

Green Spaces, Green Places

An Energy Action Plan for Ramsey County Parks & Recreation

Approved: December 14, 2016

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Executive Summary

For the past nine months, Ramsey County Parks & Recreation has been working with Xcel Energy's Partners in Energy team to develop this Energy Action Plan. An eight-member Energy Action Team met in a series of five facilitated workshops to review energy data, establish an energy vision, prioritize areas of focus, set energy goals for the department, and establish a framework for implementation.

Through an energy-use analysis of department facilities, the team determined that the highest energy users are by far ice arenas. **Ice arenas contribute approximately 85 percent of the department's total energy costs.** Parks & Recreation spent over \$930,000 on energy in 2015, with over \$780,000 going toward energy use in the ice arenas alone.

Impending environmental regulations will require arena owners to make capital investments to ensure regulatory compliance, and this presents a unique opportunity for the department to dramatically improve energy efficiency and reduce operating costs.

There are other upcoming opportunities for clean energy investment in the department including continued expansion and remodeling of Tamarack Nature Center, redevelopment of Lake Owasso County Park, addition of a shelter at Long Lake Regional Park, and renovations to the administrative building. There are also long term project opportunities including development of renewable energy sources in parks and on arena rooftops. The concurrent work of the Arena Task Force offers a unique opportunity to incorporate smart energy investments into long-term ice arena planning. All of these can be leveraged to educate the community about clean energy technologies and how they are being implemented in department facilities.

The department has already completed a variety of energy efficiency and conservation projects utilizing Xcel Energy's program offerings along with various other opportunities, demonstrating an ongoing commitment to leadership in energy management. Previous energy efficiency projects have already generated significant energy and cost savings for the department. Sixteen lighting efficiency upgrades alone are saving an estimated 89,649 kWh annually, or approximately \$8,000 per year.

This report provides guidance on the most impactful measures Ramsey County Parks & Recreation can take to achieve its energy goals, further its energy leadership, and reduce taxpayer burden on facility utility costs. In pursuing the strategies outlined in this Energy Action Plan, the department will build on past successes and work toward achieving its long term energy vision.

Our Vision:

The Energy Action Team developed an energy vision statement to guide decisions throughout the development and implementation of the plan.

Energy Vision

Ramsey County Parks & Recreation's programs, policies and practices will reflect a commitment to leadership in energy efficiency, conservation, education and renewable energy, to foster a vibrant community where all are valued and thrive.

Based on this vision, the Energy Action Team identified priority focus areas and set goals within each area. The team then identified key strategies for achieving these goals, with a priority on short term and impactful action steps.

Energy Goals:

Energy Efficiency and Conservation

Goals:

- Reduce the total energy use of Parks & Recreation facilities 20 percent by 2020 and 35 percent by 2025 over a 2008 baseline.

Renewable Energy

Goals:

- Utilize 100-percent renewable energy on-site at county parks facilities by 2019.
- Utilize 50-percent renewable energy at regional parks facilities on site by 2020 and 100 percent by 2025
- Showcase to the public renewable energy technologies installed at arenas, golf courses, and the administration building by 2020.

Education and Outreach

Goals:

- Increase awareness of parks' energy efficiency and renewable energy projects to 50 percent of users by 2018.
- Engage at least 50 percent of parks employees in an employee energy conservation initiative by 2019.

Key Strategies for Achieving Our Goals

Near-Term Actions

Efficiency and Conservation

- Implement remaining viable energy conservation opportunities from previous ice arena studies.
- Perform ice arena engineering studies focused on conservation opportunities to leverage during refrigerant system upgrades.
- Develop cost-payback analysis for board review.

Renewable Energy

- Implement efficiency and conservation in county and regional parks facilities, working toward net-zero status.
- Assess renewable subscription and on-site installation options for regional parks.

Education and Outreach

- Help recreational users feel good about using Ramsey County parks and supporting an entity that is energy conscious.
- Provide context for the ice arena experience, particularly as energy is concerned.
- Educate golfers and arena patrons through messaging around sustainability.
- Inspire energy-related behavior changes in youth through hands-on activities.
- Engage department staff in energy conservation behaviors.

Longer Term Actions

Efficiency and Conservation

- Assess and invest in comprehensive ice arena energy modernization while upgrading refrigerant systems.
- Roll out best practices for building energy management across Parks & Recreation facilities.
- Reduce operational energy use in administration and golf course buildings.

Renewable Energy

- Ensure all cost-effective energy conservation measures in county and regional parks are fully implemented.
- Install on-site solar to cover energy usage for all county parks.
- Install the most beneficial renewable technologies in arenas, golf courses, and the administration building.
- Design and build all new regional and county park buildings to be net-zero ready and, at a minimum, to meet or exceed SB2030 standards.

Education and Outreach

- Inform users/staff that the department is focused on providing everyone with access to parks while preserving our resources and minimizing our environmental impact.
- Make parents and players aware of the ongoing efforts to conserve energy and address regulatory changes.
- Grow the game of golf with younger golfers who value environmental stewardship.
- Teach children skills and attitudes that will foster lifelong habits in energy conservation and instill a respect for the natural world.
- Engage parks employees in at least one employee initiative for conservation behavior.

An Energy Action Plan Focused on the Parks Department

Implementation of this plan will be led by Parks & Recreation staff, with active support from the Ramsey County Parks & Recreation Commission and the Ramsey County Board of Commissioners. Partners in Energy will help the Parks & Recreation team leverage multiple Xcel Energy programs and incentives to help implement efficiency and renewable projects.

Achieving the goals laid out in this plan will establish Parks & Recreation as a leader in achieving sustainability goals and serving as an effective steward of public resources. At the same time, the community education and engagement component will ensure that broader benefits from implementing energy actions will generate a multiplier effect throughout and beyond Ramsey County.

Introduction

The purpose of this plan is to outline tangible steps Ramsey County Parks & Recreation can take to achieve their short- and long-term energy goals. The goal is to provide detailed information about energy use in department facilities as well as a framework for leadership in energy efficiency and conservation, renewable energy, and education. By implementing



Bruce Vento Regional Trail

Photo by Elkman / CCBY

this plan, the department has the opportunity to be a model for other parks & recreation and similar governmental departments around the state and the country. **In 2015, the department spent more than \$930,000 on energy including more than \$780,000 in its ice arenas alone.** Significant savings can be realized through dedicated efficiency and conservation efforts.

In January of 2016, Ramsey County Parks & Recreation signed a Memorandum of Understanding with Xcel Energy (see Appendix 2) to participate in Partners in Energy. Beginning in February 2016, an eight-member Energy Action Team, along with representatives from Xcel Energy (which provides electrical and gas service to department facilities), met in a series of five workshops to develop the contents of this Energy Action Plan. The team included Ramsey County staff, Ramsey County Parks & Recreation staff, and a Parks Commission member. Meetings were attended by representatives from Xcel Energy and their facilitators from the Center for Energy and Environment.

The team reviewed energy data, prioritized areas of focus for the department, and developed this Energy Action Plan to guide implementation of the department's energy goals and the team's vision statement. The team also conducted detailed action planning for the identified strategies to be implemented over an 18-month initial implementation period.

Two key priorities the department identified in their program application were **strong community outreach** and **managing aging facilities, especially ice arenas**. The anticipated outcomes of the planning process for the department include increased awareness of energy efficiency, strengthened environmental stewardship, and greater control of energy costs. This plan works toward all of the objectives identified.

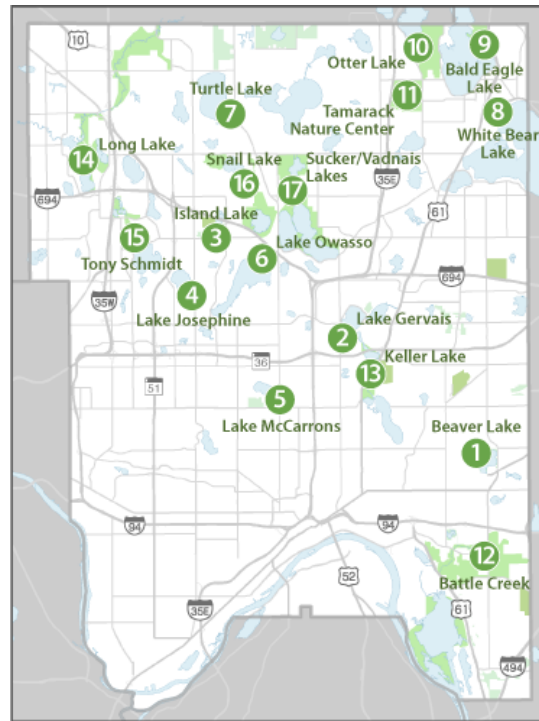
The following document includes a brief overview of the Ramsey County Parks & Recreation system, the current energy use of parks facilities, documentation of the Partners in Energy planning process, the priority strategies and actions identified by the Energy Action Team, and strategies for how the Energy Action Team will keep the implementation of this plan on track.

Ramsey County Parks & Recreation– Community Background

Ramsey County Mission Statement: *A county of excellence working with you to enhance our quality of life.*

Ramsey County is the smallest county in the state at 156 square miles with a population density of more than 3,000 people per square mile. Ramsey County’s parks are located in one of the state’s most urbanized regions and are surrounded by a highly fragmented and developed landscape.

The Ramsey County Parks & Recreation system encompasses over 6,500 acres consisting of six regional parks including a family aquatic center and nature center, six regional trail corridors, nine county parks, nine protected open space sites, eleven indoor ice arenas, and five golf courses. The Parks & Recreation services provided by Ramsey County complement services provided by municipalities to meet the needs of an urbanized population, and the parks and open space represent the largest undeveloped land area in the county. At the same time, population density puts tremendous pressure on natural resources in the parks and the open spaces managed by the department.



Map of Ramsey County Parks

Population Served

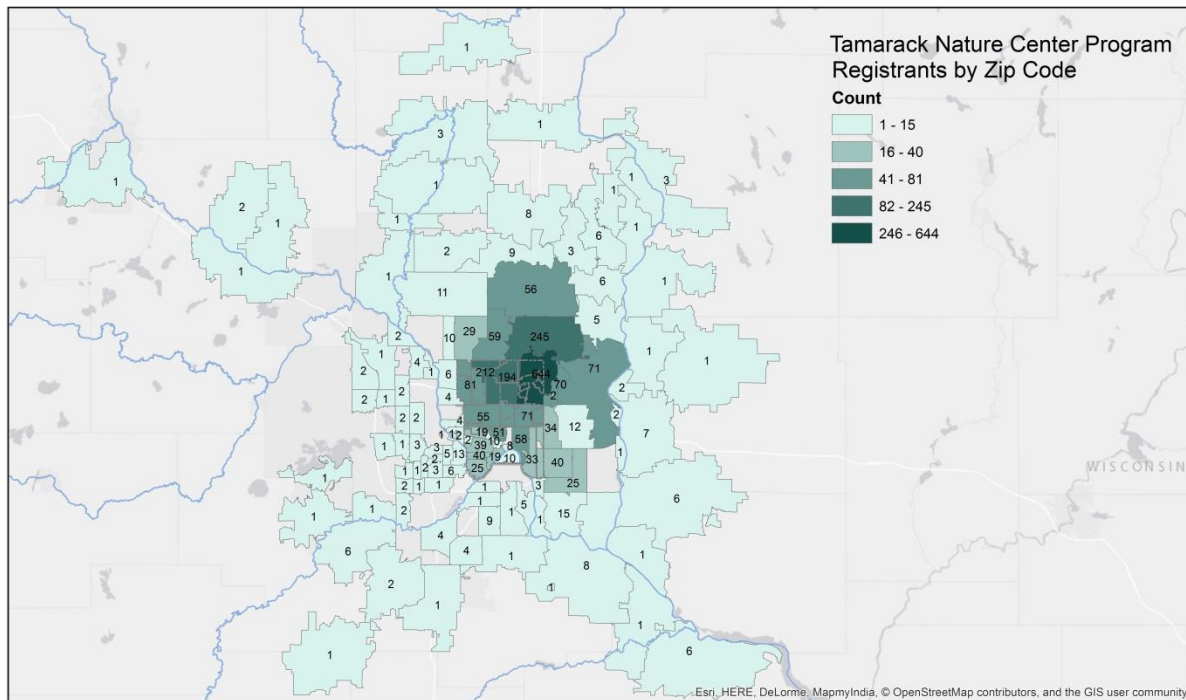
Ramsey County is the second most populous county in the state, with a dense and diverse population that includes close to 60,000 families with children under the age of 18. Visitors to **Regional Parks** come from all over the metro area, with Ramsey County residents making up 53.6 percent of visitors.¹ While summer is the busiest season for the regional park system, most parks are used year-round. Grass-Vadnais-Snail Lake Regional Park had the highest number of visits in 2014 with 735,000 visitors, followed by Battle Creek Regional Park, Keller Regional Park, Highway 96 Regional Trail, and Bruce Vento Regional Trail. In total, 3.821 million visits were made to Ramsey County’s Regional Parks and Trails in 2015.² Preferred activities across the Metropolitan Regional Parks System, which includes Ramsey County Regional Parks, include walking/hiking, biking, swimming, and picnicking.

