Dakota County Phase 2

INVESTMENT GRADE AUDIT

DAKOTA COUNTY, MN
MARCH 27TH, 2026

Together, Building a Thriving Planet

Dakota COUNTY

McKinstry
For The Life Of Your Building

March 27, 2026

ATTN: **Michael Lexvold, CFM**
Director of Facilities Management
1590 Highway 55
Hastings, MN 55033

Re: Investment Grade Audit for the Dakota County Clean Energy and Decarbonization Demonstration Project – Phase 2

Dear Mr. Lexvold,

McKinstry Essention, LLC (McKinstry) is pleased to present this Investment Grade Audit (IGA) report for **Phase 2** of Dakota County's County-Wide Sustainability and Clean Energy Project, in accordance with the IGA agreement executed on 10/15/2025.

Building upon the successful implementation and outcomes of Phase 1, Phase 2 is designed to further advance Dakota County's vision of being a leader in Minnesota and across the nation in innovation and sustainability for County operations. This next phase continues to deliver meaningful economic, environmental, equity, and local workforce benefits for Dakota County, its community members, and the State of Minnesota.

Phase 2 expands upon previously implemented clean energy and efficiency initiatives by identifying and deploying additional solar PV systems, advancing energy efficiency and further optimizing facility performance. These efforts will continue to accelerate progress toward Dakota County's sustainability goals while building on the strong foundation established in Phase 1.

Through this continued work, Dakota County will further progress toward Near Net Zero energy performance across its operations. Phase 2 also strengthens the County's position as a statewide leader in on-site renewable energy generation, continuing to maximize the use of solar energy for County-owned facilities.

This IGA report provides detailed information on the Phase 2 scope, including additional discovery, engineering, solution development, costing, procurement, installation, financing, and ongoing monitoring of the recommended energy efficiency and renewable energy measures.

On behalf of the McKinstry team, we sincerely appreciate the continued partnership and opportunity to support Dakota County in this next phase of its County-Wide Sustainability and Clean Energy Project. Further details on project scope, including solution descriptions, utility analysis and updated baselines, projected energy and operational savings, measurement and verification, technical services, financial analysis, implementation schedule, and overall benefits—are included within this IGA report.

We welcome the opportunity to review this information with Dakota County leadership and staff and look forward to continuing our collaboration to successfully implement Phase 2 of this impactful energy initiative.

Sincerely,

Laura Malwitz, MBA
Energy Solutions
McKinstry Essention, LLC

John Neville, PE
Director, Business Development
McKinstry Essention, LLC

Table of Contents

Please note that this response provides the basic economic terms on which McKinstry would be willing to perform the scope of services outlined here. This report does not cover all of the terms and conditions relevant to a definitive agreement about these services. Nothing in this report approves legal terms such as warranties, indemnification, insurance requirements, and limitations of liability, even if those terms were included in the report. The details of those terms must be negotiated by the parties and set forth in a definitive agreement with respect to McKinstry's services.

Section

1

Executive Summary

McKinstry
For The Life Of Your Building

1. Executive Summary

Dakota County Clean Energy and Decarbonization Demonstration Project Phase 2

This Investment Grade Audit (IGA) report outlines Phase 2 of Dakota County's Clean Energy and Decarbonization Demonstration Project.

ABOUT DAKOTA COUNTY, MINNESOTA

Situated in the Southeast corner of the Twin Cities Metro Area, Dakota County ("the County") is the third most populated County in the State of Minnesota. It includes 587 square miles and has a population of approximately 442,000 people with the County seat located in Hastings, MN. In recent years, second and third ring communities in Dakota County (Burnsville, Eagan, Inver Grove Heights, Apple Valley, Farmington, Lakeville and Rosemount) have dramatically increased in population as development continues to move outward from the urban core of Minneapolis and St. Paul to suburban cities and townships.

Dakota County maintains a land use mixture of one-third urban, one-third suburban and one-third rural. This combination of land use and the confluence of two major rivers (the Mississippi and Minnesota) form the County's northern and eastern borders, making Dakota County a unique geographic area.

The County infrastructure is extensive and is maintained and operated by teams of expert County staff, including operation of 1.5 million square feet of buildings consuming approximately $2,000,000 in annual energy expenses.

DAKOTA COUNTY'S EFFICIENCY AND SUSTAINABILITY EFFORTS

Dakota County's programs, policies and practices reflect a commitment to energy and environmental stewardship as a cornerstone of healthy and vibrant communities in alignment with the County's vision, mission and goals

Dakota County has demonstrated a long-standing commitment to energy-efficient and sustainable operations. On October 20, 2009, the County Board established a goal (Resolution #09-526) to reduce operational greenhouse gas (GHG) emissions by 15% by 2015, relative to a 2005 baseline. To support this goal, the County identified and implemented a range of strategies, including fleet electrification, Byllesby Dam hydroelectric generation and wheeling, expansion of electric vehicle (EV) charging infrastructure, increased use of biofuels, and the transition to renewable energy sources such as solar, wind, and geothermal. Additional initiatives included microturbines, off-peak thermal storage, County-wide LED lighting conversions, Low Impact Design (LID) standards, and participation in MetroPass.

