



Saint Paul Public Schools ENERGY ACTION PLAN

June 2020



PARTNERS IN ENERGY
An Xcel Energy Community Collaboration

Acknowledgements

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Additional thank you to Saint Paul Public Schools high school and middle school students who participated in a survey to help inform strategy development for how to engage students, and to the Saint Paul Board of Education, whose endorsement of this plan ensures we will meet our energy vision.

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Introduction

Saint Paul Public Schools (SPPS) is one of the largest school Districts in Minnesota, serving over 35,000 pre-K–12 students. The District consists of 73 buildings totaling 7.65 million square feet of building space. SPPS was founded in 1866, and many current schools still have portions of buildings from the early 1900s. With the age of our buildings, long-term planning is paramount.

In 2009, the SPPS Facilities Department set a goal to reduce energy consumption by 10% from 2009 to 2019. SPPS Facilities began prioritizing energy efficiency projects, replacing old equipment with more efficient models, and pursuing energy rebates. To help support this work SPPS Facilities staff formed the District Services Facility Energy Team in 2013, a committee of Facilities staff members from Planning, Trades, Custodial, and Environmental Services Group. They set out to champion the implementation of sustainable energy practices district-wide while providing and maintaining quality physical environments that enhance and support the education of our students in an equitable manner. By 2019, the District had achieved a 7.3% reduction in energy use.

SPPS Facilities recognized a need to create a cohesive plan and structure to include all members of the SPPS community in creating goals and working towards energy efficiency and conservation. Efficient energy management is in the best interest of our District as energy used for lighting, heating, and cooling has a significant impact on Saint Paul Public Schools' environmental footprint as well as budget.

SPPS is collaborating with Xcel Energy's Partners in Energy offering to create this Energy Action Plan for our long-term energy vision. Saint Paul Public Schools Facilities staff actively recruited a diverse group of District representatives to lend their time to be part of the SPPS Energy Action Team. This team reviewed District energy-use data, reflected on existing successes and efforts, looked to understand room for improvement, and identified energy priorities and goals. Students helped guide this plan by participating in a survey.

Who will be involved?

This Energy Action Plan will involve stakeholders from across the entire SPPS community to create and achieve our energy vision. We hope those who support and participate in these strategies will feel empowered, engaged, and energized!

Students

Over 35,000 students are served by the educators of Saint Paul Public Schools. SPPS students speak more than 125 languages and dialects, and 29% (over 10,000) are learning to speak English. Saint Paul's diverse population is reflected in the fact that English is the primary language spoken at home for just 58% of students.

The most common spoken languages after English include Hmong, Spanish, Somali, and Karen. 70% of the student body qualifies for free or reduced lunch. This qualification rate is consistent across grade levels.

Educators, Administration, and Staff

The students of Saint Paul Public Schools are served by more than 6,000 employees and educators. There is a remarkably strong culture among teachers, administration, and staff that creates a shared responsibility, a sense of mission, and genuine enthusiasm for educating Saint Paul's students. All SPPS staff, whether or not they have daily student contact, consider themselves to be there for the kids and contributing to the education of Saint Paul children.

Community Members

Beyond customary use of the facilities for learning activities and extracurriculars, the buildings of Saint Paul Public Schools are used by numerous outside groups during and after school hours. These include religious groups who use space for worship services, community education, community groups, and other organizations. Thousands of permits are

Our Purpose Statement

As a learning institution, Saint Paul Public Schools has the **opportunity to raise awareness of sustainable energy practices** with positive impacts extending far beyond the classroom. Our District's ambition is to **foster a culture of sustainability** and instill environmental self-efficacy through education, outreach, and **collaboration** across the District.

Reducing our environmental impact through energy conservation and efficiency must actively and **equitably engage** our students, teachers, administrators and the entire Saint Paul Public Schools community.

This Energy Action Plan is our strategy for achieving District-wide commitment to energy stewardship by **fostering healthy and sustainable schools** that positively impact our students' learning experience and **empower them to be environmentally literate leaders of tomorrow.**



issued each year for these secondary uses of SPPS facilities.

Where are we now?

Current Saint Paul Public Schools Energy initiatives

The SPPS Facilities Department has long valued the importance of reducing energy waste and has worked hard to make saving energy a priority within our operations and maintenance activities.

The following energy initiatives have been implemented in our buildings in recent years:

- Benchmarking
- Revolving Energy Efficiency Fund
- Lighting and HVAC Improvements
- New Construction/Significant Renovation
- Utility Rebates
- Peak Demand Control Program Savings

Benchmarking

Energy use across all SPPS facilities is tracked using a software called B3 Benchmarking. Within B3, the electricity and natural gas consumption of each building can be compared across the district, and changes in energy use can be seen over time. The data in B3 is used to prioritize buildings that have the highest potential for energy savings. Check out your building's energy use!

spps.b3benchmarking.com/Report

Revolving Energy Efficiency Fund

Established in 2016, the Revolving Energy Efficiency Fund (REEF) pays for the implementation of energy efficiency projects.