¹ Data from the Metropolitan Council’s Annual Use Estimate of the Metropolitan Regional Parks System for 2015

² Ibid.

County Parks typically draw visitors from the immediate neighborhood or area. These parks often feature fishing, beaches, trails, playgrounds, picnic shelters, and other similar amenities.

All regional and county parks serve both recreational users and customers who pay for rental of the picnic shelters or pavilions. Facilities are spread throughout the county and serve diverse populations. Signage is adapted for each facility to include the most relevant languages for the population served.



Tamarack Nature Center offers a year-round preschool as well as summer youth programming, environmental education, and recreation for school groups. Data from program registration shows that Tamarack program participation is largely local, with some participants traveling in from outside the county.

Ramsey County **ice arenas** are used by hockey teams, figure skating organizations, recreational ice skaters, and curlers. A total of 133 different groups use the Ramsey County ice arena system. Dry-floor events such as trade shows and music concerts occur during summer months.

An average of 100,000 rounds of golf are played per year at Ramsey County **golf facilities**. Programming includes a membership model, a pay-per-round model, and opportunities for youth.

Ramsey County Facts and Figures	
Second most populous county in Minnesota (behind Hennepin County)	
Population	532,655
Population Growth	4.7 percent in 2014, compared to state average of 2.9 percent
Size	156 square miles
Population Density	3,342 inhabitants per square mile
Households	Total: 201,236 With Children Under 18: 29.8 percent
Foreign-Born	14 percent of residents, compared to state average of 6.5 percent

Department Facilities

Ramsey County Parks & Recreation facilities serve a variety of functions from picnic shelters to administrative offices, nature centers, award-winning golf course clubhouses, and ice arenas. The department continues to expand with the acquisition of Vadnais Sports



Gazebo



Beach building



Shelter



Pavilion playground

Facilities at Tony Schmidt Regional Park (Taken from Building Report)

Center in 2014, the addition of an Early Childhood Learning Center at Tamarack Nature Center in 2015, a new maintenance facility at Manitou Ridge Golf Course, and a total redevelopment of Lake Owasso County Park slated for 2017. To come full circle, one of the newest department facilities is the clubhouse at Keller Golf Course, a replacement of the original facility constructed in 1929. Most county ice arenas were built in the 1970s under the vision of Governor Wendell Anderson. The age of these facilities has put a premium on maintenance and in recent years the county has pursued energy efficiency measures in these facilities as funding allows. Applying the energy efficiency projects detailed in this plan across the arena system will result in significant energy savings as well as operational consistency from arena to arena.

The department operates and maintains the following facilities:

- *Administration campus*
 - *Administrative offices*
 - *Maintenance facility*
 - *County fairgrounds*
 - *Horseshoe court*
- *13 sheets of ice at 11 arenas (one sheet operated by leasee)*
- *2 domes (one operated by contractor)*
- *72 holes of golf at 5 courses (two courses operated by contractors)*
 - *Clubhouses/pro shops*
 - *Maintenance facilities*
- *6 regional parks*
 - *Pavilions*
 - *Picnic shelters*
 - *Restroom buildings*
 - *Beach/concession buildings*
 - *WaterWorks aquatic facility (Battle Creek Regional Park)*
- *9 county parks*
 - *Picnic shelters*
 - *Restroom buildings*
 - *Beach/concession buildings*
- *Tamarack Nature Center*
 - *Main nature center/cross country ski trailhead*
 - *Preschool*
 - *Garden house*
 - *Maintenance structures*
 - *Maple syrup shack*
 - *Day camp & picnic shelters*

In addition to these facilities, Parks & Recreation also manages several amenities that have an impact on energy usage including in-park and regional trails, playgrounds and nature play areas, off-leash dog areas, cross-country ski trails, mountain bike trails, boat launches, archery ranges, open or undeveloped spaces, and others.

Ramsey County Parks' Community Assets

Highlights from community members' feedback during the planning workshops

- **Good geographic distribution of facilities/access**
- **History of leveraging external funding**
- **Public support and use of parks**
- **Supportive board**
- **Neighboring communities**
- **Natural resource management**
- **High quality of land**
- **Awareness of environmental stewardship**
- **Good history of maintaining properties**
- **Interest in process**
- **Users can safely walk and bike**
- **Great maintenance and operations**
- **Clean, safe, well maintained**

Existing Plans and Resources

Ramsey County Parks & Recreation currently has a Natural Resource Management plan in place to guide the maintenance, management, and improvement of natural resources for wildlife habitat, while providing recreational opportunities and access for park users.

The department also supports the Active Living Ramsey Communities initiative, which was enacted in 2004 to create and promote safe, convenient environments for people to integrate physical activity into their daily routines.

Currently, the county manager's office is in the process of identifying long-term energy and/or greenhouse gas reduction targets that would be established across all county departments. By setting its own goals, Parks & Recreation looks forward to taking a leadership role in this effort.

Additional plans that were reviewed include:

Energy Management and Sustainability Plan (March 4, 2011): This plan included an analysis of then-current energy practices and outlined a detailed set of goals and action steps to achieve them. The plan did not assign specific targets to individual departments such as Parks & Recreation; rather, it gave leeway to departments responsible for energy use to meet the county-wide goal of 15 percent energy use reduction by 2015. The Energy Management and Sustainability Plan was utilized as a valuable reference and starting point for the development of the department's Energy Action Plan.

Parks Capital Improvement Plan for 2016-2021: This document outlines the projected Parks & Recreation budget starting in 2016 and going to 2021.

Ramsey County Parks & Recreation System Plan (May 2006): This document describes the breadth of parks and facilities managed by Parks & Recreation, with mention of short- and long-term planning efforts. This plan is currently being updated by staff for 2017.

Ramsey County Arena Task Force Draft Report (February 16, 2015): This report outlines the current status of Ramsey County ice arenas and makes recommendations around the system's long-term future.

Building Reports: The department maintains building reports for every site and facility under their management, documenting year of construction, condition, and modifications. These documents were valuable in identifying high-impact opportunities.

Relevant Mission and Vision Statements

A variety of mission and vision statements were considered by the Energy Action Team as they formed a vision for this plan and the future of energy in the department:

- *Ramsey County Mission Statement:* A county of excellence working with you to enhance our quality of life.
- *Ramsey County Vision Statement:* A vibrant community where all are valued and thrive.
- *Ramsey County Environmental Mission Statement (adopted in 1993):* Looking toward the future, Ramsey County will wisely entrust its resources and people to environmental stewardship.
- *Ramsey County Energy Vision (included in the Ramsey County Energy Management and Stewardship Plan, 2011):* Ramsey County's programs, policies, and practices will reflect a commitment to energy stewardship as a cornerstone of healthy and vibrant communities.

Ramsey County Parks & Recreation Commission

The Ramsey County Parks & Recreation Commission serves as an advisory commission to the Parks & Recreation department and the Ramsey County Board of Commissioners on planning, development, and operation of parks, trails, open spaces and recreation areas. The board has nine members and meets monthly. One board member sat on the Energy Action Team that developed this plan.

The mission of the Ramsey County Parks & Recreation Commission is three-fold:

- 1) To assist the Ramsey County Board of Commissioners and the Parks & Recreation department in reviewing and evaluating policy matters, budgets and specific projects relating to parks, open space, trails and recreation areas;
- 2) To provide a channel for presentation of the interests, needs, desires and concerns of Ramsey County residents to the Parks & Recreation department and the County Board with respect to Parks & Recreation services;
- 3) To raise issues and concerns relating to Parks & Recreation services for discussion with the department and to follow such issues to conclusion through policy and/or project recommendations and reviews or through commission-implemented projects or reviews.

By actively pursuing these objectives, the Commission seeks to add the voices of informed, interested citizens to the arena of Parks & Recreation issues. The Commission undertakes activities in accordance with its mission on a regular and ongoing basis. It also focuses on a smaller number of issues, projects, or concerns each year in order to gain a greater understanding and provide more responsiveness to and interaction with the Parks & Recreation Department and the County Board.

This plan will be shared with the Commission for review and comment.

Local Communication Channels

Engaging the community is critical for reaching community outreach goals. Below are some ways the Ramsey County Parks & Recreation conducts outreach.

- Email department updates to residents and subscribers
- Informational signs at various park locations
- Department and county websites
- Facebook page with 2,700+ likes
- Twitter account (@RamseyCtyParks) with 2,900+ followers
- Friends of the Parks and Trails of St. Paul and Ramsey County newsletter
- Cross-promotion with cities that have parks within their borders through their media channels (e.g. newsletters, social media, websites)
- Pioneer Press newspaper (circulation of 185,000)
- Tamarack nature center website and Facebook page
- Direct emails

There may be additional opportunities to leverage broader Ramsey County resources such as County libraries, larger Ramsey County newsletters, and expanded social media presence.

Xcel Energy's Partners in Energy

Partners in Energy is an offering provided by Xcel Energy to support communities in Minnesota and Colorado in the development and implementation of a customized energy action plan. Launched in 2014, and Ramsey County Parks & Recreation was chosen as the sixth Minnesota community to participate. Other participating Minnesota communities at the time of this writing are the Lake Street/Midtown Greenway Corridor in Minneapolis and the cities of Maplewood, Red Wing, St. Louis Park, Edina, Faribault, St. Cloud, and Saint Paul. There are currently seven Colorado communities participating. Parks & Recreation is the first intra-agency department to participate in the program.

The objective of the Partners in Energy planning process is to allow communities to develop actionable plans that advance their goals with the support of Xcel Energy's technical expertise, facilitation process, and program knowledge. After six months of planning, Xcel Energy continues to support partnering communities by providing 18 months of plan implementation assistance.

In addition to planning workshops, communities participate in joint learning opportunities with three to five other Partners in Energy communities, forming an "Exchange." Exchanges meet for office hour calls, webinars, and peer-to-peer conversations developed around topics that support planning and implementation tasks. The goal of these interactions is to allow for collaboration between communities and access to experts in the field.

Energy Action Team

Ramsey County Parks & Recreation worked to include a variety of perspectives on the Energy Action Team both from within and outside the department.



Members of the Energy Action Team at Workshop 5

Ramsey County Parks & Recreation Department's Energy Action Team

Ramsey County Parks & Recreation

- a) Ryan Ries, Community Lead, Project Manager (Planning & Development Division)
- b) Anna Newton, Naturalist (Tamarack Nature Center)
- c) Bill Ross, Maintenance and Service
- d) Alisha Seifert, Communications
- e) Justin Zimmerman, Golf Course Superintendent

Ramsey County Parks & Recreation Commission

- f) Rich Straumann

Ramsey County

- g) Mary T'Kach, Energy and Sustainability Coordinator

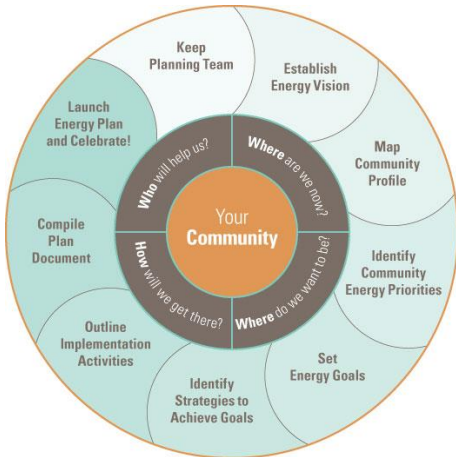
Xcel Energy Representatives

- h) Tami Gunderzik, Partners in Energy Program Manager
- i) Yvonne Pfeifer, DSM Community Manager
- j) Cindy Auld, Account Manager
- k) Jenny Edwards, Partners in Energy Facilitator
- l) Sarah Klauer, Partners in Energy Facilitator
- m) Emma Struss, Partners in Energy Facilitator

At the beginning of the planning process, Energy Action Team members filled out a welcome survey. The survey showed that a majority of team members felt their energy literacy was advanced (75 percent), with 25 percent having intermediate energy literacy. Additionally, 75 percent of team members felt that energy was a part of their job all the time and 25 percent felt it was their job some of the time. They brought a variety of resources to the table including:

- Communication skills
- Parks user perspectives
- Advocacy of sustainable energy
- Experience with maintenance and repair of ice arenas
- Resources and skills related to Xcel Energy's programs and services
- Perspective from other planning efforts





Xcel Energy’s Partners in Energy Planning Process

Planning Process

The content of this plan is derived from a series of planning workshops. Xcel Energy’s role in the planning process was to facilitate the workshops; provide electricity and gas usage data, program participation data, and other technical data as available; advise the community on effective strategies and actions; and aid in the development of this energy action plan based on the energy vision identified during the workshops. A central emphasis throughout the process is community ownership of the energy plan, something that requires active participation and broad input. Xcel Energy will continue to work with Ramsey County Parks & Recreation staff and members of the Energy Action Team to support the implementation of this plan.



