Sustainable Naperville *2036*

(Summary)

Prepared for
the City of Naperville
by:

Naperville Environment and
Sustainability Task Force

Contents of the Report

About This Summary

This document is a summary of the full Sustainable Naperville 2036 report which contains complete research, metrics, analysis, data, resources and case study references.

The report in its entirety will be submitted for analysis during a workshop with Council and City Staff.

Introduction

Sustainable Naperville 2036 is a research based report created by the Naperville Environment and Sustainability Task Force (NEST) for City leaders and community stakeholders. The report includes researched objectives and strategies to increase community-wide sustainability and reduce greenhouse gas emissions within City operations and across sectors of the community that substantially contribute to Naperville's greenhouse gas (GHG) emissions and sustainability factors. The community sectors also align with the City's prior 2010 Sustainability Plan and include:

1)City Leadership
2)Energy
3)Transportation
4)Waste
5)Natural Resources
6)Building and Development

This report identifies targets, objectives and implementation strategies across each of these sectors based upon research that distills what has been learned from many different approaches already implemented throughout other communities. Initial greenhouse gas emission targets have been calculated based upon the most recent data available in the Naperville greenhouse gas inventories, regional climate impact assessments, and globally accepted scientific data and recommendations. The strategies outlined in the report demonstrate that achieving these targets and upholding our responsibility to our current and future generations, as well as our global community, is realistic and achievable with active, integrated strategic planning.

NEST envisions that with the implementation of these community-supported proposed recommendations, Naperville will become a more sustainable and resilient community, and it will ensure our community remains a place we all are proud to call "home."


Wikimedia

Introduction

While *Sustainable Naperville 2036* supports a vision through 2036, the intention is that a multi-stakeholder, community-wide sustainability and climate resilience plan will be collectively created and established as a living document that can be modified as necessary when scientific targets change, technology evolves, crises arise, or resource availability is altered and revisions to the completed plan are expected to be considered every 2-4 years.

With the understanding that some of the strategies in the report will require undertaking considerable time to implement, strategies which require zero or minimal financial resources and staff time are recommended for prioritization and implementation as soon as possible.

VISION 2036: The year 2036 is targeted due to the constraint of our current energy purchasing contract through the Illinois Municipal Energy Association (IMEA) which terminates in 2035.

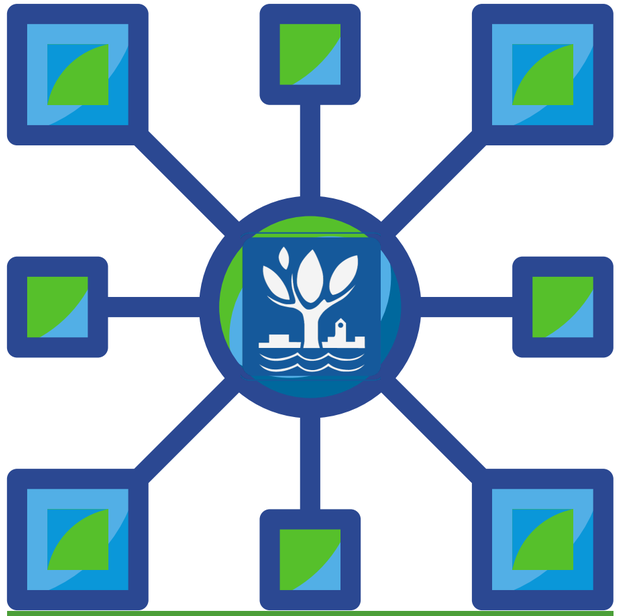
15 Year Vision

Sustainable Naperville 2036 recommends incremental transitioning to a cleaner, more efficient, less wasteful, environmentally robust, economically sound and just, healthy, inclusive, **resilient** community.

2021: Adopt Sustainability as Directive & Initiate Sustainability & Climate Action Plan Development
2022: Community Engagement, Risk Assessment & Resource Inventory
2023: Develop Clean Energy Transition Plan
Develop Clean Transportation Plan
2024: Create Zero-Waste & Circular Economy Plan
2025: Net-Zero Building Ready
2026
2027
2028
2029
2030: Net-Zero Energy Buildings
2031
2032
2033
2024
2035: Zero-Waste Community
2036: 100% Clean Energy

Better Together

Sustainable Naperville 2036 includes greenhouse gas emission reduction strategies that need to be prioritized and incrementally implemented to achieve target reductions by 2036. Because the emissions generated by our community are not all under the direct jurisdiction of the City, in order to create a plan that will be viable, measurable and achievable, it will require a broad, community, multi-stakeholder development process to ensure implementable prioritization of the recommended strategies. The City will need to serve as a central backbone agency for this plan creation process, and work plans will need to be developed for each of the prioritized strategies, but it will require the engagement of RESIDENTS, BUSINESSES, and COMMUNITY ORGANIZATIONS to work together for successful and impactful results.