Energy cost savings from those projects are put back into the fund, thus establishing a sustainable funding cycle for energy efficiency. Previous projects have included interior and exterior lighting retrofits, installation of a dedicated heat pump, and boiler plant upgrades.



Farnsworth Upper, an example of a historic SPPS school

Lighting and HVAC improvements

Replacing inefficient fluorescent lighting with LED lighting has been a high priority for SPPS. The exterior lighting at 31 schools has been retrofitted to LED. SPPS has experienced numerous benefits from this work including better visibility and improved safety and security. SPPS has also undertaken several interior LED lighting retrofits in larger high-use spaces such as gymnasiums, commons areas, rec centers, and pools. Not only did this lead to energy savings, but also reduced maintenance costs and improved lighting levels.

Replacing old, inefficient heating, ventilation, and air conditioning (HVAC) equipment can have a large impact on the energy use of a building. In 2015 an in-house crew was created to replace failing components of building heating systems, such as steam traps, thermostats, and control valves. Not only did this work reduce maintenance costs and provide more comfortable learning environments, but it also saved energy. Other HVAC equipment that is often targeted for

replacement includes exhaust fans, motors, variable frequency drives, and the building automation system (BAS).

Utility rebates

Any time an energy efficiency project is undertaken, SPPS leverages Xcel Energy's rebate program. As of 2019, SPPS's accumulated rebates from Xcel Energy total over \$2 million since the start of the rebate program. SPPS has won Xcel Energy's Recognition of Excellence Award three years in a row.

New construction

Larger renovation and addition projects provide a great opportunity to update not only individual equipment, but also entire systems. SPPS enrolls all large projects in the Energy Design Assistance program offered by Xcel Energy. Energy Design Assistance is a free integrated design service that includes personalized computer energy modeling, which predicts energy use of the building, suggests energy-saving strategies to incorporate into the design, and estimates energy cost savings and construction rebates available for the project. Post-project site verifications help to ensure that the system is working to save on energy bills. **In the last 3 years, 1.5 million kWh of electricity was saved across 11 projects.**

How does the District use energy?

An integral part of the Partners in Energy planning process is reviewing historic energy data for Saint Paul Public Schools. Xcel Energy provided data on energy use and participation counts and savings for utility energy conservation programs for all premises owned by Saint Paul Public Schools. All energy use data is raw consumption data and is not weather normalized or normalized to changing square footage. See Appendix 4 for a complete picture of Saint Paul Public Schools baseline energy data.

Energy consumption and trends

Between 2016 and 2018, Saint Paul Public Schools buildings consumed **an average of 513,760 MMBtu of energy each year**, which is the same energy consumption as 7,340 Minnesota households. SPPS spends, on average, \$7 million on electricity and natural gas each year. Electricity consumption stayed relatively flat from 2016 to 2018. This is most likely attributed to increases in energy efficiency offset by the addition of cooling and dehumidification at some buildings.

Natural gas consumption increased from 2016 to 2018, which can be attributed to **an increase in conditioned floor area (i.e., new construction) and an increase in Heating Degree Days (HDD)**. HDD is used to indicate the severity of a heating season. The higher the HDD, the more energy needed to heat a building.

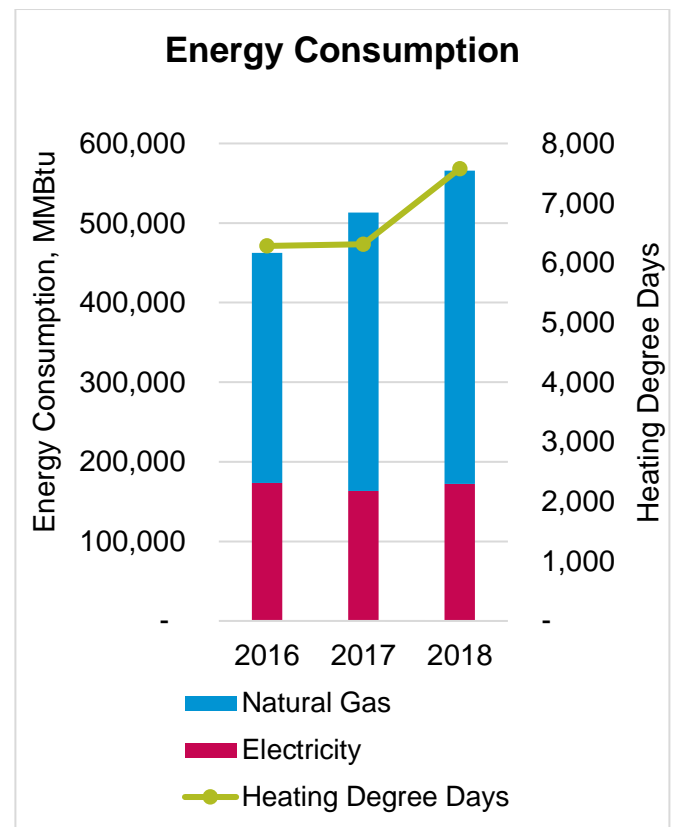


Figure 1. Saint Paul Public Schools Energy Consumption, 2016–2018



Johnson High School, a recently renovated building

Greenhouse gas emissions

Energy-related greenhouse gas emissions increased between 2016 and 2018, likely due in part to nine construction projects in 2018. In 2018, Saint Paul Public Schools premises accounted for 39,600 MTCO₂e, approximately equivalent to 8,400 passenger vehicles driven for one year.¹

