

Illinois Department of Natural Resources

Climate Action Plan

Executive Summary

Submitted to the Illinois Department of Natural Resources by the University of Illinois at Urbana-Champaign Smart Energy Design Assistance Center (SEDAC)



Letter from the Director

Climate change is one of the most challenging issues of our time.



IDNR is committed to supporting Gov. JB Pritzker's goal of making Illinois a leader in fighting climate change. Our Climate Action Plan is unique, as it focuses our efforts on internal Agency practices. As a government agency, we can't ask you to make sacrifices and changes we are not willing to make ourselves. That is why we are hoping to share the results of our efforts with you. Hopefully, we can all work together to reach the important goal of reducing the State's carbon emissions to zero by 2050.

IDNR has worked closely with the Smart Energy Design Assistance Center (SEDAC) at the University of Illinois to create this plan, and we are grateful for their professionalism and support. To develop this plan, SEDAC facilitated a year-long series of meetings with up to 70 IDNR staff from all parts of the agency. The result is a plan that recognizes we must go forward, but one that acknowledges the limitations of people and resources.

To make the most of IDNR's capacity, we will undertake pilot projects that are designed to test new ideas before they are rolled out to the whole agency. As we learn more, we will adapt and change to get the most from our staff and funds. We hope that our work over the coming years will benefit all the people of Illinois.

I look forward to working with you to create a brighter, greener future for Illinois.

A handwritten signature in black ink that reads "Natalie Phelps Finnie". The signature is written in a cursive, flowing style.

Natalie Phelps Finnie, Director
Illinois Department of Natural Resources

Acknowledgements

Thank you to Chris Young, Tom Heavisides, and the IDNR Climate Implementation Team and Working Groups for leading the development and formation of this report and the climate strategies within.

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Introduction

The Illinois Department of Natural Resources (IDNR) has developed a Climate Action Plan (CAP) with the goal of achieving net-zero greenhouse gas emissions by 2050. The CAP outlines strategies for reducing emissions from operations, buildings, and transportation, and increasing the use of renewable energy production sources. The CAP was facilitated by the Illinois Smart Energy Design Assistance Center (SEDAC) and developed with the participation of over 70 IDNR staff over the past year. The CAP will guide the agency's path to reducing its climate footprint while increasing the resilience of natural resources in its care. The CAP outlines the steps to address climate change across the agency and in partnership with communities.

The IDNR CAP recommends strategies to reduce IDNR emissions through conservation, energy efficiency, and renewable energy generation with an overall goal of net-zero carbon emissions. Recommended strategies are organized into five key areas: utilities and buildings, sustainable site operations, climate-smart natural areas, equity, and learning and engagement. The CAP includes recommendations for strategic approaches to achieving net zero, data tracking, and ongoing assessment. Equity, inclusion, learning and engagement are foundational to the CAP and its effective implementation.



Where we are now

Emissions Inventory

To identify a path to net-zero carbon emissions, the team first determined current IDNR emission levels. Total emissions for the period between 2020 and 2021 are estimated to be 38,700 MTCO₂e annually, with 50% coming from electricity, 20% from transportation and fuels, 13% from natural gas, 9% from propane, 7% from waste, and 1% from water and wastewater.

Based on the potential growth of visitors each year, total emissions are anticipated to increase gradually over the next 28 years at the IDNR, with slight fuel emissions decreases due to continued improvement of vehicle fuel efficiency and the expanding use of electric vehicles.

Figure 1 below models how emissions will continue to rise if IDNR does nothing to reduce them.