Reducing community-wide emissions will require collective engagement from RESIDENTS, BUSINESSES, and the CITY

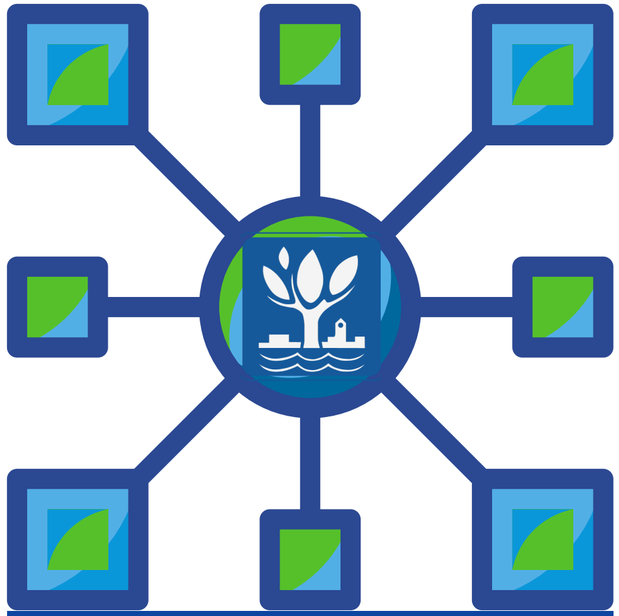
City as Leader

In addition to serving as a central backbone agency for the climate action and sustainability plan creation process, the City will need to lead the initiative by:

1) Committing the City to strategically reducing greenhouse gas emissions in line with globally endorsed science based targets through permanently integrating directives for increasing sustainability, reducing emissions, and managing climate resilience as primary objectives within the entire City jurisdiction including City mission, vision, ends policies, performance management goals, operations, budget, and strategic planning.

2) Authorize and lead the creation of a community-wide sustainability and climate resilience plan through a collective impact process targeted at reducing emissions by:

1. Integrating sustainability and emissions reductions into municipal operations,
2. Transitioning our energy supply to clean, renewable energy, to reduce 54% of our emissions,
3. Transitioning to clean transportation such as electric vehicles, biking and walking, to reduce 24% of our emissions,
4. Reducing building energy use and creating building codes to achieve net-zero energy buildings to reduce 75% of our emissions (inclusive of electricity and natural gas),
5. Reducing waste to landfill
6. Increasing natural ecosystems quantity and quality to mitigate emissions, and
7. Creating, coordinating, and implementing community education and engagement



Reducing community-wide emissions will require collective engagement from RESIDENTS, BUSINESSES, and the CITY.

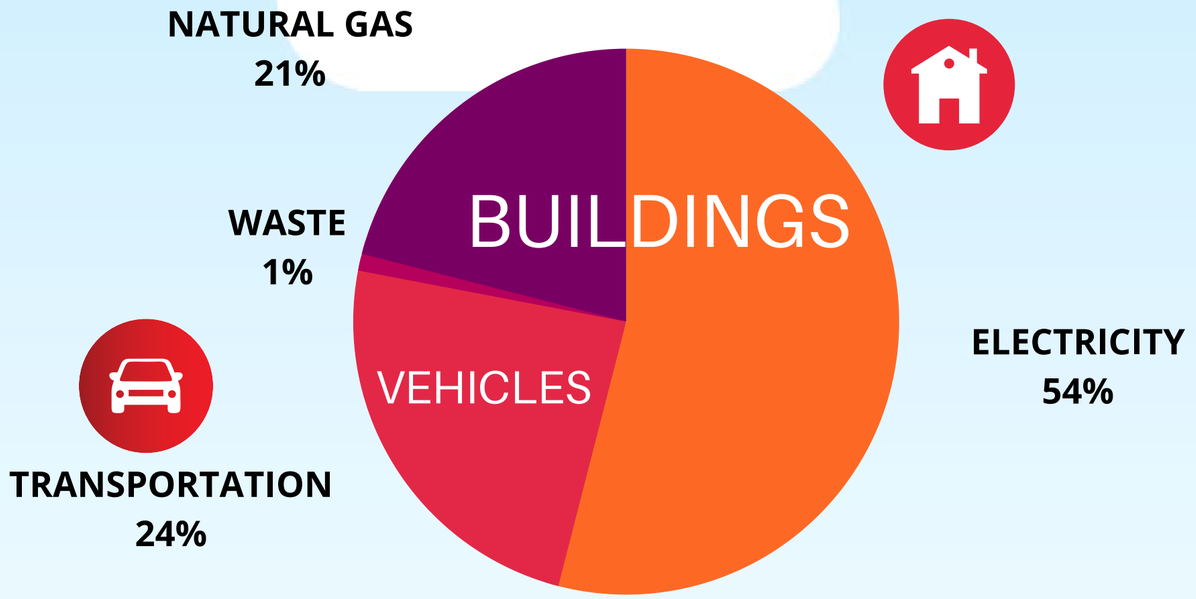
MUNICIPAL LEADERSHIP

The City is in the unique position to serve as the central backbone agency for a community-wide sustainability plan creation. In this role it will be critical that efforts to lead by example through municipal operations continue and expand.

Of critical importance is the City's role in creating, coordinating and implementing community education and engagement.

MUNICIPAL LEADERSHIP	
	OBJECTIVE/STRATEGY
1	**Develop and integrate strategies for achieving IPCC recommended target goals into City operations**
1.1	Create Department of Sustainability & Innovation and hire Sustainability Director
1.2	Create a multi-stakeholder commission comprised of City staff, Businesses, community organizations and residents to continually address plan progress
1.21	Re-establish inter-departmental committee to manage, measure and report plan integration and implementation for municipal operations
1.22	Update Municipal 2007 Environmental Sustainability Inventory and other Municipal codes, ordinances, plans and programs to account for climate change mitigation and adaptation
1.23	Implement LEAN Government Practices
1.24	Standardize the Naperville Greenhouse Gas Emissions Inventory to comply with the Global Protocol for Community-scale Greenhouse Gas Emission Inventories
1.3	Adopt "Risk Management" as new Ends Policy
1.31	Conduct community wide climate change vulnerability assessment based upon current data sources
1.32	Incorporate climate risk management into municipal strategic planning decision making process
1.33	Prioritize plan strategic implementation according to risk and vulnerability assessment
1.34	Develop and implement a Green Purchasing Program
2	**Develop and implement community education and engagement plan**
2.1	Create sustainability metrics dashboard for GHG and other sustainability metrics standardization and compilation
2.2	Create and provide annual reports for GHG and other sustainability metrics to City Council, the public, and City Staff
2.3	Create and maintain "4% *Through 2036*" campaign

Greenhouse Gas Emissions Reduction Targets



CURRENT EMISSION SOURCES

Most recent GHG inventory data completed by the City in 2019 indicates the majority of our community-wide emissions are contributed by the fossil fuel based energy we use in our buildings, and our vehicles.