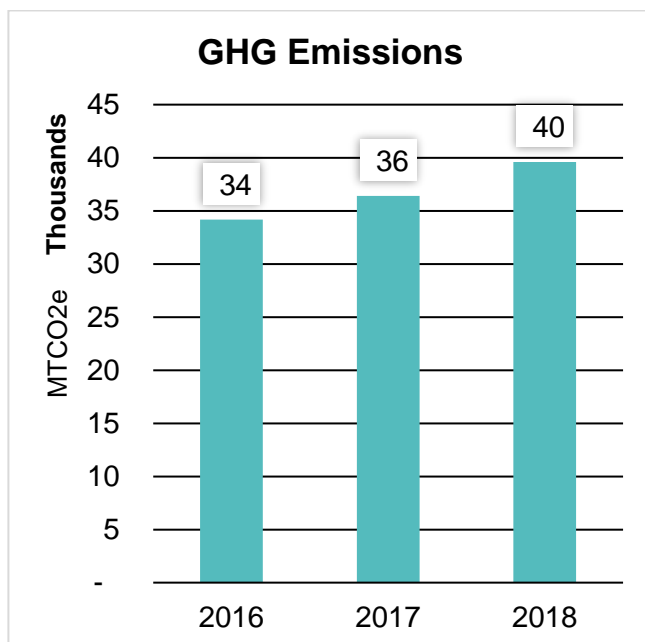


Figure 2. Energy-related Greenhouse Gas Emissions, 2016–2018

Why an Energy Action Plan?

Saint Paul Public Schools has made great progress toward prioritizing energy efficiency projects and integrating energy efficiency practices into day-to-day operations.

In the last 10 years, SPPS has achieved a 7.3% reduction in energy use, after factoring in changes in weather and building size. While SPPS is proud of the energy reduced, we recognize that there is a larger opportunity to involve key stakeholders from throughout the SPPS community in creating goals and clear strategies that will empower more individuals to create lasting change. For this reason, SPPS collaborated with Xcel Energy's Partners in Energy offering to develop an Energy Action Plan. Partners in Energy will provide marketing and communications support, data tracking and measurement, program expertise, and project management to ensure we meet our goals. Partners in Energy will also provide access to webinars, best practices from other community energy action plans, and other resources to support our implementation.

See Appendix 3 for more information about Partners in Energy and the planning process.



SPPS Energy Action Team at Planning Workshop 2

¹ United States Environmental Protection Agency, [Greenhouse Gas Equivalencies Calculator](#).

The SPPS Energy Action Team believes an Energy Action Plan will provide the necessary framework for effective and lasting energy reduction and set the District on a path towards achieving its energy vision by doing the following:

- Identify the appropriate goals and strategies to help achieve that vision.
- Engage and motivate our community to take action to achieve our goals.
- Monitor and track our results.
- Celebrate our achievements and promote our successes.
- Carry forward our energy momentum for the long term.

Where do we want to go?

The Energy Action Team completed an exercise to understand how they wanted the SPPS community to feel when engaged in this action plan. These feelings anchored the team during strategy development to ensure that each student, teacher, employee, and facility user impacted by this plan feels energized, empowered, and engaged.



Word cloud of responses when Energy Action Team answered "How do you want the community to feel?"

Focus areas

To achieve a District-wide commitment to energy stewardship, the Energy Action Team identified two focus areas to which they would prioritize strategies and resources:

- **Facilities and Operations:** All buildings and properties owned by Saint Paul Public Schools, and their operational procedures. Staff from all departments that impact the maintenance and operations of SPPS buildings are implicated.
- **Community:** Members of the community that use SPPS buildings. Includes students, teachers, staff and administration, groups who rent space, families, and community education groups.

This approach differs from past initiatives in that it recognizes that successful energy management extends beyond consideration of the physical structures and their equipment. New technologies will efficiently perform the functions to operate a building, like lighting and HVAC, but the people using the building are a critical factor for success. This is particularly true in schools, where students learn habits and practices that they will carry forward into adult life. The opportunity to model best practices in energy usage and behaviors is immense.

Goals

Working together, the Energy Action Team set near-term and long-term goals for each focus area to measure success. The **primary goal of this plan is to increase engagement of the SPPS community in energy efficiency behaviors** that will reduce energy use and greenhouse gas emissions.