The County continues to build on this foundation through ongoing investments in energy conservation measures that reduce reliance on fossil fuels and support the generation of energy from renewable sources, such as solar. These efforts align with the County's Energy Conservation and Greenhouse Gas Reduction Strategy, as adopted under Resolution No. 22-068 on February 22, 2022.

In 2025, Dakota County completed Phase 1 of the Clean Energy and Decarbonization Demonstration Project in partnership with McKinstry. Key accomplishments included:

1. Executive Summary

- **Installation of solar photovoltaic (PV) systems at four sites**, including one ground-mounted system at the Administration Center and three solar carport systems at the Northern Service Center, Robert Trail Library, and Galaxie Library.
- **Implementation of County-wide lighting upgrades across 18 buildings**, consisting of standardized LED solutions. These upgrades included LED fixtures, retrofit kits, and Type B lamps (ballast bypass/line voltage to sockets), along with Lutron control systems in areas without existing occupancy sensors.
- **Retro-commissioning of HVAC systems at two sites**, the Northern Service Center and the Western Service Center.

GOALS AND OBJECTIVES

Implementation of Phase 2 of the Dakota County Clean Energy and Decarbonization Demonstration Project, as outlined in this IGA report, will reduce energy and operating expenses, address critical capital improvement needs, enhance overall facility efficiency, and further advance the County's transition to renewable energy.

The purpose of the Investment Grade Audit (IGA) is to develop a shovel-ready project for review and approval by County staff and the Dakota County Board of Commissioners, enabling contract authorization and successful implementation.

The overarching goal of the Dakota County Clean Energy and Decarbonization Demonstration Project is to deliver a comprehensive solution that provides the following benefits:

1. **Build on Phase 1 Success**
   Expand upon the Phase 1 Clean Energy and Decarbonization Demonstration Project to drive continued cost savings, improve energy efficiency, and implement renewable energy solutions that reduce long-term utility expenses. **Phase 1 + Phase 2 Accomplishments include:**

	Phase 1 $800k Contribution	Phase 2 - $3M Project $250k Contribution	County Accomplishments via Energy Projects
Project Size	$8.4 Million	$3.0 Million	**Up to $11.4 Million**
Cost Savings	$338k/ yr	$ 107k/ yr	**$445k / yr**
Avoided energy costs (25 yrs)	$17.1 Million	$4.8 Million	**$21.9 Million**
Utility cost reduction	25%	6% (10-12%+)*	**~31% (35-37%+)***
Solar system	1.1 MW	~0.647 MW	**~1.747 MW of solar used on-site**
On-Site solar to offset energy costs	4 Solar Sites	5 Solar Sites	**9 Solar Sites where energy is used on-site**
Near Net Zero Sites	2 Near Net Zero Energy Sites	1 Near Net Zero Energy Site	**Drive County closer to Near Net Zero energy performance**
IRA benefits	~$1 Million	~$692,000	**~$1.7M in Direct Pay - Largest solar benefit for a MN County**
Awards	MNSEIA, AMC, NACO	AMC (Energy), NACO, etc.	**MNSEIA, AMC, NACO, etc.**

** TBD based on 2025 requested utility data.*

1. Executive Summary

Note: At the time of this report, the Phase 1 solar arrays installed within Xcel territory are being billed incorrectly and, therefore, are not included in the table above. McKinstry is actively working with Xcel to resolve this issue.

2. **Demonstrate and Showcase Innovation**
   Highlight sustainable energy technologies across County-owned facilities, prioritizing highly visible sites that promote community awareness, education, and replicability.

3. **Accelerate Sustainability Goal Achievement**
   Support Dakota County's sustainability objectives by integrating renewable energy systems and energy-efficient facility improvements to maximize greenhouse gas and carbon emission reductions.

4. **Enhance Fiscal Resiliency**
   Deliver significant lifecycle cost savings over the life of the project.

5. **Support Local Workforce and Economic Development**
   Strengthen the local economy by engaging local businesses and contractors, creating jobs, and providing workforce training in advanced energy technologies during project design and implementation.

6. **Deliver a Self-Funding, Shovel-Ready Project**
   Provide a fully developed, shovel-ready project funded through energy and operational savings, supplemented by grants, rebates, and other available funding sources that aligns with Minnesota State Statute 471.345 (Energy Efficiency Projects), ensuring long-term financial sustainability for County operations.

7. **Leverage Inflation Reduction Act Incentives**
   Maximize available funding through the Inflation Reduction Act Direct Pay provisions, including a minimum 30% incentive for eligible technologies such as solar PV systems.