1 GLOBAL TARGET RECOMMENDATIONS

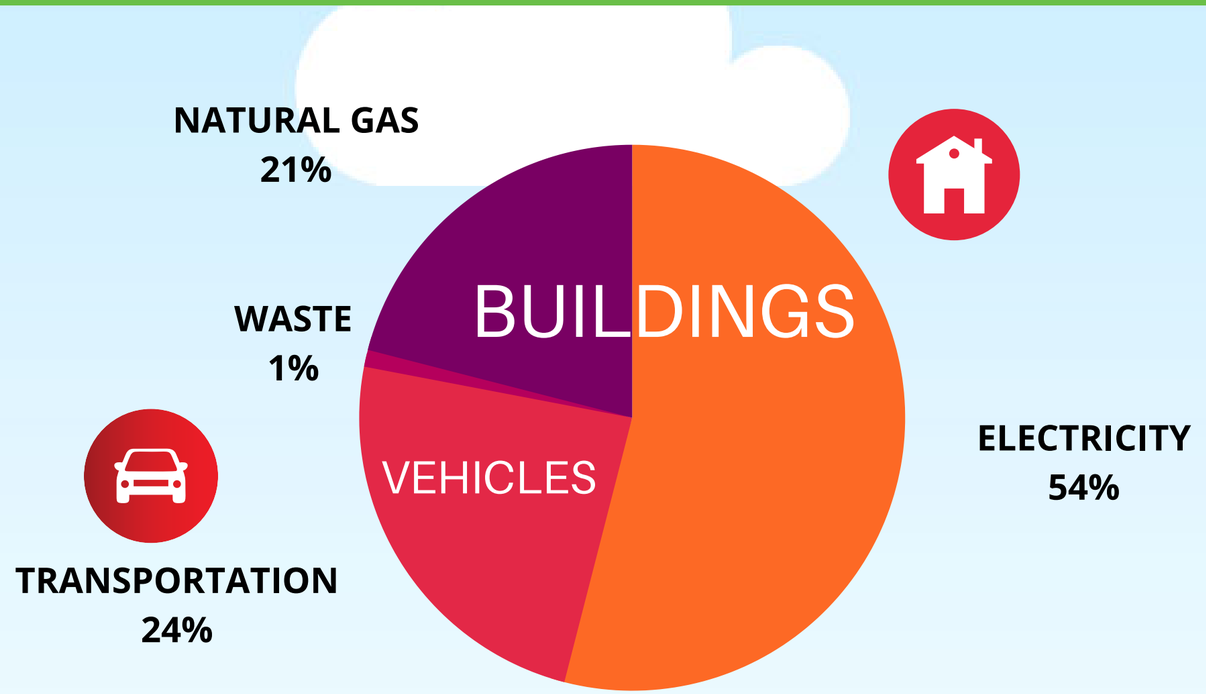
The Paris Agreement aims to avert dangerous climate change by rapidly phasing out GHG emissions within 30 years (to become "net zero"), while promoting sustainable development and poverty eradication. Carbon dioxide (CO2) from burning fossil fuels is the globally dominant source of heat-trapping emissions. The 197-member agreement, reached at climate talks in Paris in December 2015, seeks to limit the rise in the world's average surface temperatures to "well below" 2°C above pre-industrial times this century, while "pursuing efforts" for 1.5°C, as recommended by the International Panel on Climate Change (IPCC). It also sets a target of eliminating global GHG emissions by 2050.

2 NAPERVILLE

Naperville emissions need to be reduced 60% from 2012 by 2036. This means a reduction of 4% of our community-wide emissions every year to achieve targets.

60% ↓ = 4% / *YEAR*

3 Year Priority Greenhouse Gas Emissions Reduction Strategies



Most recent GHG inventory data completed by the City in 2019 indicates the majority of our community-wide emissions are contributed by the fossil fuel based energy we use in our buildings, and our vehicles.

1 CLEAN ENERGY TRANSITION PLANNING

Naperville currently purchases electricity which is from 90% coal-fired and 10% renewable sources. This fossil-fueled energy supply is the primary contributor for our community GHGs. It is critical to begin immediate planning to transition to clean, renewable energy sources to ensure adequate time to develop plans and infrastructure for local generation and alternative purchasing options.

2 NET-ZERO ENERGY BUILDINGS

Energy use in our existing buildings needs to be reduced 60% by 2036 through energy management and efficiency measures, and it is critical starting in 2025, new buildings are designed to be Net-Zero Energy, and Net-Zero Carbon by 2050.

3 CLEAN, SAFE TRANSPORTATION

Vehicle miles traveled in fossil-fueled vehicles must be reduced 60% by 2036. It is imperative our electric infrastructure is established to manage the transition to electric vehicles and alternatives to fossil-fueled vehicles including safe, accessible biking, are created through further, consistent implementation of the current Complete Streets policy and update to the 2006 Bike Plan

PART 5: OBJECTIVES and STRATEGIES

The following section includes the list of community-wide identified objectives and strategies that can most effectively reduce the greenhouse gas emissions (GHG) from our community

- ENERGY
- TRANSPORTATION
- WASTE
- NATURAL RESOURCES
- BUILDING & DEVELOPMENT

CLEAN ENERGY TRANSITION

TARGET: 4% Energy Use Reduction Per Year

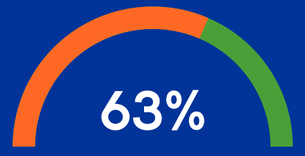
Energy used by our buildings and homes is the largest contributor to GHG emissions from our community (75%), of which 54% is from electricity use. Because the energy we purchase is 90% fossil-fuel based, this makes our GHG contribution twice as much as other local energy suppliers, and the primary critical factor to address.

