braidwood Station: https://www.exeloncorp.com/locations/power-plants/braidwood-generating-station

Will County EMA on nuclear power: https://www.willcountyema.org/nuclear-power-stations

ABC7's Built to Last series with trades, including an episode on nuclear: https://abc7chicago.com/careers/built-to-last-season-7/10392196

Will County's SolSmart Recognition: https://solsmart.org/communities/will-county-il

Illinois Solar For All program: https://www.illinoissfa.com

Solarize Chicagoland: https://www.growsolar.org/chicagoland

ComEd's solar tools: https://www.comed.com/SmartEnergy/MyGreenPowerConnection/Pages/GoingSolar.aspx

Google's Sunroof Project: https://www.google.com/get/sunroof

USEPA on Solar Power Purchase Agreements: https://www.epa.gov/greenpower/solar-power-purchase-agreements

Citizens Utility Board on community solar: https://www.citizensutilityboard.org/community-solar-illinois

CESA's solar financing guide for homeowners: https://www.cesa.org/wp-content/uploads/Homeowners-Guide-to-Solar-Financing.pdf

SEIA on solar power in Illinois: https://www.seia.org/state-solar-policy/illinois-solar

USDOE on renewable natural gas: https://afdc.energy.gov/fuels/natural_gas_renewable.html

USEIA on geothermal energy generation: https://www.eia.gov/energyexplained/geothermal/use-of-geothermal-energy.php

USEIA on hydropower: https://www.eia.gov/energyexplained/hydropower

MWRD on Lockport Powerhouse: https://legacy.mwrd.org/irj/portal/anonymous/Lockport

USEIA on wind energy generation: https://www.eia.gov/energyexplained/wind/electricity-generation-from-wind.php

USEPA on CHP: https://www.epa.gov/chp/what-chp

EESI on energy storage: https://www.eesi.org/papers/view/energy-storage-2019#1

C2ES on microgrids: https://www.c2es.org/content/microgrids

Energy Efficiency & Reduction

ComEd Energy Efficiency Programs: https://www.comed.com/Pages/default.aspx#

Better Buildings Challenge: https://betterbuildingssolutioncenter.energy.gov/about-better-buildings-initiative

Will County's Better Buildings Challenge profile: https://betterbuildingssolutioncenter.energy.gov/partners/will-county-il

ComEd energy assessments for residents: https://www.comed.com/waystosave/foryourhome/pages/singlefamily.aspx

ComEd energy assessments for multi-family building owners: https://www.comed.com/WaysToSave/ForYourHome/Pages/MultiFamily.aspx

ComEd energy assessments for businesses: https://www.comed.com/WaysToSave/ForYourBusiness/Pages/Overview.aspx

Net Zero Recreational Center in Plainfield: https://www.plfdparks.org/parks-facilities/facilities/prairie-activity-recreation-center

Chicago's First Passive House: http://passivehousebuildings.com/magazine/fall-2018/chicago-illinois-first-enerphit

ComEd research with others on building energy savings projects: https://www.comedemergingtech.com/projects?start=30

Energy Management

USEPA's Energy Star Portfolio Manager: https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager

Berkeley Lab's Smart Energy Analytics Campaign (SEAC): https://smart-energy-analytics.org

ComEd's My Account Online Tools: https://www.comed.com/WaysToSave/ForYourHome/Pages/MyAccountOnlineTools.aspx

Constellation on energy purchasing strategies: https://blogs.constellation.com/energy-management/what-energy-purchasing-strategy-is-best-for-managing-risk

Water Conservation

CMAP's summary of the region's water crisis: https://www.cmap.illinois.gov/updates/all/-/asset_publisher/UIMfSLnFfMB6/content/coordination-and-conservation-are-key-to-a-sustainable-will-county-water-supply

City of Joliet's Alternative Water Source study: https://www.rethinkwaterjoliet.org/alternativewaterstudy

City of Joliet's Alternative Water Source selection: https://www.joliet.gov/Home/Components/News/News/3345/41

City of Joliet's water conservation programs: https://www.rethinkwaterjoliet.org/waterconservationprograms

USEPA's WaterSense program: https://www.epa.gov/watersense/about-watersense

Prairie Research Institute on regional aquifers: https://blogs.illinois.edu/view/7447/803479

ISWS on groundwater depletion in Chicago suburbs: https://www.isws.illinois.edu/pubdoc/MP/ISWSMP-208.pdf

ISTC Technical Assistance Program: https://www.istc.illinois.edu/techassist

Other water-saving tips: https://www.epa.gov/watersense/simple-steps-save-water

Reducing outdoor water use: https://www.epa.gov/watersense/outdoors

Appendix A: Additional Resources

Resource Recovery

The Ellen MacArthur Foundation on the circular economy: https://www.ellenmacarthurfoundation.org/circular-economy/concept

Sustainability at Lewis University: https://www.lewisu.edu/sustainability/index.htm

IEPA Composting Permitting Rules: https://www2.illinois.gov/epa/Documents/iepa/waste-management/composting/regulatoryrequirementsforcompostingfacilities.pdf

Sharefest Will County: https://www.sharefestwillcounty.org

Education & Outreach

Will County food access map: https://willcountygis.maps.arcgis.com/apps/MapSeries/index.html?appid=f4468e45a40946ebac56bc5acd62b00d

The Conservation Foundation's Conservation@Home guide: https://www.theconservationfoundation.org/conservation/images/CAH%20Native%20Landscaping%20Brochure.pdf

Green Business Star recognition program: http://www.willcountygreen.com/business/business_star_recognition_program.aspx

Will County Green website: http://www.willcountygreen.com

Will County Facebook page: https://www.facebook.com/WillCountyGreen

Will County Twitter page: https://twitter.com/willcountygreen

Geocaching and CITO: https://www.geocaching.com/cito

Transportation

Will County Transportation Plans: https://www.willcountyillinois.com/County-Offices/Economic-Development/Division-of-Transportation/Transportation-Plans-Programs

RTA on greening the transit system: https://rideonrtachicago.com/2019/10/03/making-the-transit-system-greener-in-a-smart-way

Pace Bus on greening the bus system: https://www.pacebus.com/about

Funds for changing school bus fuels in Illinois law (105 ILCS 5/29-5): https://www.ilga.gov/legislation/ilcs/ilcs4.asp?DocName=010500050HArt%2E+29&ActID=1005&ChapterID=17&SeqStart=179800000&SeqEnd=182100000

Car manufacturers' electrification plans in the US as of March 2021: https://www.consumerreports.org/hybrids-evs/why-electric-cars-may-soon-flood-the-us-market/

EV charging station map: https://www.plugshare.com

Creating EV-ready communities: https://mayorscaucus.org/initiatives/environment/becoming-ev-ready

ComEd EV Toolkit: https://www.comed.com/SmartEnergy/InnovationTechnology/Pages/ElectricVehicles.aspx