The Energy Action Team met from February 2016 through June 2016 for a total of five workshops. The primary planning objectives were to develop a unifying vision for the department’s energy future, share information on the existing activities within the community, develop priority focus areas for near-term implementation, and work through detail on strategies, goals, and the initial work plan during implementation.

The Energy Action Team workshops were led by Partners in Energy facilitators. An overview of the major activities at each workshop is included below.

Partners in Energy Workshop Process	
<p>Workshop 1 <i>February 11, 2016</i></p>	<ul style="list-style-type: none"> • Welcome and introductions • Partners in Energy overview • Presentation by Parks & Recreation on goals and previous projects • Energy visioning activity
<p>Workshop 2 <i>March 24, 2016</i></p>	<ul style="list-style-type: none"> • Discussion and approval of the proposed vision statement • Overview of focus areas and facility energy and user data • Selection of three focus areas: energy efficiency and conservation, renewable energy, and education and outreach • Discussion of draft goals and strategies for each focus area
<p>Workshop 3 <i>May 4, 2016</i></p>	<ul style="list-style-type: none"> • In-depth discussion and data review around Education and Outreach focus area: user groups, key messages, and communications channels • In-depth discussion and data review around Energy Efficiency and Conservation focus area: key facility groups
<p>Small Group Meeting <i>May 26, 2016</i></p>	<ul style="list-style-type: none"> • Discussion of Energy Efficiency and Conservation focus area: detailed data review, strategy prioritization, initial action plan, and follow-up
<p>Workshop 4 <i>May 29, 2016</i></p>	<ul style="list-style-type: none"> • Education and Outreach focus area: confirmation of key messages and users, action planning • Renewable Energy focus area: discussion of strategies for Regional and County Parks to move toward net zero energy usage and barriers • Creation of a SWOT (Strengths, Weaknesses, Opportunities, and Threats) matrix
<p>Workshop 5 <i>July 14, 2016</i></p>	<ul style="list-style-type: none"> • Review of draft Energy Action Plan and finalize outstanding decisions around goals and strategies • Discussion of next steps and timeline moving forward • Discussion of role of Energy Action Team

Where Does the Parks & Recreation Department Stand? – Baseline Energy Analysis Results

Ramsey County has been tracking the energy use of their facilities since 2008, and this historical data helped to create a robust picture of baseline energy use in the Parks & Recreation Department. In addition, the department permitted Xcel Energy to share energy use data with the Energy Action Team for reference throughout the planning process.³ The figure below shows year-to-year energy use at parks facilities based on the county database. The increase in energy use starting in 2014 reflects the addition of Vadnais Heights Sports Center, which is included in utility bills starting in July of 2014.



Figure 1: Annual Energy Usage Trends

Ramsey County Parks & Recreation has 76 electric premises and 23 natural gas premises with Xcel Energy. Department staff and Xcel Energy worked together to identify all energy premises and map them to the correct facilities in order to conduct a detailed energy analysis.⁴ The team examined facility-specific information for gas and electric use as well as cost information and comparison of facility types. By far the highest energy users are the ice arenas. Ice arenas together contributed approximately 85 percent of the department's total energy costs. The department spent over \$930,000 on energy in 2015, with over \$780,000 going toward energy use in the ice arenas alone.

³ All energy data presented through this process was developed for planning purposes, and therefore it may contain some variation from data obtained through other sources.

⁴ Data does not include facilities the department does not directly operate and thus does not have primary responsibility for energy use.

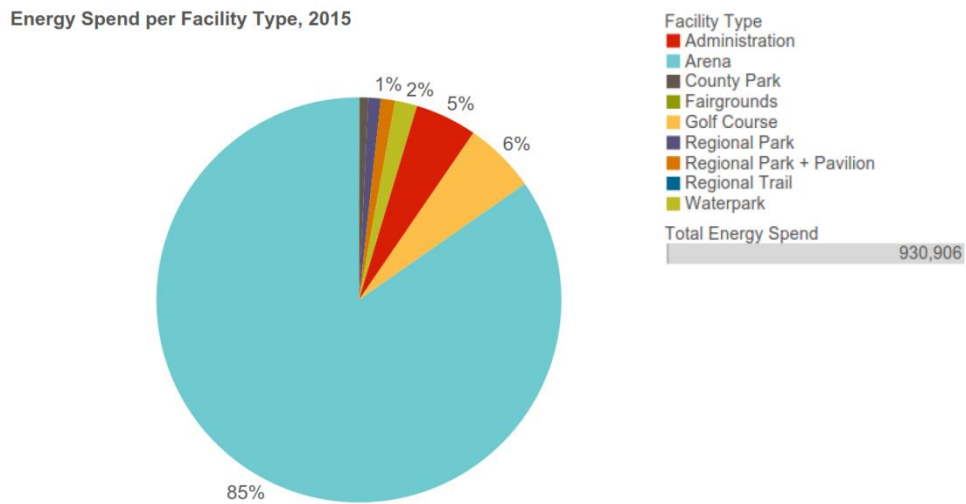


Figure 2: Energy Spend per Facility Type

For comparison, the department’s total use is approximately equivalent to the energy used by 775 Minnesota homes, or just over 2.5 times the use of the twenty-one story St. Paul City Hall and Ramsey County Courthouse building in downtown Saint Paul.⁵

The team also examined the energy use intensity (EUI) of individual facilities for both electricity (kWh) and gas (therms). While the EUI, which is the total energy use divided by the facility’s square feet, varies greatly based on the use of an individual building, it is a useful comparison to understand variations within the different facility types.

Fuel Use of Facilities with Top 10 Highest EUI, 2015

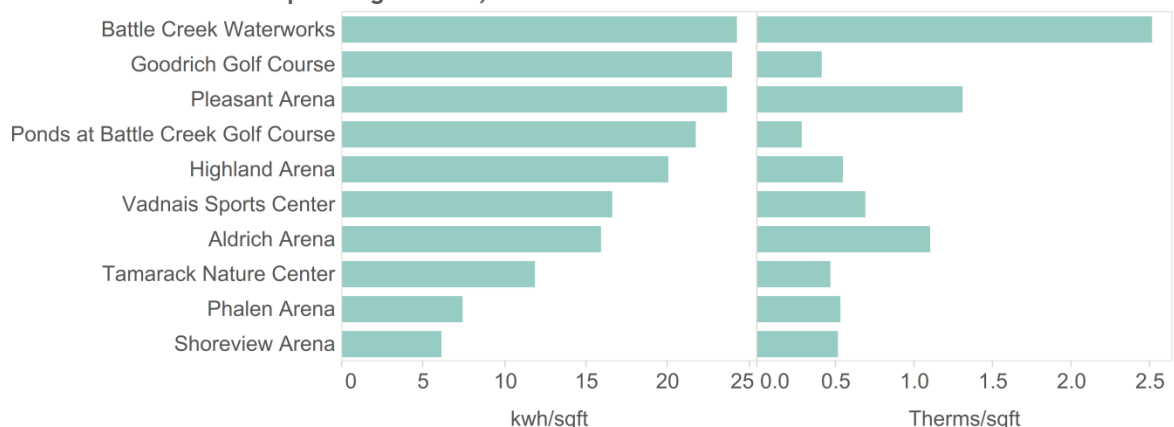


Figure 3: Fuel Use for Top 10 EUI Facilities

⁵ Assuming the average Minnesota home uses 75 MMBtu per year; St. Paul City Hall used 21,465 MMBtu in 2015.

Similarly, the cost of energy per square foot is shown below for the 10 facilities with the highest cost per square foot in dollars. The highest cost per square foot will not necessarily align with the highest energy use per square foot. It will depend on the ratio of electricity and gas used at the facility and the facility's load shape, among other factors.

Energy Cost per Sqft by Facility, 2015

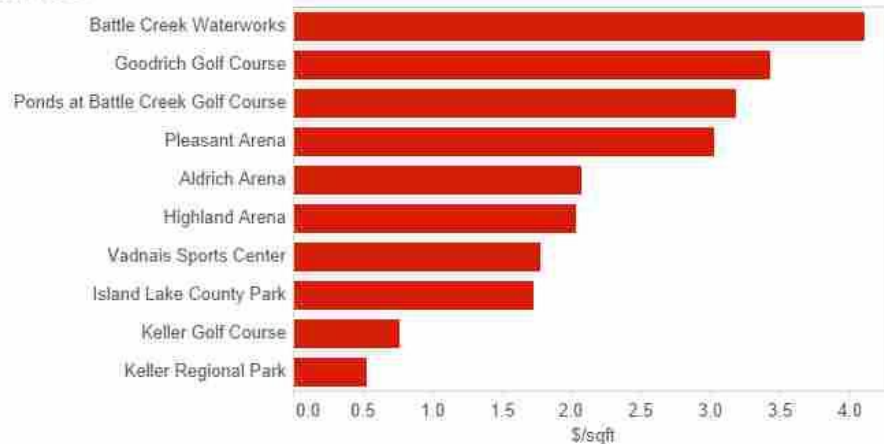


Figure 4: Energy Cost per Square Foot for Top 10 Energy Users

Parks & Recreation Energy Projects

The department has completed a variety of energy efficiency and conservation projects utilizing Xcel Energy's program offerings as well as other opportunities, demonstrating an ongoing commitment to leadership in energy management.

In 2012, the department received a grant to implement recommendations from Xcel Energy Turn Key Assessments at 12 facilities and has completed these upgrades. Over the past three years most energy management initiatives for Parks & Recreation have been facility investments, including:

- Lighting efficiency upgrades at 16 sites
- Four custom efficiency projects
- Two energy efficient buildings projects for new construction
- LED replacement of high-wattage metal halide light fixtures
- Retrofitting solar light tubes in park restrooms, in lieu of traditional electric lights
- Installation of low-emissivity ceilings in ice arenas

- Installation of occupancy sensors in areas of intermittent occupancy (e.g. locker rooms and restrooms)

Additionally, a re-commissioning study for Vadnais Sports Center was conducted after the department acquired the facility. The foremost recommendation was the installation of a building management system to better control energy use, which the department plans to install.

These projects have resulted in energy savings and cost savings for the department. Accrued, the sixteen lighting projects save an estimated 89,649 kWh annually, or on the order of \$7,000 - \$9,000 per year.

Previous Lighting Project Savings

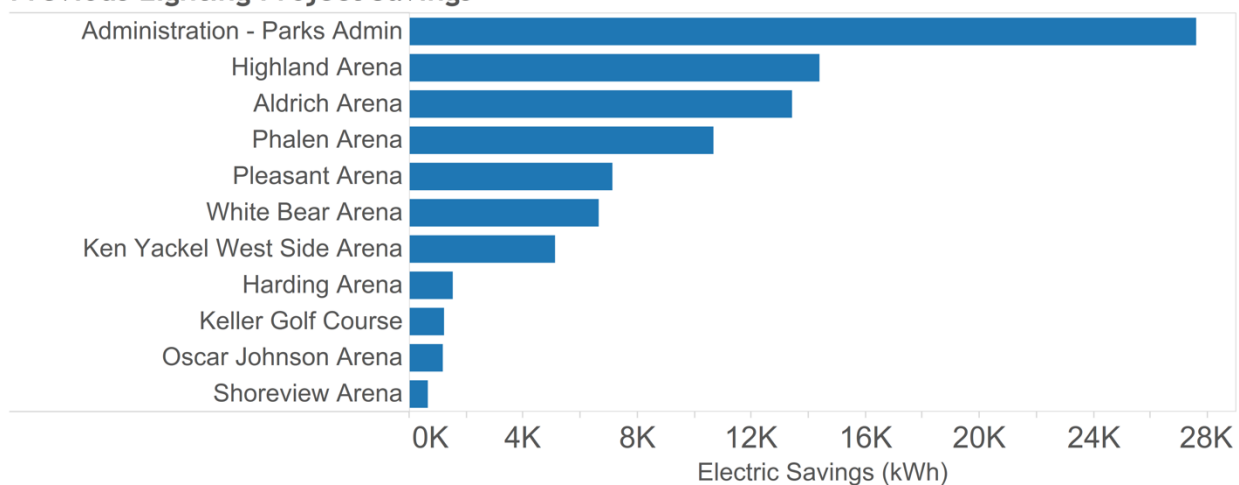


Figure 5: Lighting Project Savings (annual kWh)

Upcoming opportunities for energy efficiency projects include continued expansion and remodeling of Tamarack Nature Center, redevelopment of Lake Owasso County Park, renovations to the Administrative Building, and efficiency investments in ice arena buildings. Long term projects include development of renewable energy sources in parks and on arena rooftops. This report provides guidance on the most impactful measures Parks & Recreation can take to achieve its energy goals and further its energy leadership.