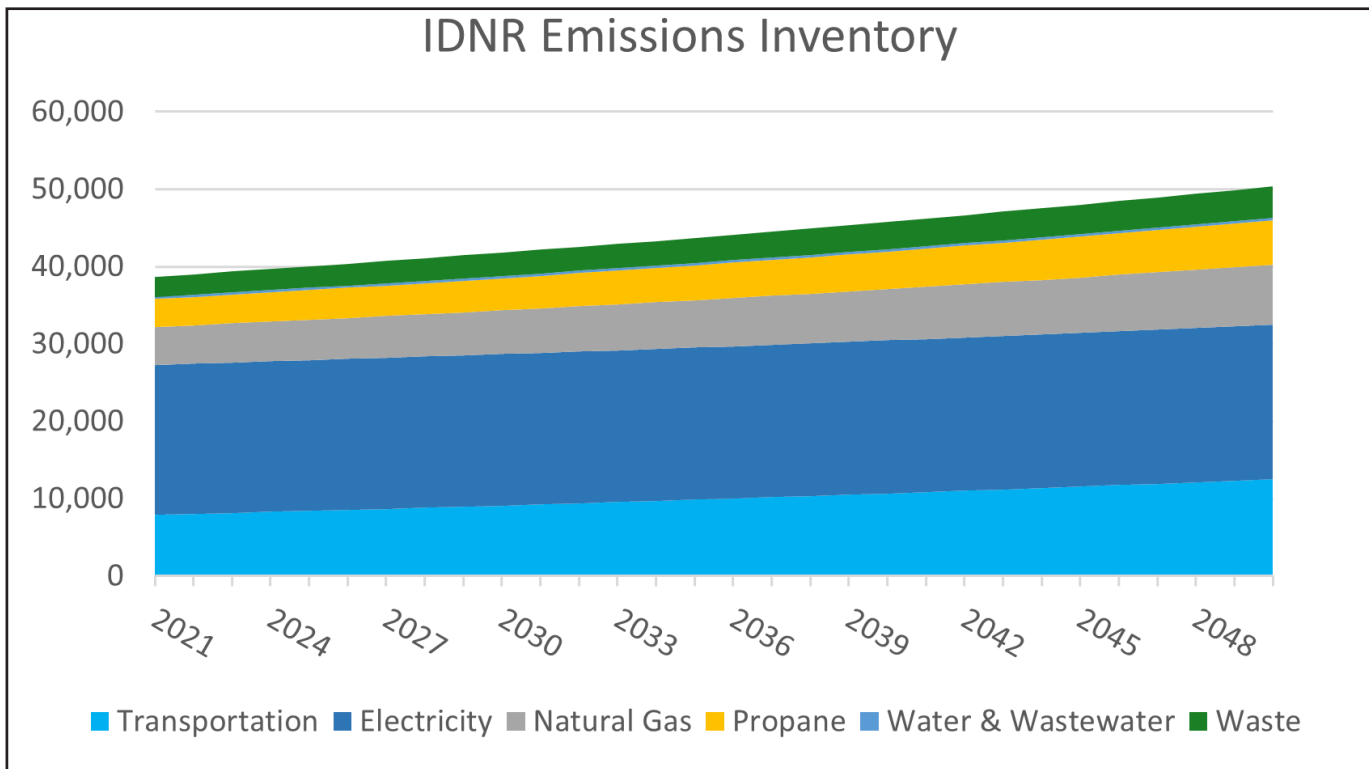


Figure 1: IDNR baseline and future emissions without climate action plan measures

A Pathway to Net Zero

The Emissions Mitigation Wedge Diagram, Figure 2 below, models how recommended measures (represented by the colored wedges) lead to net-zero emissions by 2050. The brown, purple, green, and dark gray wedges represent strategies to decrease emissions associated with IDNR’s building energy use, waste, wastewater, water, and transportation. The blue, yellow, and teal wedges represent strategies to offset remaining emissions through on-site solar, renewable procurement, and biological carbon sequestration. The plan describes in detail how these strategies can be accomplished.

This plan describes a “conserve and load” strategy that combines energy efficiency and electrification with renewable production sources. Unavoidable emissions from visitor transportation can be offset by biological carbon sequestration initiatives: native plantings, habitat restoration, prairie recovery, and floodplain management. Integral to these efforts is an internal and external educational and outreach program to increase public awareness of IDNR conservation and carbon mitigation efforts.