American Lung Association on the health benefits of widespread EV adoption: https://www.lung.org/getmedia/99cc945c-47f2-4ba9-ba59-14c311ca332a/electric-vehicle-report.pdf

Current Notices of Funding Opportunities under Driving a Cleaner Illinois grant program: https://www2.illinois.gov/epa/topics/air-quality/driving-a-cleaner-illinois/Pages/default.aspx

Biking in Will County: https://www.reconnectwithnature.org/activities/biking

Will County Bikeway Plan (2016): https://www.reconnectwithnature.org/getmedia/12f297e3-113c-4bfc-a988-82a6da8983bf/WillCountyBikewayPlan-2016.pdf.aspx

Bicycle laws in Illinois: http://www.isp.state.il.us/docs/bicyclesafety535.pdf

Dutch passing laws: https://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=100-0770

Active Transportation Alliance: https://activetrans.org

Ride Illinois: https://rideillinois.org

Ride Illinois on state bike laws: https://rideillinois.org/safety/bike-laws

WCCED on recent infrastructure projects in Will County: https://www.willcountyced.com/uploads/4/3/5/2/43522821/wil_034__annual_report_2020_revised_031021_lowres.pdf

USDOE on ethanol: https://afdc.energy.gov/fuels/ethanol_fuel_basics.html

Anti-idling in Illinois law (SB1256): https://www.ilga.gov/legislation/BillStatus.asp?DocNum=1256&GAID=15&DocTypeID=SB&LegId=117787&SessionID=108&GA=101

Anti-idling in Illinois law (625 ILCS 5/11-1429): https://www.ilga.gov/legislation/ilcs/ilcs4.asp?DocName=062500050HCh%2E+11+Art%2E+XIV&ActID=1815&ChapterID=49&SeqStart=132000000&SeqEnd=137300000

Crain's Chicago Business on hydrogen fuel cell production in Bolingbrook: https://www.chicagobusiness.com/manufacturing/biggest-hydrogen-fuel-cell-component-factory-us-coming-bolingbrook

Appendix B: 2012 Goals and 2021 Updates

Target Area	2012 Goals	2021 Updates
Public Facilities	» Reduce energy consumption by 20% by 2020 from County facilities through demand reduction and building retrofits: » Apply sustainable building standards (e.g. LEED® certification) for new County buildings » Increase use of renewable energy whenever feasible	» Reduced energy consumption by 11% » Opened LEED-certified Will County Courthouse in 2020 » Issued more renewable energy permits in incorporated and unincorporated residential and commercial spaces
Transportation	» Increase use of and improve infrastructure for public transit » Reduce vehicle miles traveled for employee commuting » Implement programs to encourage the community to reduce vehicle miles traveled	» Adopted building and subdivision codes » Incorporated infrastructure (e.g. electric vehicle charging stations, bicycle parking) for alternative transportation » Encouraged residents to take public transit or active modes of transportation through various media » Collaborated with other agencies to maximize connectivity and mobility across different modes of transportation
Material Management	» Reduce solid waste generated and disposed of in the County landfill » Divert 60% of waste generated from the County's landfill » Promote recycling in County government and among County residents and businesses » Continue a landfill gas recovery system at County landfill to reduce pollutants » Add additional renewable energy whenever feasible	» Revised goal to 55% in 2016 and achieved a 43% diversion rate, though fallen in recent years by at least 5% » Made a concerted effort to promote the Do's & Don'ts of what is recyclable through willcountygreen.com website, at various events and through all types of media. » Continued recovering landfill gas » Investigated adding solar power to the County landfill

Target Area	2012 Goals	2021 Updates
Water Systems	» Reduce water consumption in County facilities » Work with municipalities to reduce energy use for water production and distribution » Support responsible water use by residents and businesses	» Continued using water-efficient fixtures in County buildings » Became a WaterSense partner » Educated through Water Conservation is a Grand Slam event, newsletters, social media
Land Use	» Develop land use policies that support sustainable growth » Support sustainable development projects and "green" construction	» Adopted a greener zoning ordinance that eases the implementation of sustainable initiatives around the County » Adopted a Green Construction Code in 2014
Education and Communication	» Incorporate energy efficiency and conservation into outreach efforts » Encourage employees to reduce energy consumption	» Hosted educational efforts, including the Energy Summit for Schools and Water Conversation is a Grand Slam events, on energy, water, and new and anticipated waste streams » Included energy- and water-related materials in electronic newsletters and social media posts » Encouraged County staff to power down devices when not in use
Community Garden Properties	» Encourage creating community gardens on "unbuildable" properties » Provide education to the public on community gardens' benefits and locations » Encourage development of "farmettes" through adaptable zoning and education	» Continued educating on community garden benefits through the We WILL Grow School and Community Garden Program » Provided produce for local pantries through these gardens

Appendix C: Public Survey Results

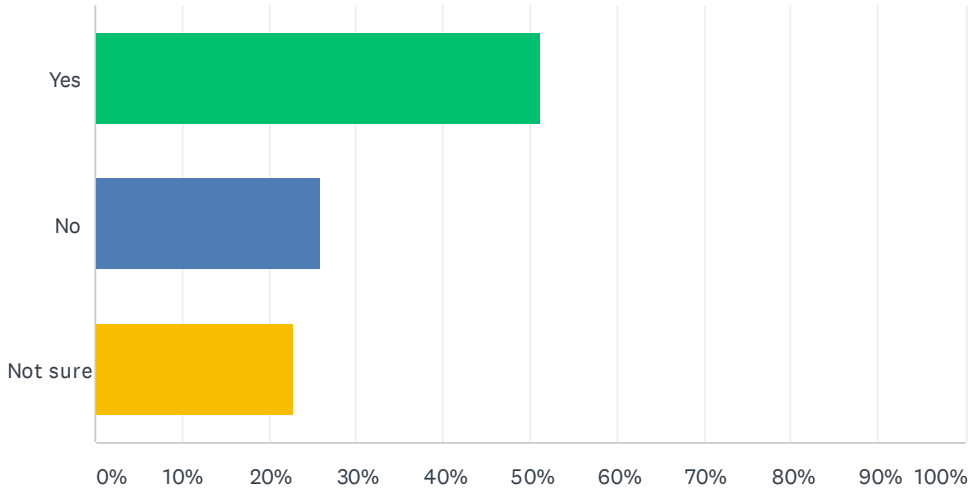
Over the course of one month (mid-March to mid-April) in 2021, Will County launched a public survey through the Survey Monkey platform to hear County residents' comments on proposed conservation goals in the 2021 Energy & Conservation Plan. This survey was promoted via the Will County Green website, e-newsletters, social media, and a press release from the Will County Executive Office.

In total, 154 responses were recorded during this period. This feedback informed the goals pursued in the published document.

Below are the survey questions, vote tallies broken into graphs and tables, and additional comments submitted by respondents.