Ice Arenas

The department’s 11 ice arenas are by far the largest energy users. As a group the arenas comprise nearly 85 percent of the total energy use at parks facilities. In 2015, Ramsey County appointed an Arena Task Force to evaluate the long-term future of its ice arenas. While impending environmental regulations will require arena owners to make capital investments to

ensure regulatory compliance, this presents a unique opportunity for the department to dramatically improve energy efficiency and reduce operating costs.⁶

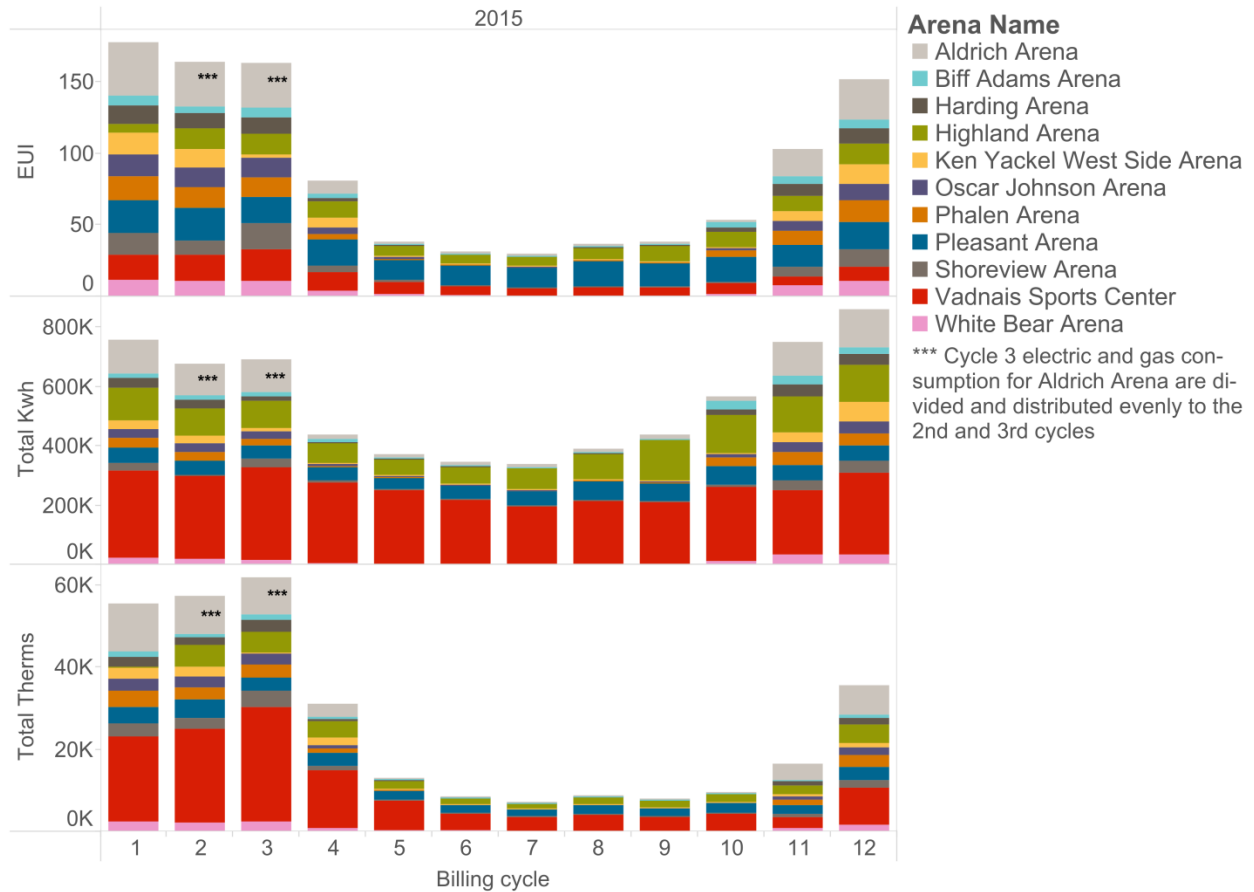


Figure 2: Month-by-Month Energy Use at Ice Arenas (2015)

There are factors that contribute to the energy use of ice arenas including the number of sheets in each ice arena, the months of the year with ice versus a dry floor, and the energy efficiency of each ice arena. To more reasonably compare the facility-by-facility energy use of ice arenas the group looked at both EUI (energy use per square foot) and total energy used *per month of ice*, by multiplying each arena’s sheets of ice by the number of months they are kept operational. The documentation for individual facilities can be referenced in Appendix 3.

⁶ The draft task force report is available at <https://www.ramseycounty.us/residents/parks-recreation/ice-arenas-sports-dome/arena-task-force>

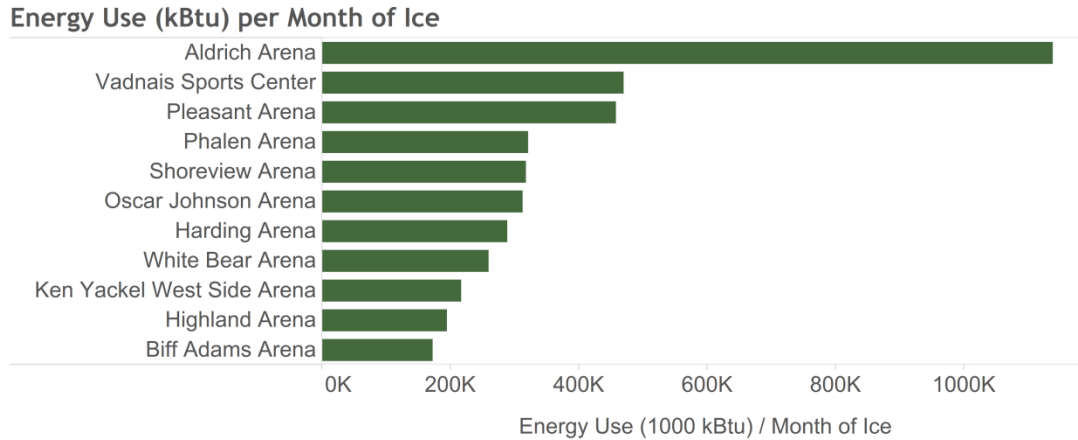


Figure 6: Energy Use per Month of Ice (2015)

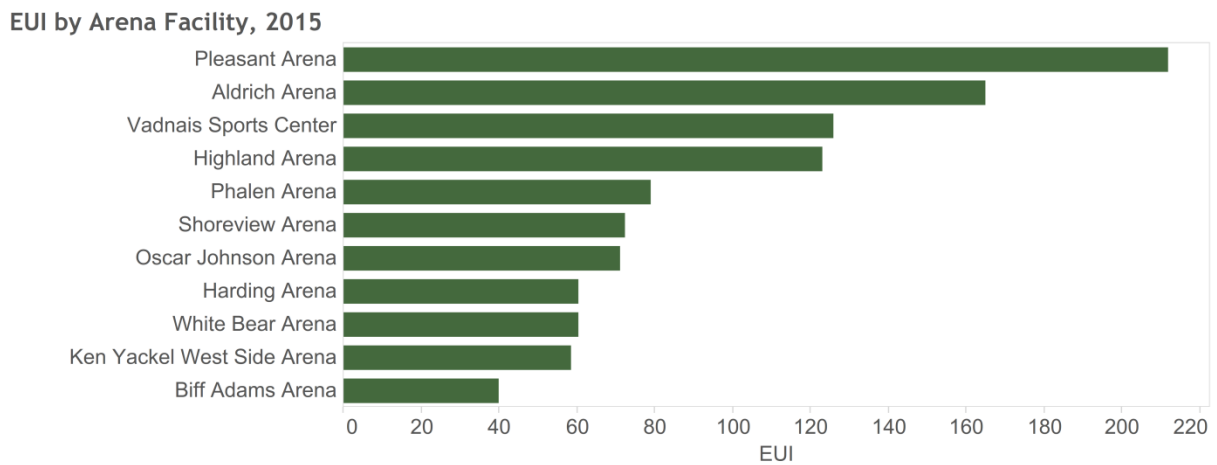


Figure 7: Energy Use Intensity by Arena Facility (2015)

Regional and County Parks

Most of the energy use in parks facilities provides lighting in restrooms, beach buildings, and parking lots. Some parks also have pavilions with kitchens that include refrigerators, freezers, and cook tops.

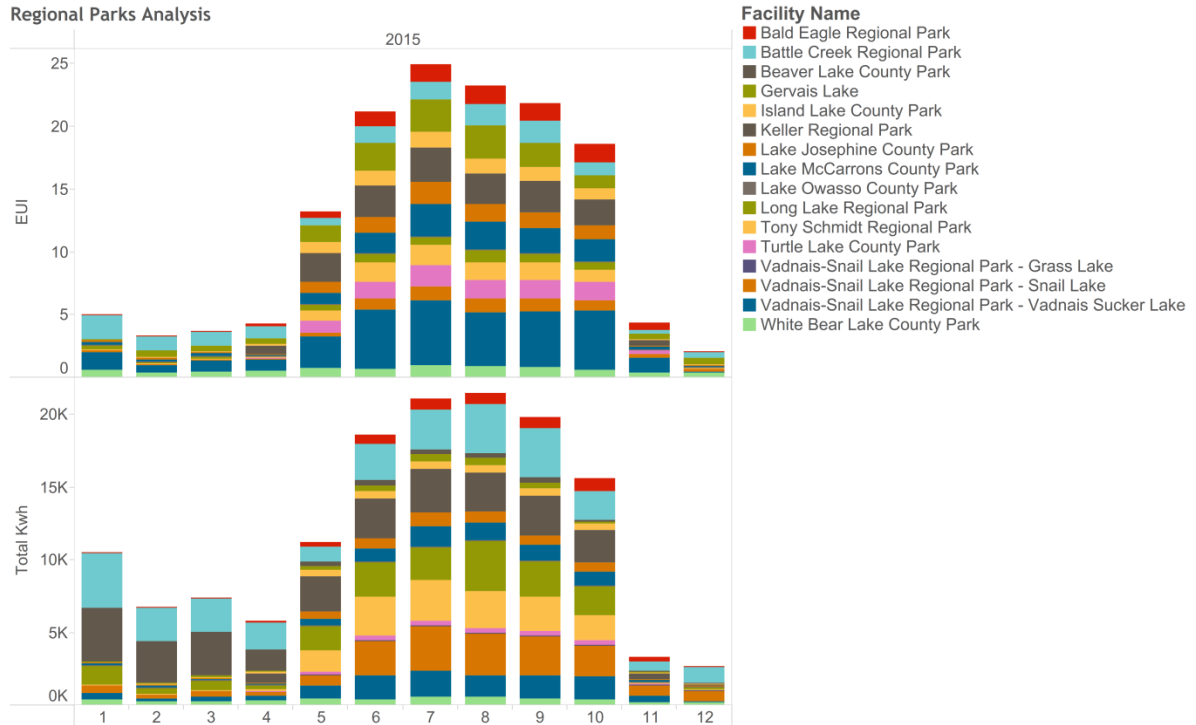


Figure 8. Month-by-Month Electricity Use at Regional and County parks

Several measures to reduce energy use in the parks have already been completed including the introduction of solar tubes into restroom facilities and enabling the removal of electric lighting fixtures.

Golf Courses

Golf courses consume energy through maintenance facilities and pro shops/clubhouses that may include concessions, small kitchens, or full banquet facilities. At some facilities, such as Manitou Ridge Golf Course, the course operator is responsible for all utility bills; at others, such as Keller Golf Course, utility costs are split between Ramsey County and the clubhouse management/catering company. Due to the shared responsibility for energy use and the service-based operating model for course clubhouses (essentially bar/restaurants), energy efficiency at golf course facilities presents a unique challenge to the department. The 2013 renovation of Keller Golf Course, which included LED lighting in the parking lots, clubhouse, and pro shop, serves as a good model for future projects.

Several energy-saving projects have been implemented or are in progress, chiefly LED retrofits for exterior lighting and maintenance facility high-bay lights. In 2017, the county will be

replacing thirty 1500-watt metal-halide driving range lights with energy-efficient LED models at The Ponds at Battle Creek Golf Course.

Administration

Ramsey County Parks & Recreation also maintains its own administrative campus in Maplewood. The administrative building was built in 1985 and currently includes offices for over 30 full- or part-time employees, full-scale mechanic's and carpenter's shops, extensive storage, and lockers/staging space for over 90 full- and part-time maintenance and operations staff.

LED lighting upgrades have either been completed or are in progress on the exterior flood and building lights, interior storage, and mechanic's spaces. Occupancy sensors have been installed in stairways and other areas of intermittent occupancy.

The administration building presents several opportunities for future efficiency projects such as HVAC system improvements and building management system implementation. The department has engaged an architectural firm to prepare conceptual remodeling plans to better accommodate its current and future needs. A renovation project presents the opportunity to incorporate energy-efficiency components into the design.