SUMMARY OF PROPOSED PROJECT

Phase 2 of the *Dakota County Clean Energy and Decarbonization Demonstration Project* identifies a comprehensive selection of clean energy solutions.

The selected solutions include a combination of renewable energy systems—primarily solar photovoltaic (PV) applications—and energy efficiency improvements across County facilities. These locations play a critical role in supporting County staff, the broader workforce, and the surrounding communities.

The following provides a summary of the selected project sites, along with associated clean energy solutions, estimated project costs, and the anticipated outcomes and benefits.

1. Executive Summary

Summary of Selected Locations and Solutions

The Investment Grade Audit (IGA) report includes the following sites and associated solutions. Detailed descriptions of each energy conservation measure are provided in the subsequent sections and appendices of this report.

	Project Metrics			
Facility	Mechanical	Building Envelope	RT Solar	Water
Administration Center	☑	☑	☐	☑
Burnhaven Library	☐	☑	☐	☐
Kaposia Library	☐	☑	☑	☐
Lawshe Museum	☐	☑	☐	☑
Empire Maintenance Facility	☐	☑	☐	☑
Farmington Library	☐	☑	☑	☑
Heritage Library	☐	☑	☐	☑
Inver Glen Library	☐	☑	☐	☐
Judicial Center	☐	☑	☐	☑
Juvenile Services Center	☐	☑	☑	☑
Law Enforcement Center	☐	☐	☑	☑
Lebanon Hills Visitor Center	☐	☑	☐	☑
Northern Service Center	☑	☑	☐	☑
Pleasant Hill Library	☐	☑	☐	☐
Schaars Bluff Gathering Center	☐	☑	☐	☐
SMART Center	☐	☑	☐	☑
Wescott Library	☐	☑	☐	☐
Western Service Center	☑	☑	☐	☑
911 Center	☐	☑	☐	☑
Lebanon Hills Maintenance	☐	☐	☑	☐
Extension Service Center	☐	☐	☐	☑
Robert Trail Library	☐	☐	☐	☑

1. Executive Summary

Economic and Benefit Summary

Project Cost Estimate	$3 Million
County Contribution	$250k (Annual Energy Efficiency Budget)
Facility Upgrades	Mechanical Measures; Water Conservation; Building Envelope
Solar	5 Sites Juvenile Services + LEC + Lebanon Hills Kaposia* + Farmington*
Solar Size	647 kW
IRA Direct Pay	~$692,000
Annual Savings	$107,000
Avoided Energy Cost	$4.8 Million
Near Net Zero Site	Farmington Library (92% offset)

** Solar to offset over 50% of facility's electric use*

1. Executive Summary

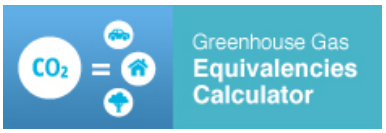
PROJECT BENEFIT OUTCOMES

$4.8 Million
In avoided energy and operating costs

Reduce Dakota County's energy and operating costs by approximately $107,000 annually, resulting in significant long-term savings over the 25-year life of the equipment. These savings can be reinvested into other County operational needs and/or used to fund the overall project.

1.2 Million Pounds of Carbon
Reduced per year

Reduce Greenhouse Gas (GHG) and Carbon (CO_2) emissions by **1.2 Million pounds of Carbon annually**.



Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

647 kW Solar

Install **647 kW** of solar across four (5) County locations. The electricity will be used on-site to offset current electric use/ cost and drive towards **Near Net Zero Electric Energy performance achievement at one (1) County building**.

By installing an additional 647 kW of solar capacity, Dakota County will further offset facility energy use with renewable energy and continue expanding its on-site solar footprint. All energy generated by these systems will be consumed directly at the facilities, maximizing on-site utilization and energy cost savings.

1 Near Net Zero Energy Building

Demonstrate operational synergies of solar energy and energy efficient technologies **showcasing Dakota County's commitment to innovation and sustainability. Dakota County to be a leader in sustainability innovation.**

Energy Efficiency

Implement County-wide energy efficiency upgrades to reduce overall electricity consumption and operating costs while advancing the transition to clean energy technologies. When paired with on-site solar systems, these improvements will significantly lower the energy requirement of County facilities.

1. Executive Summary

Proposed Solar PV System Locations and Application

LAW ENFORCEMENT CENTER

17% Energy Use Offset

Solar Size - 207 (kW_{DC})

1. Executive Summary

JUVENILE SERVICES

28% Energy Use Offset

Solar Size - 114 (kW_{DC})

1. Executive Summary

FARMINGTON LIBRARY

92% Energy Use Offset

Solar Size - 131 (kW_{DC})

1. Executive Summary

LEBANON HILLS MAINTENANCE FACILITY

42% Energy Use Offset

Solar Size - 101 (kW_{DC})

1. Executive Summary

KAPOSIA LIBRARY

54% Energy Use Offset

Solar Size - 94 (kW_{DC})

Dakota
COUNTY

McKinstry
For The Life Of Your Building