Sustainable Naperville 2036 identifies five specific objectives to achieve our community emissions reductions targets from our energy use:

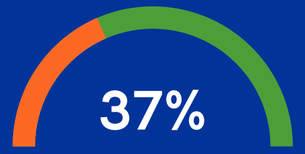
1. Transition to purchasing energy from clean, renewable energy sources as soon as possible.
2. Generate at least 25% of our consumed energy within our municipal boundaries.
3. Increase energy efficiency in all buildings.
4. Reduce natural gas consumption.
5. Educate and engage electric consumers about the benefits and resources available to reduce energy consumption.

Electricity use accounts for 54% of the greenhouse gas emissions from our community

Commercial



Residential



ENERGY

	Objective and strategies	MTCO2 Savings	
1	**Transition to Clean & Renewable Energy Purchases (100% 2019 use)**	1,220,673	
1.1	Statement from Council requesting IMEA to comply with IPCC emissions reduction targets	915,505	
1.2	Permit third party power purchase agreements (PPAs)		
1.3	Complete a financial & risk assessment on current energy contractual purchasing comparing to alternatives		
1.31	Solicit all-source energy procurement and development based upon energy risk and needs assessment		
2	**Community Generation: 25% Community Needs by 2036**	292,962	
2.1	Install solar on schools potential savings (11,780 potential savings)		
2.2	Develop micro-grid capacity for distributed generation for municipal, commercial buildings and large development projects		
3	**Energy Efficiency: 1% Energy savings annually**	12,207	
3.1	Expand plan for Naperville Energy Efficiency by creating $0.00132 Per kWh charge		
3.2	Create and permit Demand Response and Time of Use rate structures		
3.4	Create Benchmarking ordinance for commercial buildings		
4	**Reduce Natural Gas consumption by 15% by 2036**	71,025	
4.1	Promote Nicor efficiency Programs		
4.2	Incentivize beneficial electrification for new construction		
5	**Create community education and engagement program for all energy efficiency and clean energy development and funding options**		
	2036 Reductions Target	**1,148,793**	
A	**Total GHG emissions saved WITHOUT change in IMEA energy purchasing sources**	376,194	Assumes no PPA restriction
	Difference from Target WITHOUT change in IMEA energy purchasing sources	-772,598	**Naperville cannot reach targets**
B	**Total GHG emissions saved WITH change in IMEA to 100% clean energy purchasing**	1,291,699	Assumes no PPA restriction
	Difference from target with IMEA 100% Renewable Transition	**142,906**	**Naperville surpasses targets**

In order to achieve reduction targets, transition to a minimum of 60% clean, renewable energy is required

CLEAN MOBILITY TRANSITION

TARGET: 4% Vehicle Miles Traveled Reduction Per Year

Fossil fueled transportation is the second largest contributor to GHG emissions from our community ***(24%)***. Because our community has been designed to be car-dependent, infrastructure and alternatives to fossil-fuel vehicle use need to be expanded, incentivized and developed

Sustainable Naperville 2036 identifies five specific objectives to achieve our community emissions reductions targets from our fossil fuel vehicle use:

1. Develop Electric vehicle infrastructure
2. Increase and incentivize public transportation use
3. Replace vehicle miles traveled (VMT) with walking
4. Replace VMT with biking and increase safe bike-ways
5. Educate and engage residents and businesses about the benefits and resources available to reduce vehicle miles traveled.

Fossil fuel transportation accounts for 24% of the greenhouse gas emissions from our community

TRANSPORTATION & MOBILITY		
1	**Transition to EV**	**MT CO2 Savings**
1.1	Develop EV infrastructure charging stations	1902
1.2	Require new development EV ready - Save average $5000 per EVSE port by installing EVSE in new construction to avoid retrofit	319
1.3	Transition municipal fleet to 50% electric by 2030	3024
1.4	Transition 3% residential & commercial vehicles to electric per year through 2030; 5% 2030-2036	188693
2	**Increase public transportation use to offset 2% VMT**	6290
2.1	Develop incentives to encourage commuters to utilize public transportation	
2.2	Increase carpooling	
2.3	Assess potential for increasing public transportation routes within City	
3	**Replace VMT with Walking**	
3.1	Increase currently adopted Complete Streets policy for new roadway development	
3.2	Conduct community walkability assessment	
3.3	Assess and promote Safe Routes to School	
3.4	Develop electronic app for community engagement to report walking mileage to reduce VMT by 4% annually	25160
4	**Replace VMT with Biking**	
4.1	Reassess and update 2006 Bike Plan to align with Complete Streets criteria	
4.2	Increase Implemented Complete Streets Codes for new and reconstructed roadway development	
4.3	Develop electronic app for community engagement to report biking mileage to reduce VMT by 4% annually	25106
4.4	Target 1% commuters to increase biking 50% of the year	2819
5	**Create and Employ Community Education and Engagement Campaign**	
	TOTAL POTENTIAL SAVINGS:	**253313**
	2036 TARGET:	**251600**
	SURPASS TARGET:	**1713**

WASTE REDUCTION

TARGET: 4% Waste Reduction Per Year

Significant GHG reductions can be achieved through waste reduction across our community. GHG savings from waste diversion have not been included in prior GHG inventories, but as inventory data is standardized moving forward, these savings can be accounted for.