Operation and Documenting Best Practices

Another opportunity within the department is the standardization of maintenance and operational procedures, particularly in relation to ice arenas. Refrigeration system equipment and design currently vary from facility to facility. Maintenance and operational personnel bid on work location, which can reduce continuity of operations as each season there are often different employees operating each facility. In the short term, the department could benefit from documenting best practices from different maintenance and operation personnel and communicate those across the department.

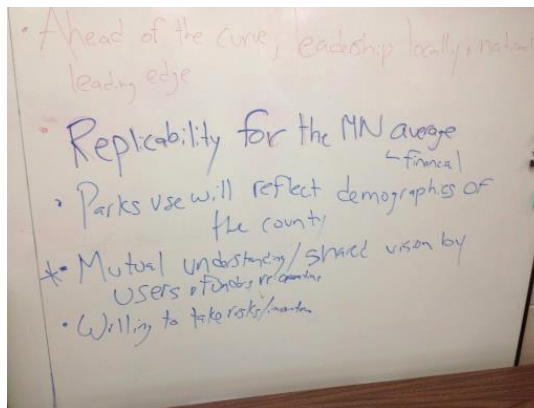
Long term, if energy efficiency investments are made in the arenas, it is anticipated that the projects will be designed consistently across the system, therefore standardizing the operation and efficiency of each arena to the extent possible.

Additionally, the department would be well-served to implement software or applications that better track and forecast energy usage. Currently the department is able to access UMS, a county property management software system in which Xcel Energy utility bills are input for purposes of tracking and reporting across facilities. However, the data in this system is often months old by the time it becomes available and is missing or inaccurate. The upcoming UMS upgrade will offer more current and accurate data and will greatly benefit the department. A system for tracking actual energy savings on projects, such as Xcel's InfoWise and Power

Takeoff products or the Sparks system in use at the Ramsey County Roseville Library, would help staff with future decisionmaking.

Where Is The Department Headed? — Ramsey County Parks & Recreation Energy Vision and Goals

A clear, concise, shared energy vision serves to guide decisions related to development and implementation of the plan. During the first planning workshop, participants reviewed missions and visions from within Ramsey County and shared visions for how the department would look in 2025. The group created an Energy Vision Statement based on the results of this brainstorming session.



Team Energy Vision Brainstorm

Energy Vision

Ramsey County Parks & Recreation's programs, policies, and practices will reflect a commitment to leadership in energy efficiency, conservation, education, and renewable energy, to foster a vibrant community where all are valued and thrive.

Energy Plan Focus Areas

This Energy Action Team defined three focus areas to help the department achieve this vision:

Energy Efficiency and Conservation in facilities, **Renewable Energy Implementation** in county and regional parks facilities, and **Education and Outreach** to parks users and employees. Each strategic focus area is described in more detail below.

Focus Area: Energy Efficiency and Conservation

The department should endeavor to both reduce its overall energy use (i.e., shut the lights off at the end of the day) and improve its energy efficiency (i.e., replace high-wattage lights with more efficient LED models). To flesh out the strategies in this focus area, the group reviewed facility-specific energy use and efficiency program data, honing in on the highest usage facility types.

Goal:

- **Reduce the total energy use of Parks & Recreation facilities by 20 percent by 2020 and 35 percent by 2025 over a 2008 baseline.**

This goal reflects an absolute reduction in energy use across all facilities measured in BTUs. As shown in the baseline energy use graph below, the department has seen an *increase* in overall energy use of 18 percent between 2008 and 2015, with a major factor being the addition of Vadnais Heights Sports Center halfway through 2014.

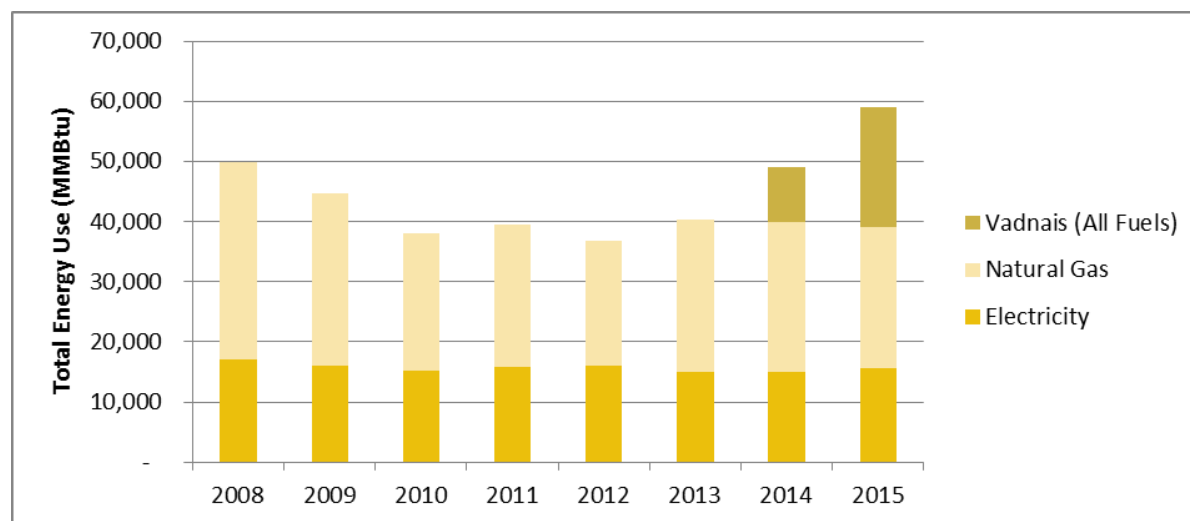


Figure 3. Department-Wide Energy Use with Vadnais Heights (Source: Xcel Energy)

To create a more instructive comparison of department energy trends, two alternative perspectives were calculated: (1) the department energy use with Vadnais Heights removed and (2) the total energy use with Vadnais Heights “back-casted” to the year 2008, using 2015 data (for illustrative purposes only, given that the center was built in 2011). In the first comparison the department’s energy use has decreased by 22 percent since 2008 and in the second it has decreased by 16 percent.

Accounting Method	2008 Use (MMBtu)	2015 Use (MMBtu)	Percent Change
Actual Use	49,914	58,980	+18 percent
Vadnais Removed	49,914	39,067	-22 percent
Vadnais Back-Casted	69,827	58,980	-16 percent

For the purposes of this plan, we are utilizing the second method of accounting.

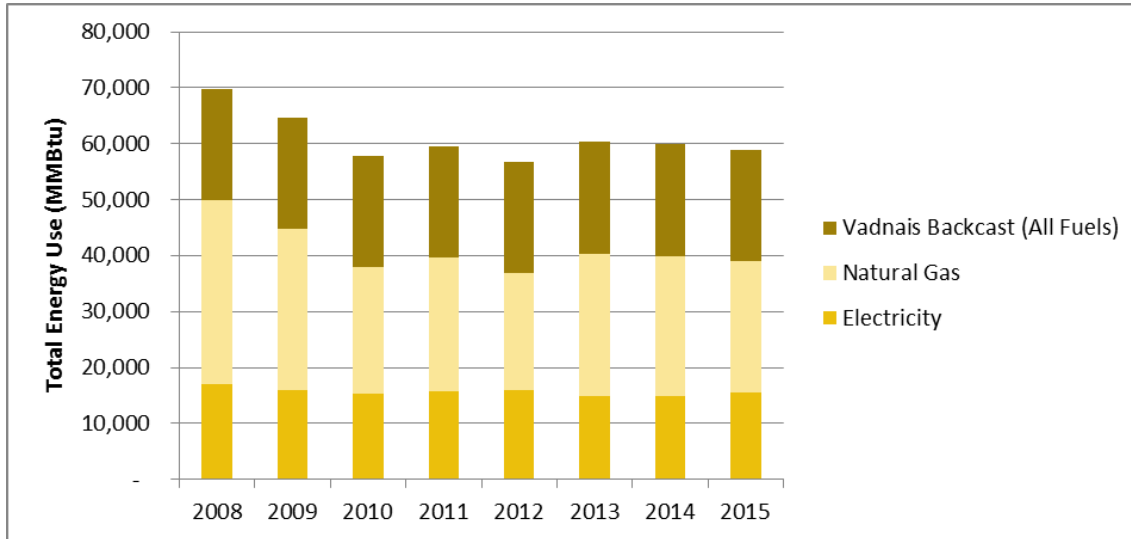


Figure 4: Department-Wide Energy Use with Vadnais Heights Back-Cast to 2008 (Source: Xcel Energy)

The 35 percent reduction goal should save the county approximately \$150,000 per year, given current energy costs.

Since ice arenas are far and away the department’s top energy consumers, conservation and efficiency efforts must begin there. As mentioned in the previous section, efficiency assessments were made for all of the department’s arenas through Xcel Energy’s Turnkey Assessment program, and numerous conservation opportunities, namely lighting, have been implemented (see the list for individual facilities in Appendix 3). Strategies will focus on implementing the remaining cost-effective opportunities and assessing the potential for large energy savings that can be leveraged through upcoming investments to address phase out of R-22 refrigerant.

The projects implemented as part of this strategy will also feed into the Education and Outreach focus area, described below. By sharing lessons of opportune efficiency upgrades, the department can inspire other park systems and ice arenas to adopt similar measures and earn recognition from park users for being responsible stewards of public resources.

Focus Area: Renewable Energy

Renewable energy will be a key component of the department’s commitment to clean energy and environmental stewardship. To address this, the team wanted to set goals that are inspirational, achievable, and evident to park users. The facilities most conducive to this approach are county and regional parks facilities.

Goals:

- **Utilize 100 percent renewable energy at county parks facilities by 2019.**
- **Utilize 50 percent renewable energy at regional parks facilities by 2020 and 100 percent by 2025.**
- **Introduce renewable energy technologies at arenas, golf courses, and the administration building by 2020.**

These renewable energy goals seek to maximize impact and visibility while minimizing costs. In particular, the first step will be to conserve as much energy as possible through the installation of solar tube lighting, bringing down the total kW of renewable energy that would need to be installed to meet demand. Implementation will also include a cost comparison of multiple renewable energy options including on-site installations, wind power subscriptions, and solar subscriptions.

Focus Area: Education and Outreach

In crafting this plan, the team saw an opportunity to emerge as an energy leader within the county, region, and beyond. Through education and outreach to users, staff, and other municipalities, agencies, and partners, the department will lead by example and serve as a catalyst to inspire other individuals and organizations to pursue responsible energy use and environmental stewardship.

Goals:

- **Bring awareness of parks energy efficiency and renewable energy projects to 50 percent of users by 2018.**
- **Engage at least 50 percent of parks employees in an employee energy conservation initiative by 2019.**

This focus area leverages key resources and successes such as talented communications staff, existing parks signage, a strong social media presence, and active communications with parks users. Additional objectives of education and outreach include:

- Inform users/staff that the department is focused on providing everyone with access to parks while preserving our resources and minimizing our environmental impact.
- Demonstrate the “little things” that agencies and individuals can do to support responsible energy use.
- Make parents and players aware of the ongoing efforts to conserve energy and address regulatory changes.
- Help ice arena users understand how rates and fees serve to operate, maintain, and improve facilities in a fiscally responsible manner.
- Grow the game of golf with younger golfers who value environmental stewardship.

- Teach children skills and attitudes that foster lifelong habits in energy conservation and instill a respect for the natural world.

The team identified many different types of users and prioritized five user groups: **golfers, recreational users, hockey parents, on-site employees, and youth at Tamarack Nature Center**. For each type of user, the team identified appropriate messages and the potential channels of communication. Messaging will focus on helping parks users understand current facility projects, inspiring pride in the Parks & Recreation system as a local energy leader, asking users to participate in lowering energy usage, and building transparency in how energy usage impacts the user experience.

How Do We Get There? – Strategies

This section outlines specific strategies to achieve the goals of each focus area. The Energy Action Team developed these strategies by examining current energy use and high-impact or low-cost opportunities. The Energy Action Team spent several sessions revising strategies with technical input from the Xcel Energy team.

Each focus area identified has its own action plan that identifies responsible parties, outlines implementation steps and timeline, identifies partners or resources, and assigns metrics for tracking progress. Each section also calls out the additional information — detailed cost analyses, work plans, budget requests — necessary to develop the implementation plan for each focus area. This plan is designed to be a living document and will be updated to reflect changes as they happen.

Focus Area: Energy Efficiency and Conservation

Conservation strategies were developed with an eye toward maximizing energy savings while minimizing costs. Considering energy efficiency in capital planning efforts will lead to significant savings on future energy costs.