Q1 I take advantage of energy efficiency programs through my energy providers (for example, the ComEd Energy Efficiency program).

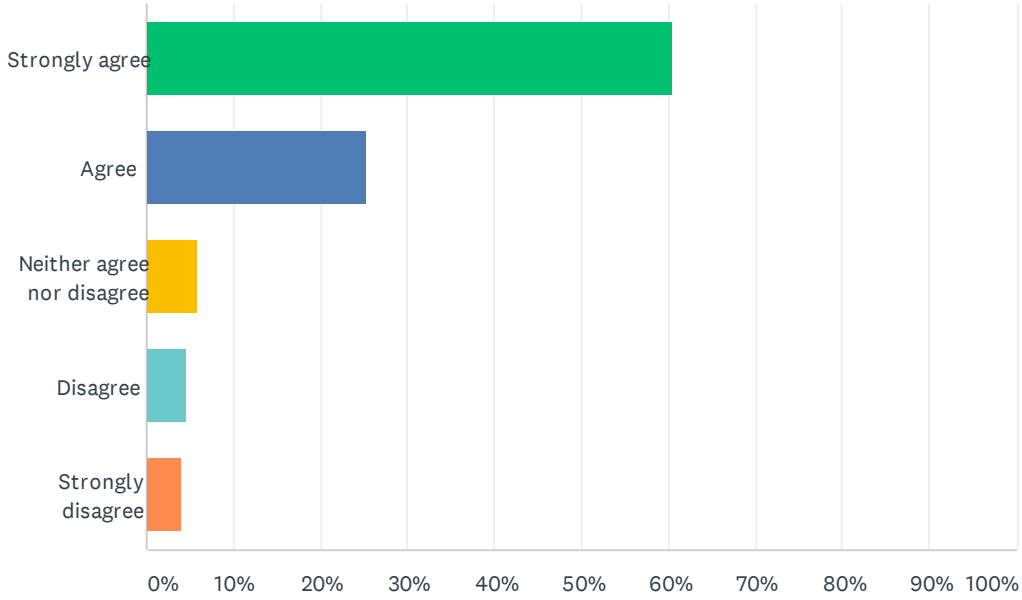
Answered: 154 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	51.30%	79
No	25.97%	40
Not sure	22.73%	35
TOTAL		154

Q2 Currently, Will County purchases 50% of its energy from renewable sources. As a Will County resident, I support the County's goal to consider increasing its renewable energy purchases above 50% at minimal cost.

Answered: 154 Skipped: 0



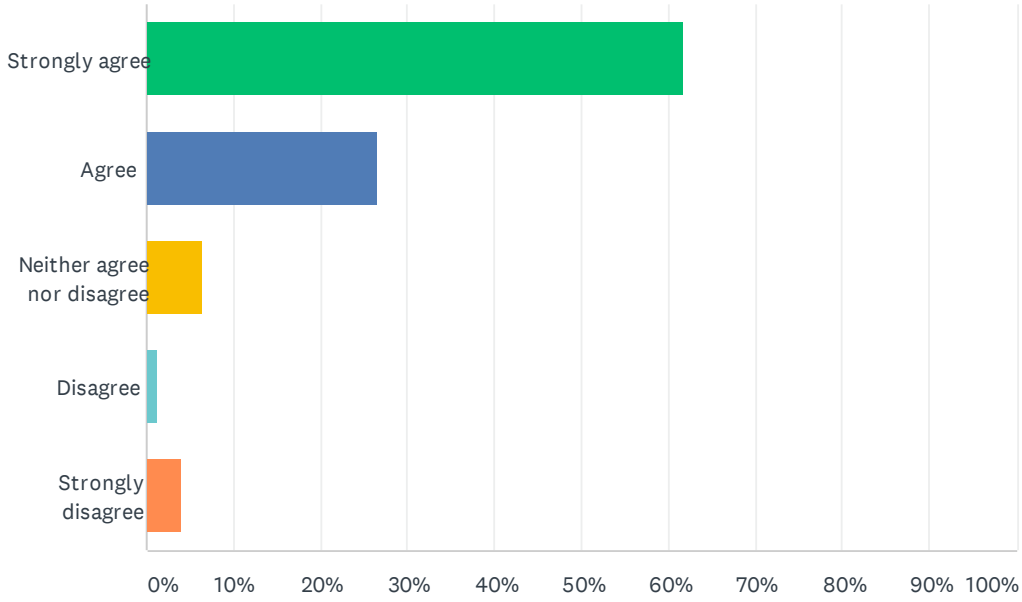
ANSWER CHOICES	RESPONSES	
Strongly agree	60.39%	93
Agree	25.32%	39
Neither agree nor disagree	5.84%	9
Disagree	4.55%	7
Strongly disagree	3.90%	6
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	I have solar panels that generate approx 80% of my home's electricity.	4/10/2021 11:08 AM
2	Depends on how minimal the cost is.	4/8/2021 6:47 PM
3	I have solar panels	4/8/2021 11:14 AM
4	Without impacting or increasing taxes. Need to develop better programs for residential home benefits including improving codes and improving or lifting current restrictions.	4/8/2021 6:33 AM
5	As Long as any profits help taxpayers	4/7/2021 6:02 PM
6	Solar Panels?	4/7/2021 3:25 PM
7	Really happy to hear that. Will County needs to encourage solar on all the warehousing, especially new construction warehouses.	4/7/2021 1:57 PM
8	The cost/benefit analysis SHOULD govern all things government, especially corrupt Illinois government	4/7/2021 11:26 AM

9	Solar!	4/7/2021 9:00 AM
10	Not in favor of spending more to achieve this goal	4/7/2021 8:45 AM
11	I agree only if we can get rates comparable to natural gas, oil, and coal. We should not drain our funds in this pursuit.	4/3/2021 11:18 AM
12	The county should invest in its own solar generation and battery storage.	4/3/2021 11:14 AM
13	Support nuclear. It’s greener than “green” options	3/30/2021 11:31 PM
14	You have fiberglass turbine arms to dispose of. Where and how is that happening safely.	3/30/2021 10:50 PM
15	I would like to know from where will these renewable energy will be purchased. send a general notice to all the residents can work.	3/30/2021 1:49 PM
16	Cost of energy is a large consideration.	3/30/2021 10:19 AM
17	I would rather the see the county put out incentives for homeowners vs increasing green energy	3/22/2021 10:01 PM
18	Too much green energy is bad for a grid. The problems of California in having rolling blackouts is caused because they realy too heavily on wind and solar. The environmental risks and costs of wind and solar at end of life have not been accounted for.	3/22/2021 7:31 AM
19	Dependency on renewable sources decreases supply in times of inclement weather.	3/20/2021 10:56 AM
20	Pursue keeping IL nuclear plants open, including the one in Braidwood IL (Will County)	3/18/2021 5:27 PM

Q3 Currently, Will County saves energy and money by participating in energy efficiency projects such as demand response, which curtails energy usage during peak demand periods. As a Will County resident, I support the County's goal to pursue more efficiency projects and promote energy efficiency programs to help residents and businesses save energy and money.