Sustainable Naperville 2036 identifies six specific objectives to achieve our community emissions reductions targets from our waste:

1. Improve current recycling rates and expand commercial recycling
2. Develop and incentivize circular economy opportunities
3. Reduce single use plastics and disposables
4. Develop reusable culture
5. Develop zero-waste plan
6. Educate and engage residents and businesses about the benefits and resources available to reduce waste.

WASTE		
1	**Increase Recycling**	MT CO2 Savings
1.1	**Surpass 40% curbside residential diversion rate**	73716
1.2	Establish Commercial 30% Recycling Goal	84997
1.3	Require commercial recycling with ordinance	
1.4	Encourage commercial composting	
1.5	Establish construction and demolition recycling ordinance	56666
1.6	Improve Multifamily recycling to 40%	40306
1.7	Include multi-family units in Waste contract	
1.8	Develop ordinance to require landlords to provide recycling	
1.9	Establish free e-waste recycling	1009
2	**Develop and Incentivize Circular Economy (*Waste as a Resource*) Opportunities**	
2.1	Develop/Implement/Incentivize Composting for FOOD waste	62000
2.2	Develop/Implement/Incentivize Composting for landscape waste	7010
2.3	Continue Household Hazardous Waste Facility Collection	1205
2.4	Reduce household goods in waste stream (50% 25521 CO2)	12761
2.5	Support exchange of goods and services within community	
2.6	Promote businesses and organizations that assist with waste reduction	
3	**Promote reduction of single use plastics and disposables**	11978
3.1	Ban, tax, eliminate disposable bags	73716
3.2	Ban, tax, eliminate disposable water bottles	
3.3	Ban, tax, eliminate disposable packaging	
3.3	Tax take-out orders by cost of disposables	
3.4	Require dine-in reusable options	
3.5	Require disposables by request only	
3.6	Ban single use plastic in favor of compostables	
3.7	Require supply chain documentation	
3.8	Create coordinated partnerships for competitive pricing	
4	**Develop Reusable Culture**	
4.1	Legalize "Bring Your Own Container"	
4.2	Incentivize reusable bag program	
4.3	Offer customer discounts for using reusables	
4.4	Create Business recognition program	
5	**Develop a Zero Waste Plan**	
5.1	Support green supply chain purchasing	
6	**Create and Employ Community Education and Engagement Campaign**	

NATURAL RESOURCES

	OBJECTIVE/STRATEGY	MT CO2e SAVED
1	**Maintain current tree management plan to assure a long term vitality of the urban forest to maintain current Citywide Tree Canopy**	30,000
1.1	Adapt City tree preservation ordinance to include comparable tree diameter replacement within City boundary for all residential and commercial properties.	
2	**Increase City-wide Tree Canopy coverage area by 30%**	9000
3	**Replace 50% of shallow rooted, maintenance intensive lawn**	
3.1	Increase plantings of deep rooted vegetation	
3.2	Increase planting of naturally low-growing vegetation	
4	**Replace fossil fueled lawn and garden equipment with electric**	21,979
5	**Install, develop and promote green roofs**	
5.1	25% rooftop of top 20 energy consumers by 2030	36181
5.2	.5% residential rooftops by 2030	11888
6	**Increase water conservation**	
7	**Complete ecosystem services assessment and develop policies to restore, conserve and expand for maximum**	
8	**Create and Employ Community Education and Engagement Campaign**	
	TOTAL POTENTIAL SAVINGS:	**109,048**
	2036 REDUCTIONSTARGET (4% 2012) :	**102,2586**
	SURPASS TARGET:	**6962**

NATURAL RESOURCES

TARGET: 4% Mitigation of 2012 Emissions

Significant GHG can be mitigated through sequestration by our natural environment.

Sustainable Naperville 2036 identifies eight specific objectives to mitigate our community emissions through natural resource restoration, conservation and expansion:

1. Maintain citywide tree canopy
2. Increase citywide tree canopy
3. Replace high-maintenance lawn
4. Replace fossil fueled lawn equipment
5. Install, develop and promote green roofs
6. Increase water conservation
7. Assess and improve communitywide ecosystems and functions
8. Educate and engage residents and businesses about the benefits and resources available to improve natural resources

BUILDING AND DEVELOPMENT

	OBJECTIVE/STRATEGY
1	**Reduce Energy Consumption In Buildings**
1.1	**Update Naperville Building Code to Incrementally Achieve Net Zero by 2030 or sooner**
1.11	Align with ICC three year cycle updates
1.12	By 2025, Adopt DOE Zero Energy Ready Homes or IECC 2021 Residential ZERO Code Renewable Energy Appendix to achieve energy efficiency BEYOND current ICC IRC & IBC/ ASHRAE 90.1 and IL IECC codes to incrementally achieve Net Zero, ***if allowed by the State of Illinois***
1.2	**FOR DEVELOPMENTS PRIOR TO CODE CHANGE:**
1.21	Incorporate HERS performance ratings with incremental performance increases
1.22	Implement Stretch Code until new codes are established
1.23	Provide Invitation Letter encouraging sustainable practices to developers of proposed new pro-jects
1.24	Create incentive program for projects that go beyond code
1.25	Require review for sustainability implementation through trained Planning and Zoning
2	**Reduce GHG Across Entirety of Building Design and Construction**
2.1	Incentivize Adaptive Re-use instead of demolition
2.1a	Commercial: Adopt and/or incentivize Standards for third party verified rating systems that in-clude significant carbon emissions reduction (LEED/Green Globes/PHIUS/LBC)
2.1b	*Residential: Adopt and/or Incentivize DOE Zero Energy Ready Homes or ICC 700-2020/ ASHREA 189.1 National Green Building Standard, or third party certification standard (LEED/PHIUS/LBC)* ***if/ when allowed by the State of Illinois***
2.2	Beginning 2025, require GHG calculation reporting and off-set plan for new projects to ensure Net Zero emissions through 2030
2.3	Maximize on-site renewable energy
3	**Reduce GHG in Large Scale, Mixed Use, and Neighborhood Development**
3.2	Create incentives for sustainable neighborhood development that meet third party certification standards
3.3	Design site to maximize renewable energy implementation
3.3	Starting in 2025, require renewable energy ready infrastructure to achieve net-zero energy GHG emissions by 2030
3.4	By 2030, require renewable energy infrastructure to achieve net-zero energy GHG
4	**Provide education, outreach and support services for development**