As previously mentioned, ice arenas comprise 85 percent of the department's energy use. Any efforts at conservation and efficiency must include the arenas if significant reductions are to be achieved. The first strategy in this focus area is to conduct a detailed Xcel Energy Refrigeration Recommissioning Study at two to three ice arenas. This study would be conducted by a team comprised of Xcel Energy engineers as well as experts in energy efficiency consulting, mechanical engineering, refrigeration engineering, architecture, and related fields as appropriate. The scope of the study would include analyses of refrigeration system retrofit options, lighting upgrades, heat recovery opportunities, low emissivity ceilings, building management systems, and any other mechanical, electrical, refrigeration, or technology systems. The study would qualify for a rebate from Xcel Energy of 75 percent of the study costs as well as implementation rebates for improvements.

While several of these analyses have already been completed or discussed, estimates have varied considerably. The goal of the study is to provide the department with the most accurate, detailed, site-specific life-cycle cost and payback information available. Since several department arenas are very similar in construction, the estimates could be applied across the system. Taken as a whole, this long-term ice arena sustainability program would be called the **Green Ice Initiative**. Projects would be prioritized using the Incremental Rate of Return/Return on Investment (IRR/ROI) template developed by the county Energy Finance Team, balancing financial and other considerations. By investing in all or select arenas, the county would dramatically reduce energy usage in its most energy-intensive facilities and be the financial beneficiary of those savings. The county would then be a model for other municipalities in viewing capital projects as long-term investments that pay for themselves after a certain period of time (rather than a one-time “sunk cost”), imparting paradigm-shifting energy reductions in typically high-usage operations.

The Energy Action Team selected Phalen and Pleasant arenas as good candidates for the initial engineering studies. Since the design of these arenas is repeated across several other rinks, the department could apply the results of the studies across the system. Charles M. Schulz-Highland Arena, somewhat unique as a two-sheet facility, would benefit from its own study. However, pending the final determinations of the Arena Task Force work, this arena could be a candidate for expansion. Clarity around this issue is necessary prior to expending time and money on a detailed study. Vadnais Sports Center, the department’s highest energy user, underwent a recommissioning study (similar to an engineering study) in 2014-15 and is in the process of implementing some efficiency projects including a building management system and LED dome lighting retrofits.

The department will work to standardized best practices for building operation for arenas and other facility types, as these practices significantly impact energy usage. Building management systems and related technologies, such as Xcel Energy’s InfoWise and Power Take-Off offerings, should be assessed on a cost-benefit basis for their potential as management tools or supplements to current or future software systems. Other county departments utilize some of these software systems in their facilities.

STRATEGY OVERVIEW:

Focus Area Goals

- Reduce the total energy use of Parks & Recreation facilities by 20 percent by 2020 and 35 percent by 2025 over a 2008 baseline.

STRATEGIES:

Implement remaining viable energy conservation opportunities from previous arena studies.

Actions:

- Review previous ice arena engineering studies and re-evaluate the feasibility of all unimplemented opportunities.
- Develop budget and plan for implementing remaining opportunities within 2 years.

Assess and invest in comprehensive arena energy modernization while upgrading refrigerant systems.

Actions:

- Select 2-3 similar arenas where results of engineering studies would be replicable.
- Perform engineering studies focused on conservation opportunities to leverage during refrigerant system upgrades.
- Prioritize projects and develop detailed life-cycle cost estimates for the **Green Ice Initiative** based on study results.
- Determine appropriate funding source and secure funding.
- Implement the **Green Ice Initiative** over strategic schedule.

Roll-out best practices for building energy management across Parks & Recreation facilities.

Actions:

- Review HVAC and ice operations to determine best practices opportunities in day-to-day operations.
- Assess costs and benefits of building energy management technologies, and implement as recommended (e.g. Power Takeoff).
- Use best practices assessment and EMS upgrades to update training and materials for facilities staff.
- Roll out the training and materials to all maintenance and operations personnel, by facility type.

Implement efficiency and conservation in county and regional parks facilities, working toward net-zero status.

- See strategies under renewable energy focus area in section below.

Reduce operational energy use in administration and golf course buildings.	<p>Actions:</p> <ul style="list-style-type: none"> • Conduct a recommissioning study at the Administration Building. • Conduct energy studies at golf courses to develop walk-through audit checklist that can be reviewed seasonally for energy savings opportunities. • Implement practical employee-driven conservation opportunities in administration building, including educational kits.
Measuring Success	<ul style="list-style-type: none"> • Using existing county building benchmarking data and systems, facility energy use will be measured, tracked and communicated to all users and staff.
TEAM:	
Ramsey County	<ul style="list-style-type: none"> • Ryan Ries, Bill Ross, arena division staff, property management staff.
Xcel Energy Support	<ul style="list-style-type: none"> • Provide technical support on scope of arena engineering studies and interpretation of results.

Focus Area: Renewable Energy

The guiding theme behind implementation of these renewable energy goals is careful analysis of costs versus benefits. To analyze proposed energy efficiency projects at park facilities, a template will be used to weigh IRR/ROI to determine payback period and compare against other efforts. The department, in concert with the Parks & Recreation Commission and the Board of Commissioners, should develop appropriate payback period thresholds to guide decision-making (i.e. all maintenance projects with a payback of 5 years or less should garner the highest priority).

Next, the department will analyze subscription options to large-scale renewable generation resources, such as community solar gardens or Windsorce®, as well as installation of on-site solar generation.

STRATEGY OVERVIEW:

Focus Area Goals

- Utilize 100 percent renewable energy on site at county parks facilities by 2019.
- Utilize 50 percent renewable energy on site at regional parks facilities by 2020, and 100 percent by 2025.
- Introduce renewable energy technologies at arenas, golf courses and the administration building by 2020.

STRATEGIES:

Ensure all cost-effective energy conservation measures in county and regional parks are fully implemented.

Actions:

- Complete solar tube replacement of electric lighting in applicable facilities.
- Implement additional low-cost measures to reduce energy usage in parks, e.g. through plug load measures.
- Identify any additional opportunities to reduce energy usage in county and regional parks.

Install on-site solar to cover energy use for all county parks.

Actions:

- Estimate renewable energy sizing needs once electricity demands have been reduced through efficiency.
- Select feasible site(s) for the solar installations.
- Assess all funding and rebate options for solar installations, and secure funding.
- Develop RFP and select vendor.

Assess renewable subscription and on-site installation options for regional parks.

Actions:

- Perform a cost-benefit analysis of renewable energy opportunities for regional parks based on IRR/ROI template.
- Prioritize recommendations and examine funding opportunities.
- Create a budget and implementation timeline.

Install the most beneficial renewable technologies at arenas, golf courses, and the Administration Building.

Actions:

- Perform a cost-benefit analysis of renewable energy opportunities for regional parks based on IRR/ROI template.
- Identify relevant technologies for each building type.
- Prioritize facilities based on number of users and available technologies.
- Secure funding to install technologies or conduct education.

<p>Design and build all new regional and county park buildings to be net-zero ready and at a minimum to meet or exceed SB2030 standards</p>	<p>Actions:</p> <ul style="list-style-type: none"> • Review best practices in net zero designs for small parks facilities. • Engage net-zero consultant to develop package of standards or best practices that department can apply to future projects. • Look for grant funding opportunities for renewable energy when new facilities are proposed.
<p>Measuring Success</p>	<ul style="list-style-type: none"> • Number of facilities that have entirely converted to renewable electricity. • Total percent energy load that uses renewable electricity.
<p>TEAM:</p>	
<p>Project Lead(s)</p>	<ul style="list-style-type: none"> • Lead: Ryan Ries • Team: Planning division staff, County Sustainability Coordinator, Parks division staff
<p>Community Partners</p>	<ul style="list-style-type: none"> • Seek funding or cost-sharing and educational opportunities with other local government entities, e.g. cities.
<p>Xcel Energy Support</p>	<ul style="list-style-type: none"> • Help assess cost options for renewable installations or subscriptions. • Technical assistance and/or review grant opportunities for renewable integration.

Cost Assessment and Next Steps

In prioritizing projects and next steps, several programs that specifically fund renewable energy projects could be leveraged such as:

- The Public Entity Energy Audit and Renewable Energy Feasibility Study Loan Program, Minnesota Department of Commerce
- The Rev it Up Program, which helps local government units finance community energy efficiency and renewable energy projects through the Minnesota Department of Commerce

	Solar Rewards®	Solar Rewards Community®	Windsorce®	Renewable Connect®
Bill Savings	Yes	Yes	No	Potential Long-Term Hedge
Incentive	\$/kWh production incentive, plus net metering	Premium bill credit pricing	None – Program is self-funded	
Cost	Save \$	Save \$	Slight Premium	Slight Premium; Potential Hedge
Use Green Energy	No (REC goes to utility)	No (REC usually goes to utility; based on developer choice)	Yes (offset your energy with green energy)	
Purchased From	3 rd Party	3 rd Party	Xcel Energy	Xcel Energy
Long Term Contract	Yes	Likely Yes	No	Optional

The first phase of plan implementation will include an analysis of net-zero options in parks facilities. Options at county parks will include on-site renewable options in order to showcase and educate about net-zero status, while regional parks will require a broader range of options. Xcel Energy will work with department staff to provide a cost assessment and other pros/cons of various subscriptions.

Focus Area: Education and Outreach

This focus area highlights outreach to four different user groups and department staff. Strategies are organized below according to the priority education and outreach campaigns identified by the team. All strategies will align education and outreach with other Ramsey County communications including dashboards, kiosks, and HR efforts to ensure consistency of messaging.

Each strategy includes:

- Key audience — who will receive the message?
- Key channels — how and where they will receive the message?
- Key messages — what should the audience learn and why they should care?
- Actions — how this will happen?

STRATEGY OVERVIEW

Focus Area Goals

- Bring awareness of parks energy efficiency and renewable energy projects to 50 percent of users by 2018.
- Engage at least 50 percent of parks employees in an employee energy conservation initiative by 2019.

STRATEGIES:

Help recreational users feel good about using Ramsey County park and supporting an entity that is energy conscious.

Objective: Inform users/staff that the department is focused on providing everyone with access to parks while preserving our resources and minimizing our environmental impact. Demonstrate the ‘little things’ that agencies and individuals can do to support responsible energy use.

Key Audience: Recreational users of the regional and county parks, such as trail users, dog park and playground users, shoreline and pier fishing users, pavilion and shelter renters.

Key Channels: Social media, signage, Parks & Recreation website.

Key Messages:

- These energy projects are going on in the parks system.
- You, as a user, are involved by participating in park activities.

Actions:

- Profile the full list of passive users, current strategies to reach them, and current messaging.
- Prioritize 3-5 specific groups to reach.
- Highlight Solar and LED lighting, recycling, efficient plug use at parks.
- Tailor messages to demographics at specific locations.
- Design and produce signage and content.
- Rotate signage and update content seasonally.
- Coordinate messaging with municipalities that host parks’ facilities.
- Include transit messages as a means to connect users to energy efficient transportation.

Provide context for the ice arena experience, particularly as energy is concerned.

Objective: Make parents and players aware of the ongoing efforts to conserve energy and address regulatory changes. Help arena users understand how rates and fees serve to operate, maintain, and improve facilities in a fiscally responsible manner.

Key Audience: Parents of youth hockey participants (primary), youth hockey participants (secondary).

Key Channels: Video, wi-fi access portal, zamboni tours, signage at arenas.

Key Messages:

- This is how ice arenas work, particularly from an energy and cost standpoint.
- These are the projects going on at the arenas and why.
- Energy is important to your arena experience because...

Actions:

- Take stock of what current practices are for each arena and highlight what is already being done to reduce carbon emissions and control costs.
- Produce an educational video to post on social media, such as a fast forward video of ice being laid in the fall.
- Encourage users to support projects at facilities through their own social media posts.
- Use videos or conduct tours to help arena users understand arena projects.
- Conduct a survey to help target content and address user needs in energy efficiency projects, if necessary.
- Create content for the wi-fi splash page, and rotate seasonally
- Assess how incentives, such as gift cards for concessions, can be leveraged to engage users.
- Target team managers with messaging to share as appropriate.
- Coordinate messaging with municipalities that host parks' facilities.

Educate golfers and arena patrons through messaging around sustainability.

Objective: Grow the game of golf with younger golfers who value environmental stewardship.

Key Audience: Adult golfers at the Ramsey County Parks & Recreation golf courses.

Key Channels: Social media, website, brochures, signage.