Answered: 154 Skipped: 0



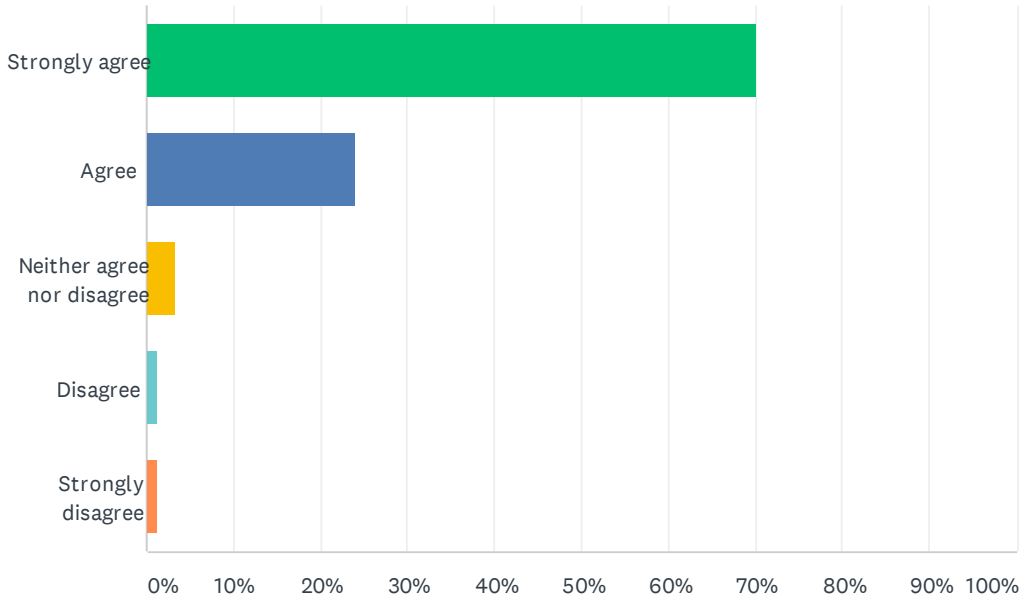
ANSWER CHOICES	RESPONSES	
Strongly agree	61.69%	95
Agree	26.62%	41
Neither agree nor disagree	6.49%	10
Disagree	1.30%	2
Strongly disagree	3.90%	6
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	As long as it doesn't affect the current plan I already have set up through ComEd for my solar panels.	4/10/2021 11:08 AM
2	Stupid question. Who is going to disagree with saving money? You don't mention any negatives.	4/8/2021 6:47 PM
3	I participate in this	4/8/2021 11:14 AM
4	Without impacting or increasing taxes.	4/8/2021 6:33 AM
5	Not in favor of spending more to achieve this goal	4/7/2021 8:45 AM

6	The county should purchase battery storage for peak demand hours.	4/3/2021 11:14 AM
7	Need more information	3/31/2021 4:33 PM
8	We have nuclear power. Increase that	3/30/2021 10:50 PM
9	This is code for rolling blackouts when green energy fails.	3/22/2021 7:31 AM

Q4 Currently, Will County keeps track of and reduces energy use in its buildings.As a Will County resident, I support the County's goal to work cooperatively with other local governments, school districts, and energy providers to track and reduce energy use in their buildings.

Answered: 154 Skipped: 0

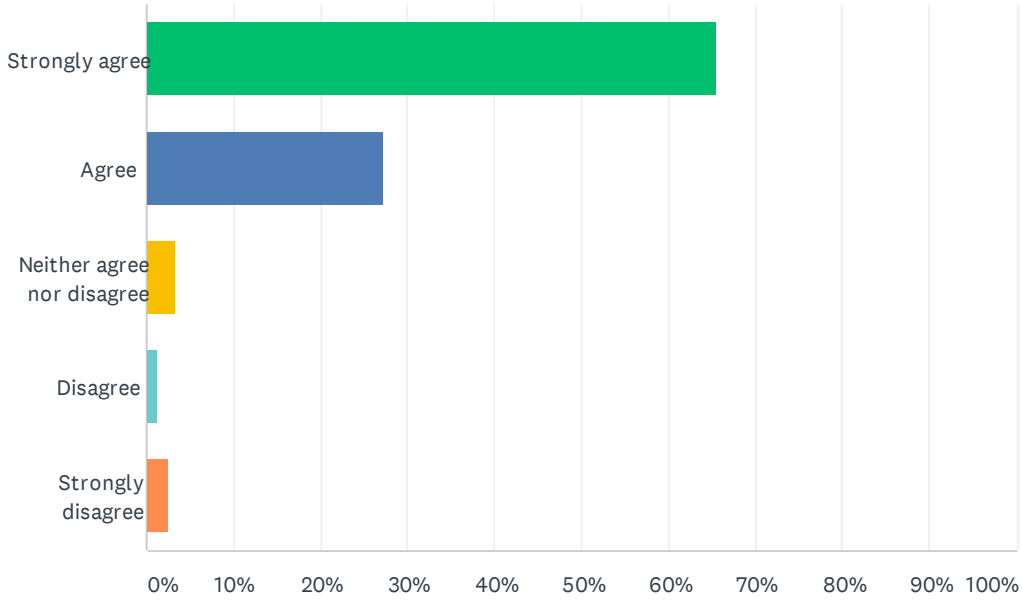


ANSWER CHOICES	RESPONSES	
Strongly agree	70.13%	108
Agree	24.03%	37
Neither agree nor disagree	3.25%	5
Disagree	1.30%	2
Strongly disagree	1.30%	2
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	This seems like common sense.	4/10/2021 11:08 AM
2	Will the reductions pay for the tracking?	4/8/2021 6:47 PM
3	I feel like there are many further options to conserve energy in our buildings, and would love to see further steps towards this.	4/8/2021 9:50 AM
4	Without impacting or increasing taxes.	4/8/2021 6:33 AM
5	Leave politics out of the consultant search process. We're all beginning to watch and some are taking tabs with reoccurring contracts that do sub-par work...	4/1/2021 8:42 PM
6	Depends on how you go about it. Strong arming is something I'm againstg	3/30/2021 10:50 PM
7	I might be misunderstanding the statement? I believe the County should be responsible for their own facilities, but NOT the facilities of others.	3/30/2021 1:43 PM

Q5 Currently, Will County is interested in promoting water-saving initiatives in its buildings and to residents and businesses. Some of these initiatives include the use of water-efficient fixtures, rain barrels, and native plantings in gardens.As a Will County resident, I support the County's goal to promote saving water in its buildings and provide education and assistance to residents and businesses on water conservation initiatives.