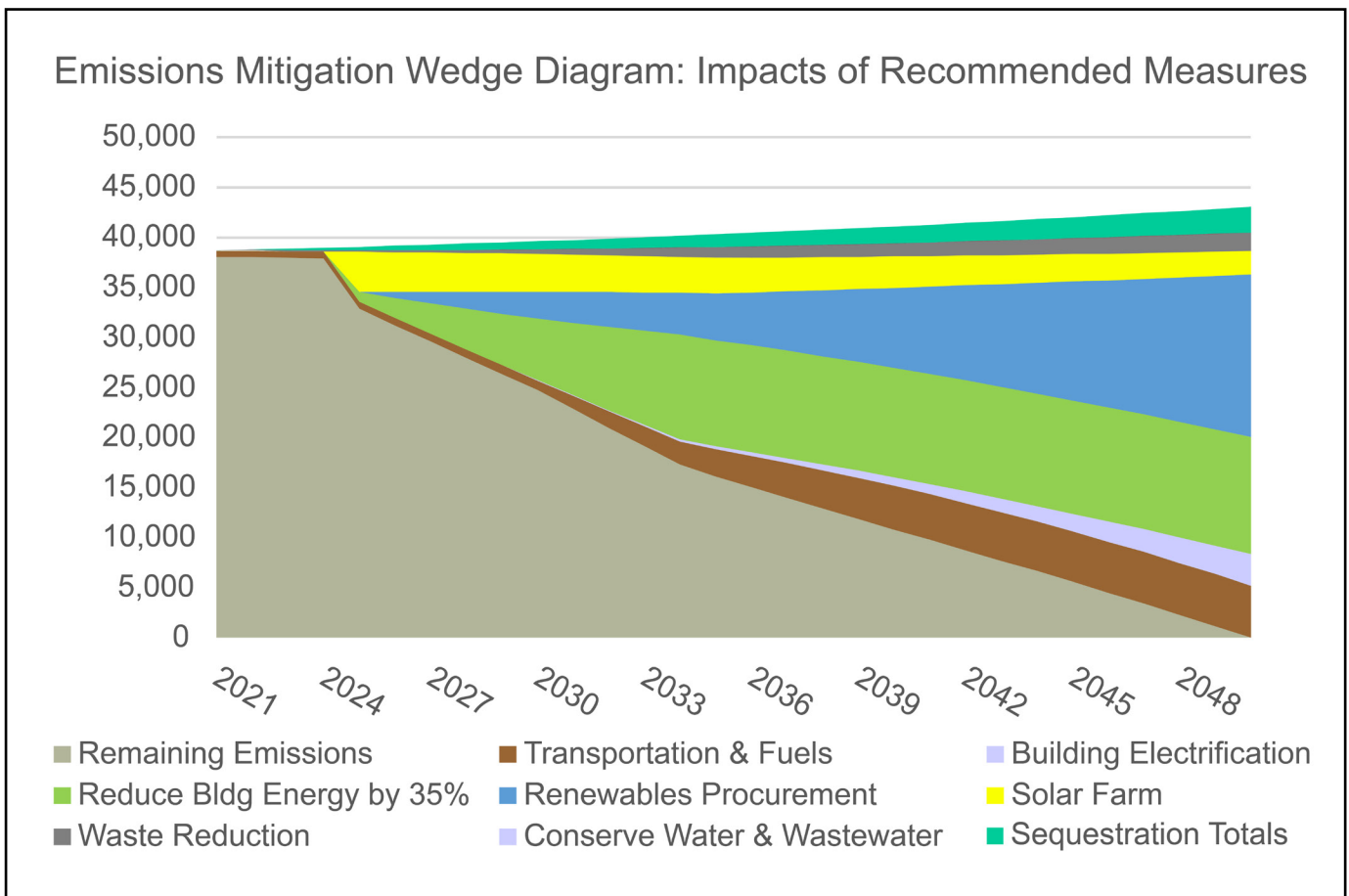


Figure 2. Model of IDNR climate action plan measures that eliminate emissions by 2050

Climate Strategies

1. Utilities and buildings
2. Sustainable site operations
3. Climate-smart natural areas
4. Equity
5. Learning and engagement

1. Utilities and Buildings

The following climate strategies promote healthy, efficient facilities that emit less, use fewer natural resources, and use carbon-free electricity. The CAP establishes six main goals to reduce energy and water consumption.



Reduce energy consumption by 35% by 2035

Conduct energy assessments on IDNR facilities. Implement best management practices and more.



Move toward electrification of facility infrastructure

Electric heat pumps for space heating and water heating are more efficient and can be offset with renewable energy production.



Procure 100% renewable energy for all IDNR sites by 2050

This requires careful coordination and planning and include a range of IDNR personnel.



Reduce use of potable water

This requires a water infrastructure inventory, metering, and other tracking methods.



Track utility data

Baseline data can be used to identify potential areas for improvement and to track progress. IDNR staff will develop a system for tracking utility data.



Set standards for future projects

This consists of developing best management practices and efficient design standards for new construction and renovation projects.

2. Sustainable Site Operations

Outcomes in this section include reduced erosion and fuel use; reduced waste and emissions related to purchasing, and increased water infiltration, capture and reuse at sites. The CAP establishes 5 main goals for sustainable site operations.



Adopt sustainable groundskeeping practices

This will involve irrigation management techniques, reduced use of chemical fertilizers and pesticides, and increased use of native plants.



Install green infrastructure

This will decrease runoff, help to reduce flooding, capture graywater and rainwater, and minimize energy consumption.



Minimize waste

This will involve creating a sustainable purchasing policy and engaging in waste reduction, reuse, and recycling initiatives.



Electrify IDNR's vehicle fleet and outdoor equipment

This will reduce fuel use and emissions and require installing charging infrastructure.



Increase efficiency of IDNR vehicles

This will involve procuring fuel-efficient vehicles and promoting fuel-efficient driving practices.