SPPS Facilities and Operations	SPPS Community
Stakeholders	Stakeholders
Trades Custodial Environmental Services Planning/CPD Nutrition Services	Students Teachers, Staff, and Administration Families Community Education Outside Organizations
Objectives	Objectives
Increase Energy Efficiency Reduce Greenhouse Gas Emissions	Energy-Saving Behavior Changes Increase Energy Awareness

2030 goal

Through increased energy efficiency, Saint Paul Public Schools will **reduce its greenhouse gas emissions 45% and all 73 buildings will be engaged** to reduce their carbon footprint through energy efficient improvements and behavior changes — impacting students, teachers, staff, and community members who use the space.

Stretch goal

If we successfully implement the strategies in this plan, creating a new culture of energy stewardship, we believe we could achieve a **50% reduction in greenhouse gas emissions by 2030**.

Measuring success

We will utilize the B3 Benchmarking platform to track how greenhouse gas emissions and energy consumption within SPPS buildings change over time as strategies are implemented. It can be difficult to compare energy use from year to year because of many factors that influence building energy use, such as weather and conditioned floor area. Weather greatly impacts a building's energy use as it influences how much energy is required to heat and cool a building; and changes in

conditioned floor area influence how much energy is used as the total square footage can fluctuate year to year. For context, heating degree days—which measures the demand for energy used to heat a building—increased 21% between 2016 and 2018. SPPS' building footprint has also changed in the past few years. SPPS has built large additions to multiple properties, purchased and sold a property, and built a new building. These all impact conditioned floor area and our District's energy use. To help us accurately measure year to year changes, we will normalize data to account for extreme weather events and changes in conditioned floor area.

See Appendix 5 for more details on the methodology for measuring success towards achieving our goals.

Our Recipe for Success



Energy
Efficiency
Improvements



Engaged
Community



Culture of
Energy
Stewardship

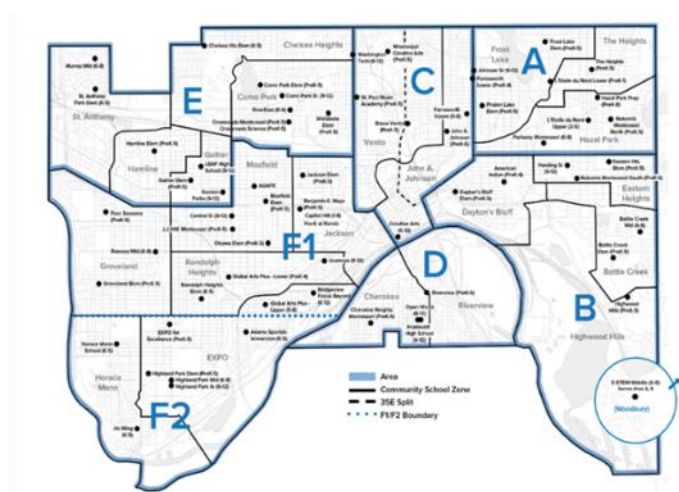
How are we going to get there?

Focus area: Saint Paul Public Schools Facilities and Operations

Why is this a priority?

Saint Paul Public Schools occupies 73 buildings for a total of 7.5 million square feet of space. For perspective, Bloomington’s Mall of America is 2.5 million square feet of retail space — one-third the square footage that SPPS is required to light, heat, and cool across 73 locations.

Utility costs in Fiscal Year 2020 (FY 2020) are budgeted at \$8.98 million.² Even modest savings in this area can make a meaningful impact on the SPPS total school support services budget, currently allocated at \$199.87 million.³



Saint Paul Public Schools Map

Facilities and Operations strategies

Strategy A: Implement energy efficiency projects and practices

A1	A2	A3	A4
Complete Turn Key energy audits in building to address "energy hogs"	Continue to prioritize efficiency in new construction	Develop design standards to promote energy efficiency in new construction	Update permitting process to maximize space use

Strategy B: Train and educate building engineers and trades on building energy management best practices

B1
Engage building engineers to be more aware about energy actions and their impact

Strategy C: Coordinate with Board of Education on sustainability and energy management

C1	C2	C3
Request that the Board form a policy working group on sustainability and energy management	Create process to direct energy rebate dollars to REEF	Standardize temperature ranges to allow custodial and trades to more effectively respond to comfort concerns

Strategy D: Explore renewable energy options for SPPS Facilities

D1	D2
Contact other public entities to understand their renewable energy support	Draft proposal for SPPS Facilities and District leadership to review and consider

² Saint Paul Public Schools FY2019-2020 Program Allocation Summary as of March 7, 2019.

³ Ibid.

Please see Appendix 2 for a more detailed work plan for each strategy, including strategy-specific goals, roles, responsibilities, and tasks.

Goals and impact

Our goal is to increase energy efficiency in every SPPS building to reduce energy, greenhouse gases, and costs while maintaining comfort for students, teachers, and staff.

By achieving the strategies outlined above, we project SPPS will participate in an additional 160 energy efficiency rebates and programs above business as usual by 2030, resulting in over 420,000 MMBtu of avoided energy use, which is equivalent to the greenhouse gas emissions avoided by removing 1,000 cars from the road for a year.⁶ By avoiding this energy use, we will avoid spending \$3.9 million on energy by 2030, money that can be invested into additional money-saving energy efficiency improvements.