Answered: 154 Skipped: 0



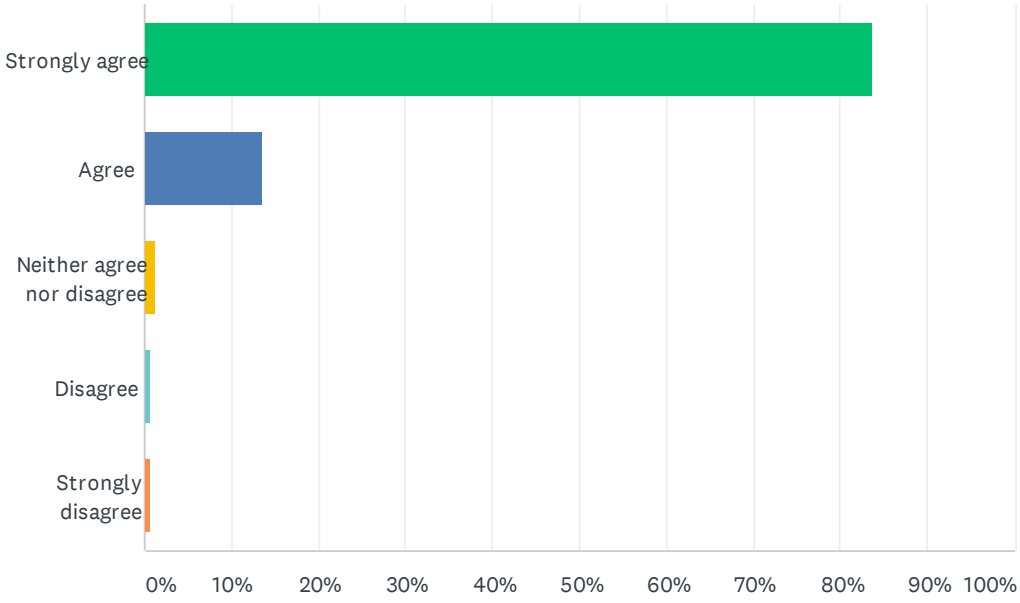
ANSWER CHOICES	RESPONSES	
Strongly agree	65.58%	101
Agree	27.27%	42
Neither agree nor disagree	3.25%	5
Disagree	1.30%	2
Strongly disagree	2.60%	4
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	We have an irrigation system installed. We were told this actually saves water when watering your lawn, vs using other watering methods.	4/10/2021 11:08 AM
2	Discounts should be offered to those in need, particularly now during the pandemic!	4/10/2021 10:40 AM
3	Again, why would anyone be against this? The whole survey is biased.	4/8/2021 6:47 PM
4	Without impacting or increasing taxes.	4/8/2021 6:33 AM
5	So many lawns, no rain gardens or native plants people and businesses need to get educated on these issues.	4/7/2021 1:57 PM

6	As long as it's optional. Obama water act too restrictive. Is that what you want to go back to?	3/30/2021 10:50 PM
7	County should be responsible for their own facilities, but NOT those of residential and commercial facilities.	3/30/2021 1:43 PM
8	with a water quality management program	3/29/2021 9:51 PM
9	Strong proponent of rain barrels and the use of native plantings.	3/29/2021 9:17 PM
10	We reduce water useage they raise rates to cover the shortfall	3/22/2021 10:01 PM
11	If you are pursuing the promotion of native planting, please include the use green infrastructure measures for stormwater management	3/14/2021 5:03 PM

Q6 Currently, Will County helps residents recover resources through reuse and recycling programs, such as Electronics & Household Hazardous Waste (HHW) collection events and drop-off sites.As a Will County resident, I support the County's goal to continue these programs and establish a permanent, year-round site for collecting these materials.

Answered: 154 Skipped: 0



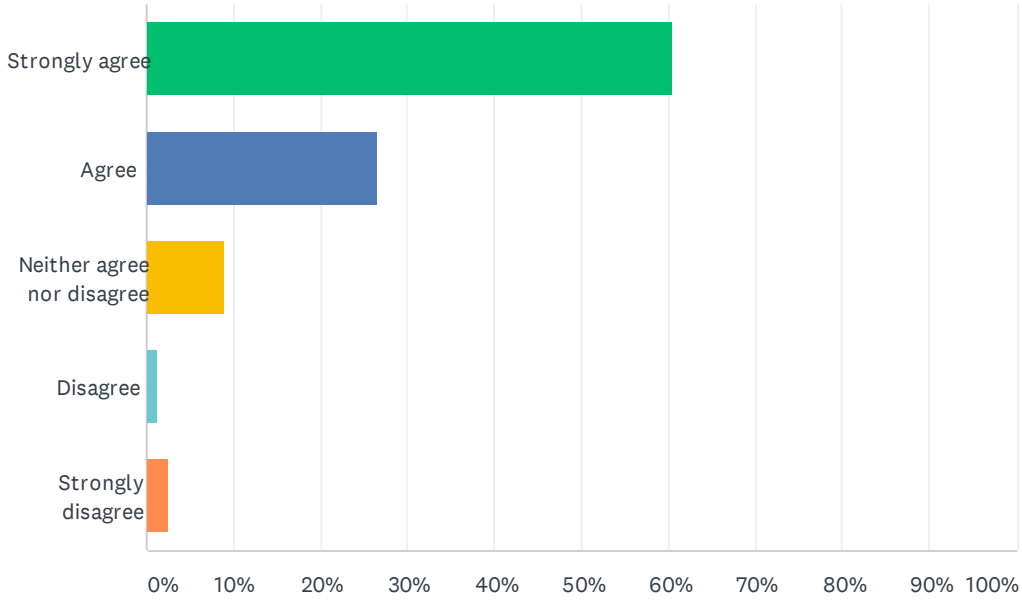
ANSWER CHOICES	RESPONSES	
Strongly agree	83.77%	129
Agree	13.64%	21
Neither agree nor disagree	1.30%	2
Disagree	0.65%	1
Strongly disagree	0.65%	1
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	I have used this service and like it.	4/10/2021 11:08 AM
2	This is a far more critical item than all the others combined	4/9/2021 4:48 PM
3	The periodic recycling events work for my needs. A year-round site could work if it was overseen by employees and not just a "dump all" site.	4/8/2021 5:43 PM
4	It would be very helpful to have more sites available and sites for the collection of styrofoam and other plastic materials	4/8/2021 11:11 AM
5	Yes of course otherwise people dump things in sewers and ditches. There should be more locations with longer hours.	4/7/2021 1:57 PM
6	As well as other materials, like scrap metal, wood, stone/rocks, that might otherwise end up in	4/7/2021 11:40 AM

	landfills would be amazing too! Or providing more information on how/where we can recycle these things, companies that will take them, etc.	
7	I think that the county needs to promote these events more.	4/3/2021 8:57 AM
8	I need the costs	3/31/2021 4:33 PM
9	Would encourage even more, especially programs like Sharefest-maybe quarterly.	3/29/2021 9:17 PM
10	Proper disposal of hazardous matteral is important. The county needs to look into the costs of disposing the roof solar pannels as they are hazardous matterals.	3/22/2021 7:31 AM
11	I would prefer an at home pick up option	3/19/2021 1:08 PM

Q7 Currently, Will County hosts educational programs in person and virtually to encourage residents, workers, and businesses to make positive impacts on the local environment. As a Will County resident, I support the County's goal to host more public webinars on topics such as renewable energy, energy efficiency, water conservation, recycling and composting, smart shopping for durable goods, and alternative transportation.