Key Messages:

- In addition to an excellent golf experience, Ramsey County

	<p>courses promote energy efficiency and environmental stewardship.</p> <ul style="list-style-type: none"> • Golf close to home or work and reduce drive time and fuel consumption. Carpool and EV priority parking are available. • The natural areas within the courses reduce mowing and watering while providing habitat for local wildlife. • “We’re here for good” is a potential slogan that tells golfers “We’re close by, we’re here for the long haul and we care about the game, the environment and the neighborhood.” <p>Actions:</p> <ul style="list-style-type: none"> • Include conservation information on all print materials. • Design and produce signage in golf carts and near tee boxes. • Design and produce signs along paths highlighting habitat areas. • Provide information website regarding conservation efforts — could use Keller as an example. • Implement a social media campaign sharing golf course efforts, habitat, etc.
<p>Inspire energy-related behavior changes in youth through hands-on activities.</p>	<p>Objective: Teach children skills and attitudes that will foster lifelong habits in energy conservation and instill a respect for the natural world.</p> <p>Key Audience: Youth using the Ramsey County Parks — specifically at Tamarack Nature Center, including:</p> <ul style="list-style-type: none"> • School groups • Summer day camps • Preschool students • Youth volunteers • Program participants — garden, maple, birds, cider pressing, school groups etc. <p>Key Channels: Signs located in and around Tamarack, lessons built into programming, social media (boosting visibility of any new changes/initiatives), possible “branding” opportunities.</p> <p>Key Messages:</p> <ul style="list-style-type: none"> • Learn about how the nature center produces, conserves, and consumes energy. • Conserve energy/learn more about energy in the parks and at home, including specific actions to target: <ul style="list-style-type: none"> ○ Turn off the lights ○ Don’t let water run when you’re not using it ○ Only take what you need ○ Keep doors shut to conserve energy

	<ul style="list-style-type: none"> ○ Reduce – Reuse – Recycle lessons ● Distinguish between renewable and non-renewable energy sources. <p>Actions:</p> <ul style="list-style-type: none"> ● Compile a list of conservation efforts and projects that can be highlighted. ● Design and produce signs and lesson components. ● Adapt messaging for different age groups to make compelling. ● Rotate messaging seasonally. ● Coordinate with the school district, and other community partners to amplify messaging.
<p>Engage Parks & Recreation staff in energy conservation behaviors.</p>	<p>Objective: Engage parks employees in at least one employee initiative for conservation behavior within the next two years.</p> <p>Key Audience: Department staff, or staff in a particular type of facility.</p> <p>Key Channels: Email, signs around the workplace, messaging through team leadership.</p> <p>Key Messages:</p> <ul style="list-style-type: none"> ● Conserve energy in your facility. ● Lead by example. <p>Actions:</p> <ul style="list-style-type: none"> ● Develop employee engagement campaign, such as a team-based effort and “engaged employee” benefits. ● Tailor messaging and asks to different job roles and facility types. ● Leverage staff leadership to get the message out and provide incentives to participate. ● Implement time-bound campaign. ● Celebrate successes, potentially including a case study to distribute broadly to users and within the county as an example. ● Park/facility clean-up days.
<p>Measuring Success</p>	<ul style="list-style-type: none"> ● Surveys at Parks’ facilities, tracking of social media and newsletter interaction, number of video views. ● Review energy use data for larger facilities. ● Pre- and post-implementation surveys of staff directly involved in operations, education, events, projects, and programs.
<p>TEAM:</p>	
<p>Project Lead(s)</p>	<p>Lead: Communications staff, project manager Team: Supervisors of golf courses, arenas, county and municipal parks, TNC staff, Parks’ Commission as champions</p>

Community Partners	Local municipalities, teams that use the arenas, White Bear Lake School District, golf teams and leagues, watershed district, Metropolitan Council
Xcel Energy Support	Support Survey platform, project management team, marketing support, potential email outreach, and conservation kits for employees
Additional Resources	Existing wayfinding signage project

		
<p>Ongoing – Tracking</p> <ul style="list-style-type: none"> • Track progress to goals in month 9 of implementation, adjust as needed, and track progress again at month 18 of implementation. • Update messaging seasonally. • Track ongoing projects in the energy efficiency and renewable energy focus areas, and communicate progress with users. • User-oriented implementation teams check in bi-monthly, or more often as needed. 	<p>Immediate Actions (January – June 2017)</p> <ul style="list-style-type: none"> • Set a baseline of “awareness” through a survey for each targeted user group. • Assess and select targeted recreational user groups. • Assess current projects and identify key projects to highlight, such as solar tubes in the county and regional parks. • Outreach to municipalities to develop joint messaging. • Produce first arena video for distribution. • Plan, create, and distribute fall messaging through social media, arena wi-fi, and Tamarack programming. • Identify existing groups to leverage, such as the Arena Task Force and coordinate messaging. • Develop presence on Department website. 	<p>Longer-term Actions (July 2017 – April 2018)</p> <ul style="list-style-type: none"> • Plan and create spring and summer messaging for parks’ facilities and golf courses, including signage. • Coordinate with municipalities to develop joint messaging. • Develop a mid-way progress check for awareness for arenas • Develop and deploy a staff engagement campaign for conservation. • Continue to identify and coordinate with ongoing parks’ projects, such as the wayfinding initiative, and potential annual signage maintenance at golf courses.

How Are We Going To Stay On Course? – Monitoring and Reporting

SWOT Analysis

The team performed a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis in Workshop 4 to ensure that key issues were identified to be addressed and that strengths and opportunities were fully leveraged.

Strengths:

- Good goals
- Realistic + feasible
- Great staff
- Establishes the department and county as a leader
- Plan is structured as a living document
- County is committed to being a leader
- Will raise awareness of renewable energy

Weaknesses:

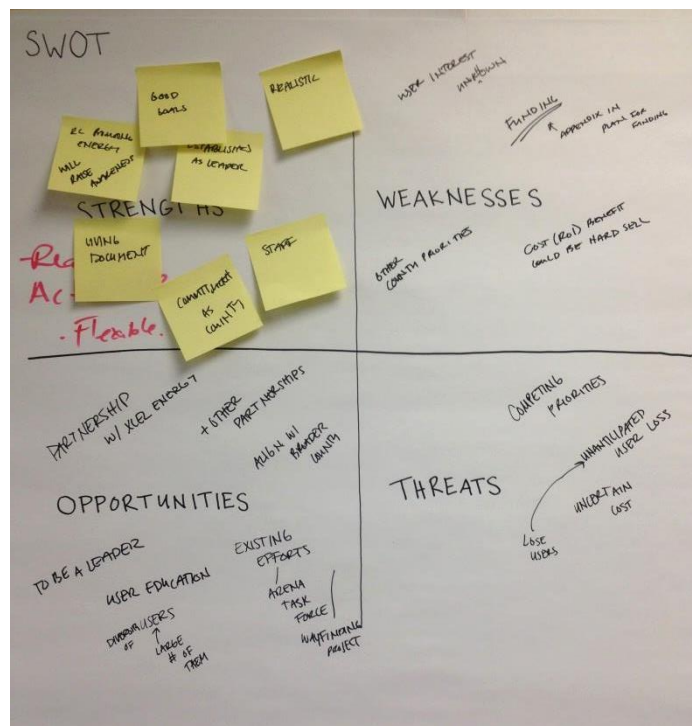
- User interest is unknown
- Funding will be a challenge
- Life-cycle cost estimating is not commonly used within the county
- The county has competing priorities

Opportunities:

- Partnership with Xcel Energy
- Other partnerships
- Align with broader county
- Could establish leadership
- User education
- Existing efforts (Arena Task Force, wayfinding project, upcoming golf task force)
- Diverse set of users, large number of user groups

Threats:

- Competing priorities
- Unanticipated user loss
- Uncertain costs
- Many user groups so it's hard to reach them all



The strengths and opportunities outlined here helped guide final definition of goals and strategies. As implementation moves forward, the weaknesses and threats will serve as things to be aware of and help determine a need for course correction.

Operational Actions and Tracking

Implementation of the Energy Action Plan will be led by Ryan Ries, the Capital Asset Project Manager in the Planning and Development Division of the Ramsey County Parks & Recreation Department. To assist in implementation, the Partners in Energy facilitation team will work with Xcel Energy to obtain electricity usage data and program participation data, and they will share outcomes with Ryan and his team. Data can be split by facility so the impact of measures installed can be easily tracked and reported. Results will be shared with the Parks & Recreation Commission in a biannual report.

Energy Action Team members will continue to support implementation of this action plan through their respective roles in the department. Xcel Energy and the facilitation team will continue to support project management and provide other resources throughout implementation.

All communication regarding the plan should be directed to Ryan Ries (ryan.ries@co.ramsey.mn.us), and Partners in Energy community facilitator Elena Foshay (efoshay@mncee.org) should be cc'd on work group emails to track progress.

Other Ramsey County Efforts

Ramsey County is in the process of updating the 2011 Energy Management and Sustainability Plan for 2017. While energy usage across Ramsey County will be a focal point, this plan will address broader environmental concerns, such as water usage, fuel, recycling/composting, green purchasing, carbon reduction, workspace temperature and plug load guidelines, print management, chemical usage, telecommuting, and teleconferencing, among others. For this reason, and to limit the scope of this Energy Action Plan, these topics are not addressed here. Parks & Recreation will participate in the development of this plan and support its implementation. It is anticipated that the goals of this Energy Action Plan will meet or exceed the forthcoming county-wide goals, which will provide Parks & Recreation with the opportunity to demonstrate leadership within Ramsey County on this effort.

Communication and Reporting

To maintain ongoing communication and track progress on implementation, the core planning team will meet monthly with Xcel representatives. These meetings will help move the strategies detailed in the plan forward, allow for roles and responsibilities to be assigned, and metrics to be tracked.

The Energy Action Team will reconvene six months after plan approval to ensure implementation is on course, and assess the need for any course correction. The project lead will submit a biannual report to the Parks & Recreation Commission to update on progress as well as energy and cost savings achieved.

Changing Course: Corrective Action

This plan outlines strategies and goals for an 18-month implementation period. It is anticipated that the success and outcomes of initial actions will impact how each focus area moves forward. Initial actions that will happen in the next three months are more clearly defined, with following actions intentionally left broader to flex with the outcomes of the first few months of implementation. Department staff working on plan implementation will help to determine how and when strategies and actions need to shift course.

Once approved, a second MOU will be developed between the department and Xcel Energy. This agreement will establish short term milestones to be evaluated after six months to determine whether there is a need to change course. Some of the most important milestones will be the ice arena study and the recommissioning studies at the Administration Building and golf courses. Review of the reports from these studies may result in a revised timeline or even adjustments to the goals set out in the plan.

Ongoing Support from Xcel Energy

Xcel Energy will continue to support the department in implementing its goals. Support for this plan will include technical and engineering support for conservation measures, materials to assist with education and outreach, partnership on broader marketing opportunities, and cost assessment support for renewable energy options. Details of ongoing support, starting with an initial 18-month implementation period, will be spelled out in the second MOU.

Appendix 1: Glossary of Terms

Appendix 2: Partners in Energy Planning Memorandum of Understanding

Appendix 3: Energy Use and Efficiency Activity by Facility

Appendix 1: Glossary of Terms

Btu (British Thermal Unit): A unit of energy that combines both electricity use (kWh) and natural gas use (therms) into one common measure.

Community Solar Garden: Centrally-located solar photovoltaic (PV) systems that provide electricity to participating subscribers.

Demand Side Management (DSM): Modification of consumer demand for energy through various methods, including education and financial incentives. DSM aims to encourage consumers to decrease energy consumption, especially during peak hours or to shift time of energy use to off-peak periods, such as nighttime and weekend.

Energy Action Plan: A written plan that includes an integrated approach to all aspects of energy management and efficiency. This includes both short- and long-term goals, strategies, and metrics to track performance.

Energy Use Intensity (EUI): The total energy use divided by the facility's square feet. EUI is a useful comparison to understand variations within the different facility types.

Goals: The results toward which efforts and actions are directed. There can be a number of objectives and goals outlined in order to successfully implement a plan.

Greenhouse Gas (GHG): Atmospheric gases that absorb infrared radiation and contribute the greenhouse gas effect, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), and water vapor.

kWh (kilowatt-hour): A unit of electricity consumption.

Premise: A unique identifier for the location of electricity or natural gas service. In most cases it is a facility location. There can be multiple premises per building, and multiple premises per individual debtor.

Power Take-Off and InfoWise: The InfoWise from Xcel Energy service, supported by Power TakeOff, empowers customers to make more efficient and cost effective decisions, helps them to prioritize, and informs them on considerations for the biggest paybacks.

Recommissioning: An energy efficiency service focused on identifying ways that existing building systems can be tuned-up to run as efficiently as possible.

Renewable Connect[®]: Allow customers to designate that up to 100 percent of their electricity come from a blend of wind and solar resources dedicated to the program. Customers could sign up through month-to-month, five-year or ten-year contracts, with no up-front costs.

SB2030 Standards: The B3 Sustainable Building 2030 (SB 2030) Energy Standard is a progressive energy conservation program designed to significantly reduce the energy and carbon in Minnesota commercial, institutional and industrial buildings.

Solar Rewards®: Xcel Energy's Solar Rewards program provides incentives for customers who install grid-connected photovoltaic (PV) systems sized up to 120% of the average annual load of their homes and facilities.