BUILDING AND DEVELOPMENT

TARGET: Net- Zero New Construction Starting 2025

Significant GHG can be avoided through sustainable design and construction practices. Planning and development plays a critical role in determining our community's future resilience because our current residential and commercial buildings generate 75% of our community-wide emissions, this is the most critical GHG source to address.

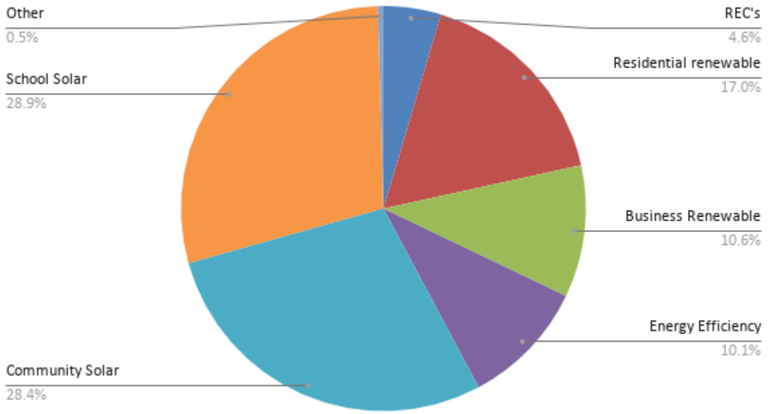
Sustainable Naperville 2036 identifies six specific objectives to mitigate our community emissions through efficient, intentional building construction and development:

1. Reduce energy consumption of all buildings
2. Update current City building codes to achieve Net-Zero by 2030
3. Incentivize sustainable development prior to new code adoption
4. Reduce GHG emissions across the entire building design, construction and use through third party certification and renewable energy integration
5. Reduce GHG in large scale developments through third party certification and renewable energy integration
6. Educate and engage residents and businesses about the benefits and resources available to ensure sustainable development

Naperville Community Supports Sustainability

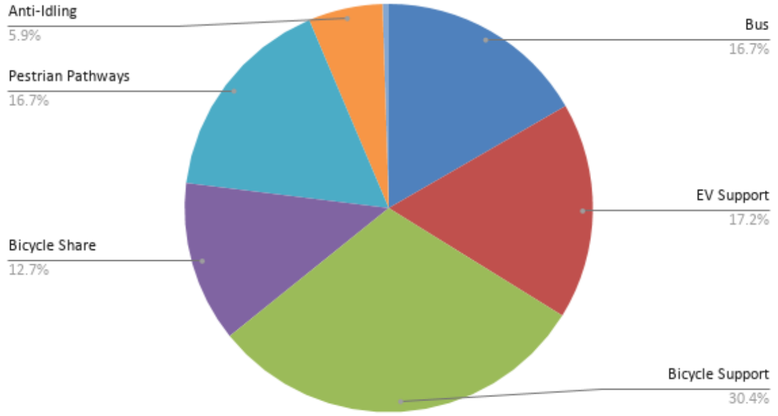
NEST engaged the community through three open houses, community surveys and business community focus groups. The results of these engagements indicate that residents and businesses understand the significance of building our community resilience.

Energy



57% of Residents want solar for schools and our community

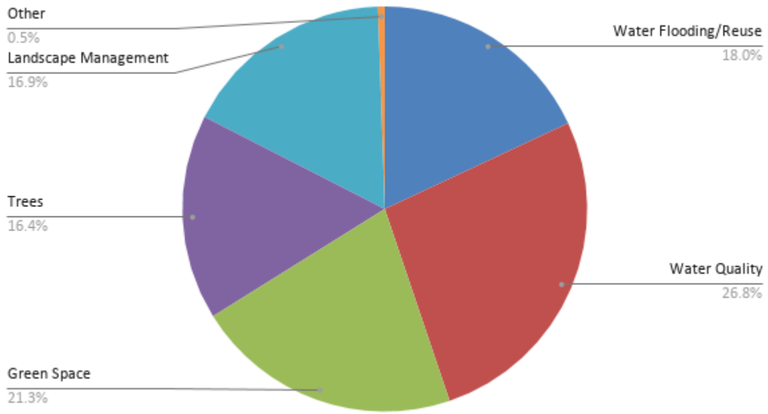
Transportation



59% of Residents want more, safer biking and walking infrastructure

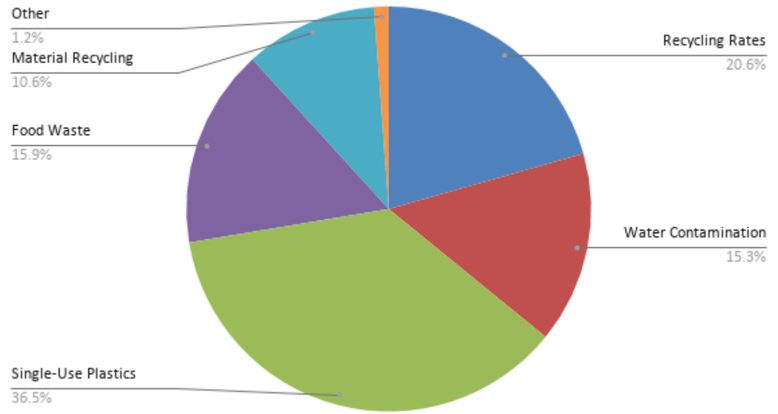
44% of Residents want clean, protected water and 23% want more green space