Answered: 154 Skipped: 0



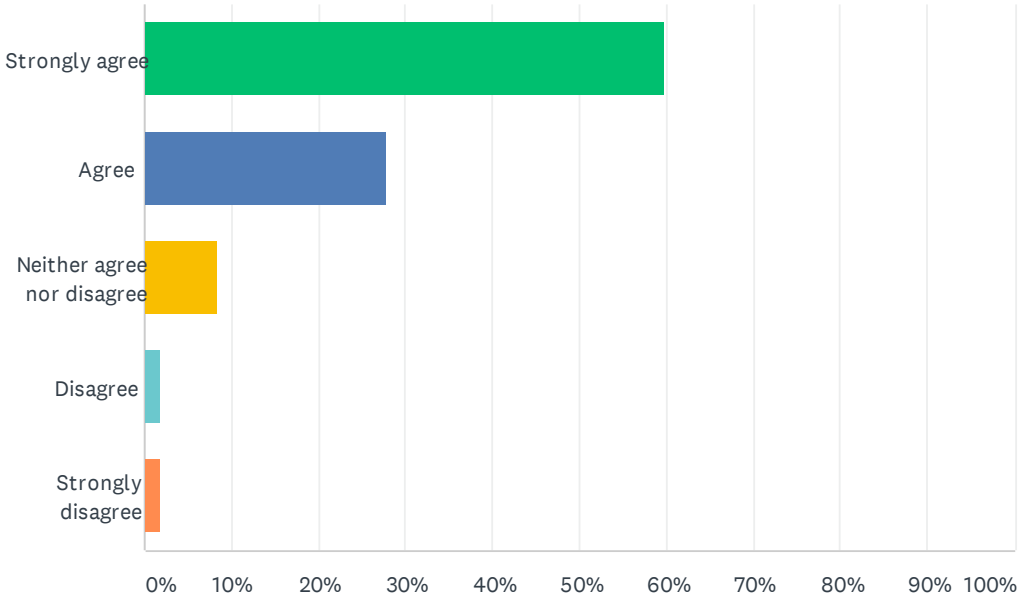
ANSWER CHOICES	RESPONSES	
Strongly agree	60.39%	93
Agree	26.62%	41
Neither agree nor disagree	9.09%	14
Disagree	1.30%	2
Strongly disagree	2.60%	4
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	I'd like to see people and businesses rewarded for their efforts. This would give others incentive to get involved.	4/10/2021 11:08 AM
2	Was not notified of any webinars over the last 12 months hosted by Will County	4/8/2021 12:13 PM
3	Unfortunately, corrupt Illinois govenment will find a way to add taxes, surcharges etc. to such efforts.	4/7/2021 11:26 AM
4	Not in favor of spending more to achieve this goal	4/7/2021 8:45 AM
5	I would also like to see more webinars and other types of information being provided on landscaping with native species.	4/6/2021 8:51 PM

6	Public webinars attended by very few people are a large waste of money	4/3/2021 11:18 AM
7	The county should really partner with private companies that sell the products. They are not motivated and more efficient at showing the word.	4/3/2021 11:14 AM
8	I think that Will County needs to promote these events more.	4/3/2021 8:57 AM
9	Need better communication and promotional efforts with these	4/1/2021 8:42 PM
10	As long as you're not forcing an agenda	3/30/2021 10:50 PM
11	I pay schools and community colleges for that.	3/30/2021 1:43 PM
12	I agree that more open and two sided discussions are needed. Not more fear mongering.	3/22/2021 7:31 AM
13	Only if attendance is sufficient	3/19/2021 1:08 PM
14	Unincorporated area residents also need public education about stormwater management and proper care of culvert infrastructure	3/14/2021 5:03 PM

Q8 Currently, Will County encourages greater use of active and alternative modes of transport (such as walking, riding bikes, and taking public transport when safe).As a Will County resident, I support the County's goal to work cooperatively with local organizations to make our roadways more pedestrian-friendly.

Answered: 154 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly agree	59.74%	92
Agree	27.92%	43
Neither agree nor disagree	8.44%	13
Disagree	1.95%	3
Strongly disagree	1.95%	3
TOTAL		154

#	ADDITIONAL COMMENTS ON THIS QUESTION (OPTIONAL):	DATE
1	When growing up we had business on many corners within neighborhoods. This should be brought back. Then you walk one or two blocks to get to a store rather than having to drive or walk for an hourto get there.	4/10/2021 11:08 AM
2	More sidewalks and biking lanes would be necessary for this goal to be achievable. In order to walk places, you have to walk on the same streets being used by vehicles. It's putting peoples lives at risk!	4/10/2021 10:40 AM
3	And bicycle friendly!!!!	4/8/2021 6:47 PM
4	I agree but I do not know how many of the county roads are considered dangerous. Living in a residential subdivision does not usually have a high walk score, i.e., easy to walk to shops.	4/8/2021 5:43 PM
5	Without a car, transportation around many areas of Will County is difficult to do safely. I would	4/8/2021 9:50 AM

	love to see more steps to alleviate this.	
6	Development of a safe off-roadway interconnecting bicycle trail system with surrounding Counties would go a long way towards this initiative.	4/8/2021 6:33 AM
7	Within common sense limits, whic is asking a lot in Illinois nowadays.	4/7/2021 11:26 AM
8	Expanding bike paths to connect together instead of a path to nowhere. Making pathways over 55 expressway could connect the West. It is not safe to walk nor ride a bike over the Caton Farm . Black Rd, Jefferson, Renwick roadways over 55 because there is no walkway! I love to ride my bike and would ride it more especial to take the kids to the Joliet library but is is not safe to crossover 55.	4/7/2021 8:58 AM
9	Not in favor of spending more to achieve this goal	4/7/2021 8:45 AM
10	This is not only good for the environment, but our own physical health, as well.	4/6/2021 8:51 PM
11	More biking paths are needed along major roadways…Route 59, Black Road…this is just in one area but I'm sure it's needed all over.	4/6/2021 7:13 PM
12	More biking paths are needed along major roadways…Route 59, Black Road…this is just in one area but I'm sure it's needed all over.	4/6/2021 5:17 PM
13	More bike paths would be nice.	4/4/2021 9:51 AM
14	I would like Will County, Joliet specifically, to have a much better bus system. In the 20 years that we have been a resident, they have eliminated bus routes instead of adding routes and making them more efficient for all residents.	4/3/2021 4:14 PM
15	Again, waste of money	4/3/2021 11:18 AM
16	We need to plan for ev charging infrastructure and autonomous driving. It's coming.	4/3/2021 11:14 AM
17	I question how much of this the county does?	4/3/2021 8:57 AM
18	Agree with pedestrian friendly but more public transportation is unnecessary. You're twisting your question.	4/1/2021 8:42 PM
19	Plant more trees. Photosynthesis	3/30/2021 10:50 PM
20	If Will County encourages alternative modes of transportation, why does the County not include bicycle or pedestrian facilities in their roadway projects?	3/30/2021 3:57 PM
21	The County should be constructing paths with their roadway projects.	3/30/2021 1:43 PM
22	Please!!!!	3/29/2021 10:49 PM
23	Always ride my bike when I can!	3/29/2021 8:21 PM
24	Why are there no walkways on Richards St/ along Laraway/ more bike trails are needed to safely be able to use the roads alongside all these trucks	3/29/2021 4:00 PM
25	More sidewalks and bus stops are needed in Will county.	3/22/2021 7:31 AM
26	Help increase this in Southern areas of Will County. Braidwood IL specifically.	3/18/2021 5:27 PM
27	Would like to see the county take on a more leadership role in regional bikeway planning	3/14/2021 5:03 PM