Table 1: SPPS Facilities & Operations Strategy Impact by 2030

	Business as usual by 2030	Energy Action Plan Impact by 2030	Percent Change
Program Participation	451	613	36%
Avoided Energy Use (MMBtu)	326,909	422,486	29%
Avoided GHGs (Mt CO₂e)	18,920	23,886	26%

Focus area: Saint Paul Public Schools Community

Why is this a priority?

Schools across Saint Paul serve as hubs for their communities. Their primary purpose, of course, is educating the city's youth, but that's just the beginning of how the community benefits from these buildings.

Our school buildings are frequently used evenings and weekends for a variety of activities. When we try to define the Saint Paul Public Schools community, we must consider the following groups, among others:

- **35,000 students** who attend school every day in one of 68 schools.
- **Over 6,000 employees**, who work across the district on behalf of the students who count on them.
- **Community groups** — including scouting, clubs, nonprofits, religious, and political groups — who use space inside these buildings during regular school hours, evenings, and weekends.
- **Parents and guardians** who are engaged in their children's education.

Engaging these stakeholders is crucial to the success of any meaningful initiative since these people, in a very real sense, *are* Saint Paul Public Schools.

As important as all these stakeholder groups are to the success of this initiative, our primary target group is the students of Saint Paul Public Schools because:

- **These buildings exist to educate students.**
- **They can impact energy conservation and efficiency not only in facilities operated by SPPS, but also at home and in their communities.**
- **They have a tremendous opportunity to see the impact of energy efficiency in their lives, to take best practices forward into adulthood, and maybe even to be inspired to pursue careers in the field.**



Student Input

A survey was distributed to all high school and middle school students to help guide the strategies in this focus area. More than 1,000 students responded with their preferred information sources, interest in participating, and what measures of success are important to them. Key survey findings include:

Preferred information sources: Students prefer to get their information from Schoology, daily announcements in schools, and emails from leadership/teachers.

This topic is important: 30% of respondents said climate change is “extremely important” to them, and 85% said climate change has some level of importance.

Students want to participate: 72% of respondents said they would likely participate in an action or event to address climate change. Over 360 students said “I’m interested” in joining a green team.

Energy savings and greenhouse gas reduction: Students said these were the measures of success most important to them.

Students are learning about this in school: 79% of respondents said they learned about climate change in school, with social media (59%) and formal news channels (55%) being the next most popular sources.

Community strategies

Strategy E: Host a behavior change competition between schools to promote best management practices

E1	E2	E3	E4
Conduct walk-through classroom energy audits with students to identify classroom energy saving opportunities	Design school vs. school behavior change competition to promote best practices based on results of classroom energy audits	Provide education and outreach to students, teachers, and staff about their buildings' energy use	Distribute energy meters to demonstrate impact of changing behaviors, even small actions

Strategy F: Share energy efficiency learning activities

F1	F2	F3
Publicize the availability of Xcel Energy's off-the-shelf school solution for fifth grade teachers	Work with Office of Teaching and Learning to discuss opportunities to add energy and climate into their existing classroom activities	Engage Discovery Club Leadership to identify the best ways to incorporate energy efficiency into learning opportunities

Strategy G: Communicate benefits of energy efficiency to SPPS community

G1	G2	G3
Share stories about what the District is doing for energy efficiency and renewable energy	Use social media to communicate regularly during Energy Action Plan implementation	Share energy impact information with SPPS community using the District communication channels (e.g., Schoology, announcements, email, posters)

Strategy H: Expanding energy career pathways and extracurricular opportunities

H1	H2	H3
Create an environmental club kit to help schools create their own club based on best practices from existing clubs	Create club activities to engage environmental clubs during implementation to share message of Energy Action Plan	Use the career academy and pathways program to host a construction job fair with an opportunity to meet SPPS Facilities and Operations staff

Please see Appendix 2 a more detailed work plan for each strategy, including strategy-specific goals, roles and responsibilities, and tasks.

Goals and impact

By actively engaging students, teachers, staff, and other facility users in energy conserving behavior changes, we hope to achieve meaningful energy use reductions that will build upon savings from previous energy efficiency efforts.

Through these strategies, all 68 schools will be actively and equitably engaged so that all students, teachers, administrators, and the entire Saint Paul Public Schools community have an opportunity to be involved.

Through active engagement, we also hope that the sustainability behaviors and values students learn will be brought back to their families and neighbors, positioning them as environmental leaders of our community.



Impact of Energy Action Plan

The combined strategies outlined in this plan aim to decrease SPPS energy use and greenhouse gas emissions through increased building and equipment efficiency, as well as the SPPS community's adoption of sustainable behavior changes.

Overall, achieving near-term targets laid out in this plan will result in:

- A **45% reduction** in greenhouse gas emissions, which is equivalent to removing more than 1,000 passenger vehicles from the road for a year.
- Estimated **savings of \$3.9 million** on energy bills through participation in Xcel Energy programs.
- **Engagement of all schools**, impacting more than 35,000 students and more than 6,000 staff.
- **New culture of sustainability** across all divisions and departments.