Natural Resources



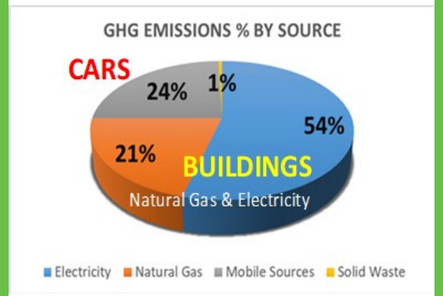
36% of Residents want a ban on single use plastics

Waste



FOR RESIDENTS

By reducing our greenhouse gas emissions, we all do our part in saving money, protecting the environment and creating a cleaner, healthier, more resilient community.



$ (See Naperville Renewable Energy Grant Programs for Savings!)

$ (See NICOR Rebate Programs for Savings!)

REDUCE ENERGY USE 4% EVERY YEAR

1) Maximize energy efficiency – start with insulating and air sealing $ $
2) Use energy conscious materials and equipment options when purchasing or updating your home and home equipment $ $
3) Install renewable energy if possible $

REDUCE VEHICLE MILES TRAVELED 4% EVERY YEAR

1) Walk or Bike instead of driving when possible
2) Learn how and take public transportation when available
3) Replace fossil fueled vehicles with electric when feasible $

REDUCE WASTE 4% EVERY YEAR

1) Reduce overall purchases and single use items
2) Seek alternatives to landfilling and improve recycling every year *(https://www.scarce.org/accepted-items/)*
3) Compost food scraps and yard debris – especially leaves
4) Learn about Zero Waste living (https://zerowastehome.com/)

PLANT A TREE & MOW 4% LESS EVERY YEAR

1) Plant trees and gardens – especially native and food producing ones
2) Maximize the number of deep-rooting plants – especially native and food producing ones, in your home landscape in place of shallow-rooted, high maintenance turf grass
3) Conserve Water – ***especially hot water***

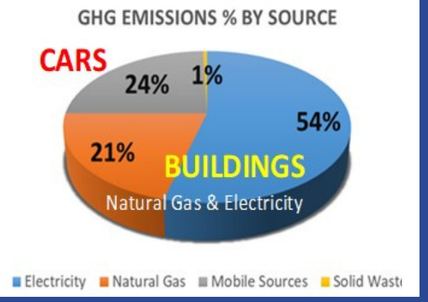
LEARN, COMMIT, SHARE!

1) Learn what your carbon and ecological footprints are @ footprintcalculator.org
2) Set a household target to reduce your carbon footprint 4% every year
3) *MAKE THE PLEDGE!* Join your neighbors in reducing greenhouse gas emissions, saving money, protecting the environment and creating a cleaner, healthier, more resilient community by sharing your actions through our community "Countdown to Zero" campaign.

zero CO_2 2036

FOR BUSINESSES

By reducing our greenhouse gas emissions, we all do our part in saving money, protecting the environment and creating a cleaner, healthier, more resilient community.



$ (See Naperville Renewable Energy Grant Programs for Savings!)

$ (See NICOR Rebate Programs for Savings!)

REDUCE ENERGY USE 4% EVERY YEAR

1) Complete energy benchmarking of your buildings and retrofit to maximize energy efficiency $ $
2) Create behavior change management strategies for building users
3) Implement Energy Management equipment and services $ $
4) Install renewable energy if possible $

REDUCE VEHICLE MILES TRAVELED 4% PER COMPANY VEHICLE, EMPLOYEE and CUSTOMER EVERY YEAR

1) Provide incentives for employees and customers to walk, bike, or take public transit
2) Permit and continue tele-work and work from home
3) Provide electric vehicle charging for employees and customers and transition company fleet to electric $
4) Source locally

REDUCE WASTE 4% EVERY YEAR

1) Recycle
2) Implement Zero Waste policies and Conduct a Zero Waste Assessment (https://www.scarce.org/accepted-items/)
3) Implement green supply chain management practices
4) Seek circular economy (waste as a resource) opportunities (resource)

PLANT COMMUNITY TREES TO OFF-SET GHG 4% LESS EVERY YEAR

1) Plant or fund community trees – especially native and food producing ones
2) Maximize native and food producing plants and minimize high maintenance turf grass
3) Implement water conservation and nature-based storm water management practices
4) Install a green, or cool roof if possible

LEARN, COMMIT, SHARE!

1) Complete a greenhouse gas emissions inventory
2) Set a target to reduce your carbon footprint 4% every year
3) *MAKE THE PLEDGE!* Join your neighbors in reducing greenhouse gas emissions, saving money, protecting the environment and creating a cleaner, healthier, more resilient community by sharing your actions through our community "Countdown to Zero" campaign.

zero CO_2 2036

PART 8: Moving Forward

The following section includes recommendations for moving the process to adopt and implement the recommended strategies forward

- Adopt Sustainability as City Directive
- Community Engagement
- Community & Resource Assessment
- Prioritizing
- Plan Creation

Moving Forward

The intent of this report is to provide support for the development and implementation of a community-wide sustainability and climate resilience plan aimed at creating a sustainable, resilient community that supports current and future residents.