Q9 Would you like to add anything else about Will County's conservation efforts as they relate to energy, water, recycling, education, and transportation?

Answered: 49 Skipped: 105

#	RESPONSES	DATE
1	I would like to see tax payer dollars being used for this sort of thing, as opposed to wasting the money on things that aren't really needed, like golf courses, airports, etc.	4/10/2021 11:08 AM
2	you need to get the word out into the community better. I have to hunt for it, which I am willing to do, but the average joe, isn't going to do that! Broucher's or displays should be available on all park related builds and a presence should be made at all types of community functions, for starts	4/10/2021 10:40 AM
3	There is a need to schedule more things such as electronic recycling and hazardous waste recycling in the east portion of the county.	4/10/2021 4:18 AM
4	I feel that any new rooftop (new buildings) should be required to have some solar panels. I also love the idea of rooftop gardens/greens to help keep the buildings cooler in summer.	4/9/2021 4:12 PM
5	We need better options for recycling poly styrene and smoke detectors. We need better bike/pedestrian paths at railroad crossings. We need more publication of energy efficiency programs. We need to be able to figure out if all of these solar advertisements are good options or scams.	4/8/2021 6:47 PM
6	Great job keep it up. We so need this	4/8/2021 11:14 AM
7	I feel like our efforts are good, but they could be easily expanded. Instead of having a single recycling box in the lobby o of the county building, each office should have one. With a section for paper, and mixed recycling at a bare minimum. Most offices would probably not need the battery/small electronics recycling. The bag recycling would be nice too though.	4/8/2021 9:50 AM
8	I would like to see action taken on the use of plastics in stores. Aren't there better alternatives than plastic bags in the produce department? Everything comes already bagged in plastic or when you self-select an item it has to go into a plastic bag. And let's get rid of the clam shells! Are people so fearful of getting one spoiled cherry tomato or one rotten strawberry that they have to be able to visually inspect them all? There must be an environmental safe way to do this. And styrofoam containers for carry-out should be banned. Everything is done for the ease and laziness of people today and it needs to change. And cudos to Will County for the electronics and hazardous waste programs. I've used both and it's rewarding to know that these items aren't going into landfills. Thank you.	4/8/2021 9:20 AM
9	Getting away from dependency on ComEd as a power provider and open up more competition with renewable energy initiatives will help to make housing affordable and upkeep more manageable. There is too much financial and taxation burden placed on the backs of Will County residents today. It’s not a sustainable future path.	4/8/2021 6:33 AM
10	Love the recycling events. They could be publicized better though. Thanks for having them.	4/7/2021 8:47 PM
11	Will county has made a good start at conserving energy with it's night time lighting code. While LED lighting has been rapidly deployed, and greatly reduces energy waste, it could be further improved. Largely due to its energy savings, it has lead to much brighter (over lit) installations and much harsher color temperatures (light in the blue color spectrum around 6000 K) is very hard on the eyes. Even more energy could be saved by further reducing lighting levels to a much more reasonable level. It would also make driving at night much safer.	4/7/2021 7:11 PM
12	Local fleets of vehicles like school buses or county vehicles should be converted to electric cars powered by renewable energy. All schools should have solar panels, a lot of them, on roofs and as car ports. Thanks for doing all that has been done so far.	4/7/2021 1:57 PM
13	No fracing, support the effort to eliminate the use of coal as a souce of generating electricity	4/7/2021 12:54 PM

	and strongly support of the use of solar power.	
14	I support and encourage all of these programs. Thank you for doing this!	4/7/2021 12:50 PM
15	Don't screw it up.	4/7/2021 11:26 AM
16	Please expand the bike pathways to connect over 55. Street bike lanes are not wide enough for bike trailers. Please add recycle hazardous material in the winter. What is the plan for 2035 when we are forced to have electric cars? How is the County going to add electric filling stations in public like shopping centers and and zone for them in residential?	4/7/2021 8:58 AM
17	Not in favor of spending more to achieve this goal	4/7/2021 8:45 AM
18	In every question, you skillfully avoided mentioning the cost of these programs. To get an informative response, you need to show the cost/benefit ratio. This survey was done for the sole purpose of later being able to say "here's what the people want".	4/7/2021 8:20 AM
19	no	4/7/2021 8:09 AM
20	More outreach to the community on conservation ideas people can practice at home. Work with local business in bringing education into their businesses on weekends - coffeeshops, breweries, grocery stores, etc. Also, at government facilities that get used on the weekends - park district ballgames, forest preserves, etc.	4/7/2021 7:37 AM
21	We only have one earth. It will survive. The question is, will we as a species?	4/6/2021 8:51 PM
22	It would be nice if there were recycle centers where small businesses could recycle some of the items not currently recyclable, those items now go in dumpsters and to the land fills. Perhaps a reasonable fee would be okay.	4/4/2021 9:51 AM
23	Please establish a permanent year round electronics recycling facility!	4/4/2021 7:45 AM
24	I would support initiatives that reduce waste and encourage composting	4/3/2021 8:41 PM
25	Transforming neighborhoods into walkable communities is high on my list. I love Old Plank, but I wish there were more ways to connect to it without riding on busy streets.	4/3/2021 8:02 PM
26	I would like to be kept informed from other sources. At this time, Will County Green is the only source of information that I find.	4/3/2021 4:14 PM
27	I disagree on buying water from Chicago at their rates. Though more expensive in initial cost, the Hammond option provides for long term lower rates. Also, I don't think it's fair to pay rates for sewer based on gallons used in the summer because watering your garden and/or lawn uses no sewage treatment.	4/3/2021 3:45 PM
28	We should make more efforts to install solar in our county buildings	4/3/2021 11:18 AM
29	We need coffee improvements to require hot water circulating pumps to reduce water waste that comes from waiting for your shower to warm up.	4/3/2021 11:14 AM
30	Assess the damage sprayed pesticides and Roundup are doing to our aquifers.	4/3/2021 10:02 AM
31	Thank you for this leadership	4/3/2021 9:18 AM
32	Keep up the great work!!! I love the green initiatives in will county and would love to see them grow further.	4/3/2021 9:04 AM
33	Find more ways to let residents know of these great programs.	4/3/2021 8:57 AM
34	Be truthful with your endeavors.	4/1/2021 8:42 PM
35	Conservation, renewable fuels and energy should be a goal of every household and municipality but it has to be affordable for everyone one...	4/1/2021 6:19 PM
36	I hope Will County continues to promote and support green environmental initiatives and energy/resource conservation efforts. This is no longer a trend but what needs to be done for the health, safety and futures of coming generations. Will County is doing great in this regard and should continue to lead as an example for other counties.	3/31/2021 7:04 PM
37	Whenever government is involved, it's costly for taxpayers. The amount of government waste is disgusting. I would like more information on some of these things.	3/31/2021 4:33 PM