How we stay on course

Saint Paul Public Schools is committed to reducing our environmental impact through energy conservation and efficiency, and equitably engaging our students, teachers, administrators and the entire Saint Paul Public Schools community to foster healthy and sustainable schools. This Energy Action Plan is a living document. Goals and strategies will be assessed and refined as needed based on data, SPPS staff, and available funds.

Data and reporting

Partners in Energy will provide biannual progress reports with metrics of success and overall progress towards goals for Xcel Energy rebates and programs. These reports will be available publicly and shared with both SPPS staff and the Energy Action Team.

If available, ad-hoc participation reports for specific Xcel Energy programs are available to measure success of campaigns and to determine if we need to change course.

Project management and tracking

Partners in Energy will host regular project management check-in calls with the SPPS Core

Team to ensure we stay on course to achieve our goals in the first 18-months of implementation.

Partners in Energy will also convene the Energy Action Team at the midpoint of implementation to assess if strategies or tactics need to be refined based on capacity.

Setting a 2040 goal

Because funding, student enrollment, and operations can change in a 10-year period, the Energy Action Team agreed setting a 20-year goal would be difficult to do. Saint Paul Public Schools staff and the Energy Action Team will reconvene at a later date to evaluate new funding and technology innovations to set 2040 goals and identify new strategies for achieving those goals.

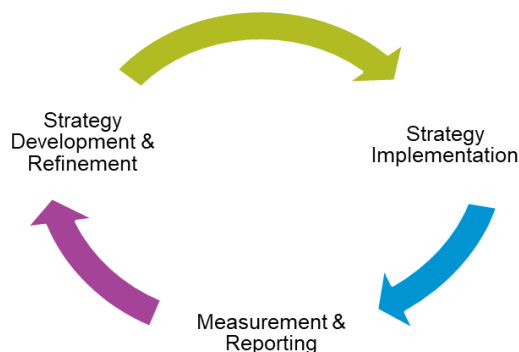


Figure 3: Actions and Planning

Appendix 1: Implementation Memorandum of Understanding

Document to be inserted once drafted and signed.



Appendix 2: 18-month implementation work plan

This appendix gives additional detail for each tactic, including the implementation team and tasks, timeline, and goals. This appendix will serve as a work plan for the SPPS team, the Energy Action Team, and Partners in Energy facilitators.

Strategy A: Implement energy efficiency projects and practices

Tactic A1: Complete Turn Key energy assessments in buildings to address “energy hogs”	
Description	Xcel Energy’s Turn Key energy assessment is a low-cost, on-site assessment designed to identify energy efficiency improvements, with bonus rebates and free implementation services. Through this strategy, SPPS will schedule Turn Key assessments as funding is available to identify improvement upgrades for buildings.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Identify buildings best suited for Turn Key assessments Schedule Turn Key assessments with support from Xcel Energy account manager Identify funding opportunities to cover cost of Turn Key assessments <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Schedule building engineers at individual sites to be present for assessments Notify trades and building administration as assessments are scheduled <p>Partners in Energy</p> <ul style="list-style-type: none"> Support outreach to Xcel Energy Turn Key program manager and SPPS account manager
Timeline	<ul style="list-style-type: none"> Ongoing, kick off review of buildings in Q4 FY 2020
Goal(s)	<ul style="list-style-type: none"> Complete 35 Turn Key assessments by 2025
Resources	<ul style="list-style-type: none"> Building list that are “energy hogs” based on consumption Funding to support low-hanging fruit projects identified through assessments

Tactic A2: Continue to prioritize efficiency in new construction	
Description	The Facilities Master Plan documents projects and funding sources for SPPS projects over a five-year period and is updated annually. Energy Design Assistance and Energy Efficient Buildings are programs available through Xcel Energy for any new major renovation or construction project.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Engage with Capital Project Delivery Team to make them aware that resources are available to add efficiency Facilitate engagement with appropriate Xcel Energy resources Share B3 Benchmarking data with Capital Project Delivery Team and building supervisors to advocate for efficiency improvements <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Meet with Core Team and Xcel Energy, as needed <p>Partners in Energy</p>

	<ul style="list-style-type: none"> Facilitate access to Xcel Energy program managers and account manager
Timeline	<ul style="list-style-type: none"> Ongoing, kick off meeting with Capital Project Delivery Team in Q4 FY 2020 with continuing support as indicated
Goal(s)	<ul style="list-style-type: none"> 100% of eligible facilities capital projects enroll in Xcel Energy's Energy Design Assistance or Energy Efficient Buildings
Resources	<ul style="list-style-type: none"> Staff time for meetings and support Program information resources B3 Benchmarking Data