01

City Leadership

- Commit to GHG Reduction
- Workshop to Develop Process
- Operationalize Sustainability

02

Collective Impact

- Integrate with NEST
- Engage Community Stakeholders

03

Plan Creation

- Municipal and Community Assessment
- Resource Inventory
- Strategy Prioritization

City Leadership

Implementation of this report's recommendations will require current and future Council members to pro-actively undertake and consider long-term visioning and planning and provide direction to City staff to allocate time and resources to developing, implementing and evolving sustainability measures by:

1) Committing to reducing city-wide greenhouse gas emissions in order to meet the science-based globally accepted targets which will help reduce the impacts and progression of global climate change on our community.

2) Creating the policies, processes and procedures that will ensure continuous emissions reductions and other sustainability measures are incorporated into all City operations and jurisdiction on a permanent basis.

Benefits

Many, if not most, effective strategies have extensive co-benefits such as public safety, economic development or greater equitability in housing or health, making them extremely low risk to implement, even with an uncertain future. Additional benefits of incorporating these operational priority shifts include:

- Reduction of chronic, high-cost community stressors, such as flood risk, poor air quality and health problems
- Outlined priorities and guided smart investments
- Increased efficiencies through minimizing redundancy and conflict
- Stronger community by building new community linkages and relationships
- Increased strategy implementation effectiveness through creation of buy-in for strategies
- Promotes nature-based solutions which support our community and global environment
- Ensures the needs of under-represented people are met
- Establishes standardized metrics and monitoring that provides evidence of management and progress
- Avoids inadequate planning based upon historical data
- Allows everyone to better predict, prepare, and respond to change in a positive manner

Collective Impact

This shift in decision making and operational approach will be exponentially impactful in benefits to the community as a whole when incorporated. Because climate change magnifies existing risks and vulnerabilities through crises such as global pandemics, economic disruption and social unrest as our community has recently experienced, it is critically important to build climate resilience. Integrative, systemic, resilience-focused strategic planning will allow us to understand what changes to expect, make smarter investments, and ensure that our community is prepared for climate impacts. The sooner preparations for change are implemented, the greater the options and potential to avoid loss of lives, resources, property and revenue.

Once the Naperville City Council commits to reducing greenhouse gas emissions and improving sustainability as City initiatives, the plan creation process can begin. A framework and process for implementing the strategies recommended in this report, and identifying potential additional ones, needs to be created. The strategies will need to be assessed and prioritized for implementation dependent upon collective consensus factors including cost, capacity, risk, and impact. Once the initial strategies are prioritized, work plans for each strategy can be developed.

Plan Development Process

1) **Launch the Project :** Council has already initiated this process with the establishment of NEST and upon adoption of greenhouse gas emission reduction targets and commitment to formal participation in this plan development process, the project can be fully launched.

2) **Assess Past and Future Trends:** explore historical trends in climate and community conditions, as well as projected future trends. Items should be prioritized in this assessment phase, which NEST has already initiated and incorporated to the degree possible without direct City engagement

3) **Identify and Prioritize Vulnerabilities** – "In this step, community experts across diverse sectors work together to determine how climate change is expected to play out in the community." This can be accomplished through 1) the re-establishment of the inter-departmental City sustainability task force and 2) expansion of NEST to include City personnel as well as key stakeholders from within the community.

4) **Develop and Prioritize Adaptation and Mitigation Strategies** – "Cross-sector groups will develop and prioritize strategies for reducing vulnerabilities, prioritizing those that create co-benefits, cost savings, and new collaborations. Each strategy will have clear goals and a specific monitoring protocol."

5) **Finalize and Share the Plan** – "You will build on the community engagement work of Steps 1-4 to bring the community together to build support and momentum for implementing the plan."

6) **Implement the Plan** – "The Task Force will develop an Implementation Team to implement prioritized strategies." Implementation can be primarily the responsibility of City staff, but businesses, non-governmental organizations, schools, and other community stakeholders will also have critical roles to play.

CONCLUSION

NEW PERSPECTIVE

This report requires the acknowledgement and understanding that a paradigm shift is required. Integrative assessment and function is necessary in the City's planning and operational approach to effectively address the rapidly changing, risk producing and complex, environmental, economic and social challenges currently impacting our community.

SUSTAINABILITY IS NOT A SPECIAL INTEREST

Every resident , business owner, employee, and visitor in our community is affected by sustainability and climate change impacts.

The recent climate change exacerbated pandemic and social justice issues demonstrate this.

SUSTAINABILITY BENEFITS EVERYONE

Efforts to prevent climate change and improve sustainability will:

1) Reduce waste and pollution
2) Improve efficiency
3) Ensure environmental integrity
4) Invite local economic development

all of which improve human health, inclusion and connection, making our entire community resilient.

NEXT STEPS

City Council needs to commit sustainability as a value for our community through the City Mission and Ends Policies to ensure the vision of a truly "***Sustainable Naperville 2036***"

01

City Leadership

- Commit to GHG Reduction
- Operationalize Sustainability
- Workshop to Develop Process

02

Collective Impact

- Provide City resources to NEST
- Engage Community Stakeholders

03

Plan Creation

- Municipal and Community Risk Assessment
- Resource Inventory
- Strategy Prioritization

15 Year Vision

Sustainable Naperville 2036 recommends incremental transitioning to a cleaner, more efficient, less wasteful, environmentally robust, economically sound and just, healthy, inclusive, **resilient** community.

And *requires*
City leadership and commitment

2021: Adopt Sustainability as Directive & Initiate Sustainability & Climate Action Plan Development
2022: Community Engagement, Risk Assessment & Resource Inventory
2023: Develop Clean Energy Transition Plan
Develop Clean Transportation Plan
2024: Create Zero-Waste & Circular Economy Plan
2025: Net-Zero Building Ready
2026
2027
2028
2029
2030: Net-Zero Energy Buildings
2031
2032
2033
2024
2035: Zero-Waste Community
2036: 100% Clean Energy

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