38	Better walkways and accessible parks.	3/31/2021 3:14 PM
39	Yes, I would like to see more push on waste food recoveries, such as facilities, composting programs, outreach to restaurants, residential, Institutions. You know make use of that valuable resources instead of sending them to the landfill. Thanks!	3/30/2021 1:49 PM
40	Evaluate risk of dependency of natural gas to supply electric generation during polar vortex events.. in comparison coal is stored onsite..	3/29/2021 9:51 PM
41	Can't speak highly enough about Will County Green. Great organization that answers all of my questions relating to recycling and resources relating to conservation. Increase connection with other sustainability-related organizations like Conservation Foundation, etc.	3/29/2021 9:17 PM
42	Composting options	3/29/2021 2:37 PM
43	More environmental education programs for child and school groups.	3/26/2021 9:07 PM
44	I was surprised the transportation section of the 2021 Plan did not reference the transportation work being done by the Will County CED. The CED is a great resource for the community and a leading voice on transportation in the County. In a separate comment, Pg 4 of the document needs to be updated.	3/24/2021 7:48 AM
45	How about doing activity to lower taxes and bring more business to our county	3/22/2021 10:01 PM
46	Compliments on thinking of future needs!	3/20/2021 10:56 AM
47	I believe there is so much the American people can do to support our beautiful planet like shutting off our lights when not in use. Driving more responsibly. Using nontoxic fertilizers and natural alternative to pesticides on our lawns, using Electric lawn equipment.	3/16/2021 2:14 PM
48	Conservation, efficiency, are laudable and broadly supportable. I do not support the subsidization of alternate technologies, or any plan that relies on sources that are unable to continue to supply when needed most.	3/15/2021 7:43 AM
49	Truly wish it was safer for me to bicycle to work or run errands. Even when taking kids to a bike path, we need to load the bikes into a vehicle instead of being able to safely bike to park or forest preserve. Water conservation is a serious concern as the price keeps increasing. Want to recycle more and wish there was a site for styrofoam, and a way to reduce plastic that can't be recycled.	3/14/2021 9:36 AM

RESOLUTION OF THE COUNTY BOARD WILL COUNTY, ILLINOIS

Adopting the "Will County 2021 Energy and Conservation Plan" Update

WHEREAS, Will County is a body politic that is concerned with protection of the land, air, water, natural resources, and environment, and desires to protect the use of such resources in a manner that is socially and economically desirable; and

WHEREAS, Will County has a history of environmental stewardship, from energy efficiency, water conservation, land stewardship, renewable energy, recycling and waste reduction programs; and

WHEREAS, in 2012, the Will County Board adopted the Long Term Energy Efficiency and Conservation Plan, entitled "Will County Energy Efficiency and Conservation Plan"; and

WHEREAS, using the Energy Efficiency and Conservation Block Grant from the U.S. Department of Energy, the Long Term Energy Efficiency and Conservation Plan was written to guide energy and conservation initiatives and yield energy savings, promote and produce renewable energy in County government operations, the business community, and households; and

WHEREAS, in 2019, the Will County Board endorsed the Metropolitan Mayors Caucus Greenest Region Compact, which was built on important environmental initiatives already underway in communities, in partnership with many non-profit, state, regional, and national organizations; and

WHEREAS, the Greenest Region Compact was to serve as a foundation for an update to the Long Term Energy Efficiency and Conservation Plan to include goals and initiatives prioritized by the Will County community; and

WHEREAS, the document entitled "Will County 2021 Energy and Conservation Plan" updates the Long Term Energy Efficiency and Conservation Plan by including new goals and building upon existing goals and initiatives; and

WHEREAS, the "Will County 2021 Energy and Conservation Plan" also uses the Greenest Region Compact as a foundation, incorporating sustainability goals that will promote resource responsibility and community well-being; and

WHEREAS, the "Will County 2021 Energy and Conservation Plan" is intended to inform the Will County community on local sustainability efforts, as well as guide County staff in the near future as they implement conservation projects that save energy and money in County operations, enhance the County community's quality of life, protect the environment, and promote sustainable economic vitality; and

WHEREAS, Will County staff and local stakeholders from public and private organizations have reviewed, edited, and revised the "Will County 2021 Energy and

Conservation Plan" to reflect the County's resource needs; and

WHEREAS, the Will County Board finds that the "Will County 2021 Energy and Conservation Plan" addresses the current and future energy and conservation issues of Will County operations and encourages environmental stewardship within the greater community.

NOW, THEREFORE, BE IT RESOLVED, that the Will County Board adopts, effective immediately, the document entitled "Will County 2021 Energy and Conservation Plan.

BE IT FURTHER RESOLVED, that this Resolution and every provision thereof, shall be considered separable, and with the invalidity of any portion of this Resolution shall not affect the validity of the remainder.

BE IT FURTHER RESOLVED, that the Preamble of this Resolution is hereby adopted as if fully set forth herein. This Resolution shall be in full force and effect upon its passage and approval as provided by law.

Adopted by the Will County Board this 20th day of May, 2021.

AYES:	Newquist, Ogalla, Koch, Moustis, Mitchell, Tyson, Harris, Traynere, Fritz, Mueller, Gould, VanDuyne, Balich, Fricilone, Brooks Jr., Winfrey, Parker, Ventura, Coleman, Marcum, Berkowicz, Cowan, Pretzel, Weigel, Freeman, Kraulidis

Result: Approved - [Unanimous]

Lauren Staley Ferry (SEAL)
Will County Clerk

Approved this 24 day of May, 2021.

Jennifer Bertino-Tarrant
Will County Executive


THE COUNTY OF WILL
1836
ILLINOIS