Tactic A3: Develop design standards to promote energy efficiency in new construction	
Description	New buildings and major renovations present an easy opportunity to find holistic ways to address energy savings throughout the entire facility and build them into existing projects.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Meet with CPD to discuss energy design standards for new projects Facilitate engagement with appropriate Xcel Energy resources <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Meet with Core Team and Xcel Energy, as needed <p>Partners in Energy</p> <ul style="list-style-type: none"> Facilitate access to Xcel Energy program managers and account manager
Timeline	<ul style="list-style-type: none"> Ongoing, kick off meeting with Capital Project Delivery Team in Q4 FY 2020 with continuing support as indicated
Goal(s)	<ul style="list-style-type: none"> SPPS Facilities design standards for energy developed
Resources	<ul style="list-style-type: none"> Staff time for meetings and support Program information resources

Tactic A4: Update permitting process to maximize space use	
Description	Current permitting process allows SPPS community members to request permits for the spaces of their choosing. Modifying the process so that the spaces available for permits align with air handler service areas would reduce the number of spaces requiring heating, cooling, ventilation, and lighting during nights and weekends. The process will be set up so that all commonly used spaces (e.g. classrooms, cafeterias, gymnasiums, auditoriums, etc) are still available to best serve the community.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Meet with Permitting staff to review process Engage automation and building engineers <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Permitting staff to implement best practice Building engineers to review equipment and automation zones
Timeline	<ul style="list-style-type: none"> Kick-off meeting with permitting staff in Q4 FY 2020
Goal(s)	<ul style="list-style-type: none"> Permitting process updated by end of FY 2021 academic year
Resources	<ul style="list-style-type: none"> Staff time for meetings and support

Strategy B: Train and educate building engineers, staff, students, and trades on building energy management best practices at SPPS buildings

Tactic B1: Engage building engineers to be more “energy aware” about energy actions and their impact	
Description	On-site building engineers can have a tremendous impact on the success of any energy efficiency initiative. They are on the “front line” focusing on the operation of the building and can be recruited as allies who can manage the buildings’ behaviors to maximize efficiency.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Host in-person or online training/videos to promote efficiency campaign and share a list of ideas that they can champion in their buildings • Create and distribute “tip cards” during on-site BAS training • Draft custodial weekly update energy tips <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • Building engineers and their leadership need to be engaged and enthused about the initiative <p>Partners in Energy</p> <ul style="list-style-type: none"> • Design communication materials to facilitate engagement • Support creation of energy tips
Timeline	<ul style="list-style-type: none"> • Coordinate a planned series regular messages using periodic mentions building engineers’ weekly updates • Align first communication with pilot of pledge cards and walk-through audits
Goal(s)	<ul style="list-style-type: none"> • Educate 50% or more of building engineers on energy efficiency by the end of the FY 2021 academic year
Resources	<ul style="list-style-type: none"> • Bandwidth on Core Team to create program, meet with stakeholders, prepare materials, and implement • Leadership support to help engage building engineers

Strategy C: Coordinate with Board of Education on sustainability and energy management

Tactic C1: Request that the Board pass a resolution to form a policy working group on energy management and sustainability	
Description	Energy management and sustainability is unique in that it offers both practical benefits to Saint Paul Public Schools and educational benefits to its students. SPPS currently spends nearly \$9 million annually on utilities and can save substantially with an active approach to energy management and sustainability.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Senior Facilities leadership needed to participate actively and influence working group’s agenda • Guide the creation of a sustainability working group with identified focus areas • Staff and community members with relevant expertise will be needed for relevant contributions and guidance and will be recruited as necessary
Timeline	<ul style="list-style-type: none"> • Kick off Q3 FY 2020 with vision and scope of deliverables for the working group

Goal(s)	<ul style="list-style-type: none"> Successfully request creation of a Board of Education working group by end of Q4 FY 2020
Resources	<ul style="list-style-type: none"> Bandwidth for staff to dedicate time to planning and prep Support from Board to proceed with establishment of working group

Tactic C2: Direct energy rebate dollars to the Revolving Energy Efficiency Fund (REEF)

Description	SPPS receives substantial funding in the form of rebates from Xcel Energy payable as a result of participation in existing energy efficiency programs. Those funds are accounted for in the operating budget of the school system, but do not fund any specific initiatives. The rebates could instead be allocated to the REEF to support additional projects that deliver energy savings.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Facilities leadership needed to advocate to other stakeholders and secure agreement Minnesota GreenCorps member to research historic rebate trends and develop examples of the projects that would become feasible with this new REEF funding source <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> SPPS business office needed to approve/agree to a process that would increase REEF by an amount equal to energy rebates received
Timeline	<ul style="list-style-type: none"> Align with budget request-for FY 2021
Goal(s)	<ul style="list-style-type: none"> Approval to REEF funding recommendation secured during next round of annual budget process
Resources	<ul style="list-style-type: none"> Staff time for Facilities leadership and Minnesota GreenCorps member to prepare case and advocate during budgeting process Inventory of rebate dollars received and potential growth model for REEF fund if funding was diverted

Tactic C3: Standardize temperature ranges to allow custodial and trades to more effectively respond to comfort concerns