Solar Rewards Community®: An Xcel Energy program that provides easy way for residential and business customers to subscribe to a solar garden, and get paid for the solar energy produced. You still buy and use energy from Xcel Energy as you always have, but you'll receive payment for your portion of the garden's solar energy produced as a credit on your bill.

Turn Key Assessment: Xcel Energy's Turn Key Services is a full-service program designed to provide customers with on-site energy efficiency assessments and/or free implementation services they need to make energy-saving improvements. As a first step, the assessment is a whole-building walkthrough that identifies how building owners can save energy and money.

Windsource®: A program from Xcel Energy that allows customers to purchase blocks of wind energy as their electricity source.

Appendix 2: Partners in Energy Planning Memorandum of Understanding



PARTNERS IN ENERGY
AN XCEL ENERGY COMMUNITY PARTNERSHIP

Memorandum of Understanding Phase 1 – Plan Development

Ryan Ries
Project Manager
Ramsey County Parks and Recreation
2015 N. Van Dyke Street
Maplewood, MN

Congratulations on being selected to participate in Xcel Energy's Partners in Energy program. This program is designed to provide your community with the tools and resources necessary to develop and implement an energy action plan that reflects the vision your community has for shaping energy use and supply in its future. Program participation is intended to span 24 months with the initial 4-6 months dedicated to developing of a strategic energy action plan and the remaining time focused on the implementing that plan.

The intent of this Memorandum of Understanding is to confirm Ramsey County Parks and Recreation's intent to participate in the initial plan development phase of the Partners in Energy program and outline the commitment that your community and Xcel Energy are making to this collaborative initiative. The primary objective of this phase of the program is to develop your energy action plan.

In order to achieve this Xcel Energy will provide:

- Consulting support to assist in identifying potential community stakeholders, and constructing or delivering an invitation or informational announcement regarding the planning process.
- Data analysis of community energy use and Xcel Energy program participation to the extent that it is legally and technically prudent and feasible. The results can be used to identify potential opportunities to implement plan strategies. Xcel Energy will attempt to integrate data provided by Ramsey County Parks and Recreation into the analysis if feasible.

XCEL ENERGY PARTNERS IN ENERGY

Memorandum of Understanding Plan Development Phase

- Professional facilitation of 3-5 plan development work sessions with the community stakeholder group to develop the energy action plan's vision, focus areas, goals and implementation strategies.
- Assistance as needed in synthesizing the community and program data collected with the vision of the community to identify attainable goals that align with suitable strategies and tactics.
- Development of the documented energy action plan that will incorporate inputs from the stakeholder planning team and will be accessible to the community.
- Commitment to delivering an actionable and complete energy action plan within six months of Ramsey County Parks and Recreation and Xcel Energy signing this MOU.

Although participation in the Plan Development phase of Partners in Energy program requires no monetary contribution, the community, Ramsey County Parks and Recreation, does agree to provide:

- A single contact point to work with recruiting stakeholders, coordinating planning meeting logistics, and coordinate distribution of deliverables and lead participation of the community.
- Meeting facilities to host the stakeholder group during development of the plan.
- Identification of existing community energy plans or programs that could be leveraged in successful development and delivery of this plan.
- Good-faith evaluation of the recommendations and analysis provided and fair consideration of the potential strategies and tactics identified that align with the community's goals.
- Commitment to delivering an actionable and complete energy plan within six months of Ramsey County Parks and Recreation and Xcel Energy signing this MOU.
- Public distribution of the work products developed with the support of the Xcel Energy's Partners in Energy program.

XCEL ENERGY PARTNERS IN ENERGY

Memorandum of Understanding
Plan Development Phase

**Resource Commitment Summary
Plan Development Phase**

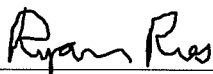
Ramsey County Parks and Recreation	Xcel Energy
<ul style="list-style-type: none">• Single point of contact• Meeting facilities• Access to existing energy-related plans and programs• Involvement in developing implementation strategies• Commitment to completing the plan development• Agreement that the energy plan resulting from this work will be available to the public	<ul style="list-style-type: none">• Assistance identifying and recruiting stakeholders• Analysis of community energy use and program participation• Facilitation of planning sessions• Training and guidance developing goals and strategies• Documentation and delivery of the energy action plan• Commitment to completing the plan development

The Memorandum of Understanding for the Implementation Phase of the Partners in Energy program will be developed upon completion of your energy action plan and will outline your goals and the resource commitment from Xcel Energy and Ramsey County Parks and Recreation.

All communications pertaining to this agreement shall be directed to Ryan Ries, on behalf of Ramsey County Parks and Recreation and Tami Gunderzik on behalf of Xcel Energy.

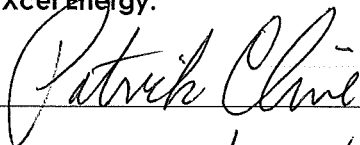
Thank you again for your continued interest in Xcel Energy's Partner in Energy program. We look forward to assisting Ramsey County Parks and Recreation in the development of an energy action plan.

For Ramsey County Parks and Recreation:



Date: 12/10/15

For Xcel Energy:



Date: 12/22/15

Appendix 3: Energy Use and Efficiency Activity by Facility

Facility Type	P&R Facility Name	Previous Projects	Upcoming projects	Square Footage	# of Ice Sheets (Arenas)	Months of Ice (Rinks x Months)	Total Cost	Cost/square foot	Total Usage (kbtu)	EUI (kbtu/sf)	Electric (kbtu)	Electric (kWh)	Gas (kbtu)	Gas (therms)
Administration	Administration - Horseshoe Court			0			\$ 98		2,883		2,883	845	-	-
Administration	Administration - Parks Admin	Turn Key Assessment 2012, Low Watt T8's and Wall Packs 2014, One Stop Lighting 2015	Elevator modernization, LED lighting upgrades	68,000			\$ 30,903	\$ 0.45	1,904,101	28.0	706,912	207,184	1,197,190	11,972
Administration	Tamarack Nature Center	Energy Efficient Buildings 2015	Interior remodel, Site infrastructure expansion, Program building addition	10,316			\$ 14,974	\$ 1.45	903,482	87.6	418,663	122,703	484,820	4,848
Arena	Aldrich Arena	Turn Key Assessment 2012, Interior LED Lighting 2014, Replace EXIT signs w/ LED 2014	R-22 replacement, Steam to hot water conversion	41,396	1	6	\$ 85,915	\$ 2.08	6,831,233	165.0	2,246,809	658,502	4,584,424	45,844
Arena	Biff Adams Arena	Custom Efficiency 11/2012, Turn Key Assessment 12/2012, Low Watt T8's 2014	R-22 replacement	25,920	1	6	\$ 22,750	\$ 0.88	1,033,563	39.9	515,621	151,120	517,942	5,179
Arena	Harding Arena	Turn Key Assessment 2012, Occupancy sensors in areas with high traffic 2014	R-22 replacement	28,560	1	6	\$ 27,740	\$ 0.97	1,730,442	60.6	617,708	181,040	1,112,734	11,127
Arena	Highland Arena	Turn Key Assessment 2012, Occupancy sensors in areas with high traffic 2014	R-22 replacement, Possible rink expansion, Parking lot/site revisions	57,120	2	18	\$ 116,041	\$ 2.03	7,036,791	123.2	3,912,830	1,146,785	3,123,960	31,240
Arena	Ken Yackel West Side Arena	Turn Key Assessment 2012, Low Watt T8's and Wall Packs 2014	R-22 replacement	25,920	1	7	\$ 25,210	\$ 0.97	1,519,298	58.6	590,685	173,120	928,612	9,286
Arena	Oscar Johnson Arena	Custom Efficiency 11/2012, Turn Key Assessment 12/2012, Low Watt T8's 2014	R-22 replacement	26,400	1	6	\$ 30,689	\$ 1.16	1,879,265	71.2	670,168	196,415	1,209,097	12,091
Arena	Phalen Arena	Turn Key Assessment 11/2012, Custom Efficiency 11/2012, Low Watt T8's, Wallpacks, and Soffit Lights 2014	R-22 replacement	28,560	1	7	\$ 33,098	\$ 1.16	2,254,218	78.9	721,607	211,491	1,532,611	15,326
Arena	Pleasant Arena	Turn Key Assessment 2012, Low Watt T8s and Wallpacks 2014	R-22 replacement	25,920	1	12	\$ 78,435	\$ 3.03	5,495,456	212.0	2,092,511	613,280	3,402,944	34,029
Arena	Shoreview Arena	Turn Key Assessment 11/2012, Custom Efficiency 11/2012, Low Watt T8's, Wallpacks, and Soffit Lights 2014	R-22 replacement	26,400	1	6	\$ 26,492	\$ 1.00	1,911,612	72.4	550,014	161,200	1,361,598	13,616
Arena	Vadnais Sports Center	Commissioning Study	Building management system	179,053	2	24	\$ 318,155	\$ 1.78	22,578,340	126.0	10,136,834	2,970,936	12,441,506	124,415
Arena	White Bear Arena	Turn Key Assessment 2012, Low Watt T8s and Wallpacks 2014	R-22 replacement	25,920	1	6	\$ 24,011	\$ 0.93	1,564,447	60.4	515,355	151,042	1,049,092	10,491

Facility Type	P&R Facility Name	Previous Projects	Upcoming projects	Square Footage	# of Ice Sheets (Arenas)	Months of Ice (Rinks x Months)	Total Cost	Cost/square foot	Total Usage (kbtu)	EUI (kbtu/sf)	Electric (kbtu)	Electric (kWh)	Gas (kbtu)	Gas (therms)
County Park	Beaver Lake County Park			0			\$ 1,367		43,865		43,865	12,856	-	-
County Park	Gervais Lake			650			\$ 233	\$ 0.36	9,052	13.9	9,052	2,653	-	-
County Park	Island Lake County Park			1,496			\$ 2,593	\$ 1.73	83,799	56.0	83,799	24,560	-	-
County Park	Lake Josephine County Park			1,888			\$ 519	\$ 0.27	15,450	8.2	15,450	4,528	-	-
County Park	Lake McCarrons County Park			1,850			\$ 755	\$ 0.41	22,372	12.1	22,372	6,557	-	-
County Park	Lake Owasso County Park		Park redevelopment	600			\$ 11	\$ 0.02	290	0.5	290	85	-	-
County Park	Turtle Lake County Park			725			\$ 213	\$ 0.29	6,357	8.8	6,357	1,863	-	-
County Park	White Bear Lake County Park			2,040			\$ 494	\$ 0.24	15,091	7.4	15,091	4,423	-	-
Golf Course	Goodrich Golf Course			4,378			\$ 15,015	\$ 3.43	539,718	123.3	357,298	104,718	182,420	1,824
Golf Course	Keller Golf Course- Clubhouse, Pro Shop, + Maintenance	Turn Key Assessment 2012, Replace 32W lamps with reduced wattage 25 T8 lamps		25,890			\$ 19,733	\$ 0.76	785,573	30.0	402,821	118,060	382,752	3,828
Golf Course	Ponds at Battle Creek Golf Course			7,640			\$ 24,332	\$ 3.18	784,322	102.7	566,378	165,996	217,944	2,179
Regional Park	Bald Eagle Regional Park			1,884			\$ 527	\$ 0.28	15,705	8.3	15,705	4,603	-	-
Regional Park	Keller Regional Park		Tuj lub court	3,675			\$ 1,949	\$ 1.00	58,403	16.0	58,403	17,117	-	-
Regional Park	Vadnais-Snail Lake Regional Park - Grass Lake			0			\$ -		-		-	-	-	-
Regional Park	Vadnais-Snail Lake Regional Park - Vadnais Regional Park - Sucker Lake			1,176			\$ 1,205	\$ 1.02	36,259	30.8	36,259	10,627	-	-
Regional Park + Pavilion	Battle Creek Regional Park			6,600			\$ 3,004	\$ 0.46	92,301	14.0	92,301	27,052	-	-
Regional Park + Pavilion	Long Lake Regional Park		Possible park redevelopment	12,560			\$ 3,968	\$ 0.32	118,742	9.5	118,642	34,772	100	1
Regional Park + Pavilion	Tony Schmidt Regional Park			5,900			\$ 1,593	\$ 0.27	47,011	8.0	47,011	13,778	-	-
Regional Park + Pavilion	Vadnais-Snail Lake Regional Park - Snail Lake			9,350			\$ 1,988	\$ 0.21	59,526	6.4	59,526	17,446	-	-
Regional Trail	Rice Creek Regional Trail			480			\$ 173	\$ 0.36	5,265	11.0	5,265	1,543	-	-
Regional Trail	Trout Brook Regional Trail			0			\$ 256		8,950		8,950	2,623	-	-
Fairgrounds	Ramsey County Fairgrounds			0			\$ 22		676		676	198	-	-
Water Park	Battle Creek Waterworks			4,000			\$ 16,445	\$ 4.11	1,340,202	335.0	331,237	97,080	1,008,965	10,090