3. Climate-Smart Natural Areas

This section describes how IDNR can address the impacts of climate change on IDNR lands and natural resources. It focuses on the resilience of natural systems and species as well as the carbon sequestration and storage potential of IDNR properties. This section includes three goals.



Enhance resilience of natural systems and species

This requires a capacity to acquire critical land parcels and implement sustainable site management practices.



Increase biological carbon sequestration and storage on IDNR properties

This requires estimating the current carbon sequestration and storage on IDNR properties and implementing management practices to increase carbon sequestration and storage potential.



Implement best management practices across agricultural lands.

This will involve enhancing partnerships and connections with other programs and organizations to expand climate-smart agricultural practices on IDNR lands to decrease runoff and minimize energy consumption.



4. Equity and Inclusion

This section explores how IDNR's climate actions can help underserved communities acquire critical resources to address and mitigate climate impacts. This can be achieved by promoting community empowerment through sustained engagement, investment, trust building, and partnership. Communities are encouraged to participate in IDNR's climate change efforts. The CAP establishes six equity and inclusion goals:



Implement climate action strategies equitably

This will involve connecting with existing diversity, equity, accessibility, and inclusion activities and seeking input from diverse organizations in environmental and social justice advocacy.



Identify, prioritize, and engage target communities

Mapping tools and data can establish criteria for prioritizing communities disproportionately impacted by climate change and resource deprivation.



Empower community members as experts

Community members should be empowered to call out disparities and reveal inequitable allocation of public funds for IDNR projects.



Provide DEAI training for staff

Training for new and existing departmental hires will help the department become a diverse, equitable, accessible and inclusive organization that reflects the diversity of the state.



Ensure equitable community access to IDNR sites and resources

This will involve ensuring that green spaces, natural resources, and IDNR sites are accessible for people of all cultures, backgrounds, and abilities.



Increase public participation and outreach

Community members should be engaged and invited to participate in IDNR's climate change efforts.

5. Learning and Engagement

Sharing the CAP goals and successes is important for building partnerships, maintaining excitement around implementation, and demonstrating IDNR's leadership in climate action. Internal and external communications are also critical to implement the strategies outlined in this CAP. This section empowers IDNR staff, partners, and the public to support the agency's climate action goals, while teaching visitors how to bring sustainability home to communities across Illinois.



Empower IDNR staff to implement the CAP

This will involve sharing highlights of the CAP, soliciting feedback, educating staff about climate actions they will be implementing, and inspiring them to take voluntary actions to reduce emissions.



Increase transparency and public buy-in for the CAP

This will involve sharing highlights of the proposed CAP with external audiences and soliciting feedback.



Provide climate-focused education and programming

To increase public participation in Illinois' climate change efforts, IDNR will enhance and develop new educational resources and programming around climate change.



Showcase IDNR's climate actions

Educating the public about IDNR's climate actions will inspire the public to join Illinois' climate change efforts.



Broadly communicate agency progress

As IDNR reduces carbon emissions, staff will develop and share metrics to show agency progress in achieving climate goals.

Implementation

External partnerships, paired with agency-wide support and resources, will drive successful implementation and meet IDNR's climate goals. Integrating strategies in this CAP with existing operations, funding and work processes will mobilize internal resources and staff to accomplish climate strategies. External partnerships and funding will accelerate the agency's goals and support staff in implementation throughout the duration of the CAP. To lay a foundation for implementing the Plan successfully, IDNR should:

1. Work with existing climate action groups to integrate climate strategies into current operations & processes.
2. Coordinate and communicate efforts across departments and leadership.
3. Engage stakeholders and develop new partnerships.
4. Seek funding to support goals outlined in the CAP.
5. Establish baselines and tracking systems to communicate progress towards net-zero goals.



Top Priorities

The top priorities for IDNR's climate strategy include:

- Building energy conservation and electrification
- Solar project development
- Launching a utility tracking program
- Developing renovation design standards and best management practices
- Implementing an IDNR vehicle fleet electrification pilot
- Piloting restoration and landscaping projects
- Testing small electric site maintenance equipment
- Establishing landscape demonstration sites
- Studying solid waste and purchasing infrastructure and operations

IDNR should prioritize equity and inclusion in its climate action efforts by engaging and empowering underserved communities that have been disproportionately impacted by climate change and by promoting diversity, equity, accessibility, and inclusion within the organization. IDNR should also engage and inspire the public, staff, and partners through communication, education, and outreach efforts, and support research and monitoring efforts to advance knowledge and understanding of climate change and its impacts.





Thank you!

The IDNR Leadership Team and SEDAC thank the many people who contributed to this report and look forward to collaborating with organizations across Illinois to accomplish these climate goals.