Description	One of the most frequent and time-consuming tasks faced by building custodians is response to comfort concerns — occupants being too hot or too cold. Subjective and widely varying beliefs about comfortable temperature are at the core of the issue, often exacerbated by factors outside the custodian's control (e.g., north-facing windows lacking sunshine, south-facing windows receiving too much sunshine, students opening windows). Standards that can be used as a firm goal will control for wide variations in room temperature.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Design communications plan to drive acceptance of temperature ranges among key stakeholders (e.g., staff in buildings adopting standards) <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Trades, custodial, building staff aligned and adequately supported <p>Partners in Energy</p> <ul style="list-style-type: none"> Assistance with communications materials
Timeline	<ul style="list-style-type: none"> Kick-off review of temperature ranges in Q1 2-FY 2021, including staff input Implement pilot of standardized temperature ranges in Q2FY 2021 Phase in by FY 2022 across all buildings

Goal(s)	<ul style="list-style-type: none"> • Establish standardized temperature ranges by FY 2022 • Track reduction in comfort concerns in buildings where standards are implemented
Resources	<ul style="list-style-type: none"> • Prioritized list of buildings on BAS eligible for standardized temperature ranges • Access to trades to respond to concerns • Communication materials to educate stakeholders on temperature ranges

Strategy D: Explore renewable energy options for SPPS facilities.

Tactic D1: Contact other public entities to understand their renewable energy support

Description	Community members have shown growing enthusiasm around renewable energy solutions for Saint Paul Public Schools in recent years. There are many factors that must be considered when investing in renewable energy including location, cost over time, ownership, length of contract commitment, amount of energy produced, and potential for student learning opportunities. Learning the best practices used to determine whether renewable energy is a smart option under current conditions from other public entities will help to establish the right criteria to evaluate opportunities moving forward.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Identify peer public entities who have successfully established criteria to consider adoption of renewable energy • Focus on peer school systems in Minnesota first, but research others in the country who may offer closer parallels to Saint Paul, or more robust evaluation criteria <p>Partners in Energy</p> <ul style="list-style-type: none"> • Connect Core Team with other school districts in Partners in Energy communities and from Xcel Energy case studies
Timeline	<ul style="list-style-type: none"> • Identify and engage with three other public entities with relevant experience with renewable energy alternatives by Q3 FY 2020
Goal(s)	<ul style="list-style-type: none"> • Contact three public entities
Resources	<ul style="list-style-type: none"> • Time to research peer systems and conduct successful outreach • List of potential school district contacts

Tactic D2: Draft Renewable Energy proposal for SPPS facilities and District leadership to review and consider

Description	With the results of outreach to benchmark best practices among school districts considering renewables, the team's next step will be to draft a proposal for consideration, endorsed by Facilities and District leadership.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Informed by best practices from other districts, develop an approach that can reliably guide consideration of renewable energy opportunities with criteria that can be used in coming years as costs and financing changes • Seek input from Facilities and District leadership to determine key areas of concern • Review early drafts to be certain that final recommendation includes desired criteria as well as best practices learned from other districts

	Partners in Energy <ul style="list-style-type: none"> Facilitate discussions with other Partners in Energy communities who may offer valuable learning opportunities
Timeline	<ul style="list-style-type: none"> Target submission of proposal to Facilities and District leadership six months after meeting with third peer system to learn best practices
Goal(s)	<ul style="list-style-type: none"> Adoption of a clearly identified process that can guide decision-making on whether and when to adopt renewable energy opportunities
Resources	<ul style="list-style-type: none"> Bandwidth for Core Team and continued support of Facilities and District leadership for the process

Strategy E: Host a behavior change competition between schools to promote best management practices

Tactic E1: Conduct walk-through classroom energy audits with students to identify classrooms with lights and other SPPS equipment left on, and other energy saving opportunities

Description	This initiative is the first part of a larger effort to engage students and school staff in a dialogue about improving energy efficiency in school buildings. By collecting evidence of energy practices happening in their very own buildings, students will gain firsthand experience with behavior change opportunities that can add up to meaningful savings.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Coordinate buy-in of idea to appropriate school leaders Assist with creating audit checklist and worksheets, including instructions Assist with creating announcement and recruitment materials Recruit principals, teachers, and students to support audits Coordinate audit activities with school leadership and facilities, including access approvals and supervision Collect audit findings to inform other strategies, including behavior change campaign <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Principal approval, teacher participation and communication to staff in advance of audit Building engineer participation by providing access to spaces Environmental club staff leaders to help lead and execute audits <p>Saint Paul Public Schools Students</p> <ul style="list-style-type: none"> Conduct walk-through audits <p>Partners in Energy</p> <ul style="list-style-type: none"> Create audit checklist and worksheets Create announcement and recruitment materials
Timeline	<ul style="list-style-type: none"> Pilot audit checklist for Spring Semester 2021 Full rollout of walk-through audit program in FY 2022 academic year
Goal(s)	<ul style="list-style-type: none"> All schools participating in energy challenge complete one walk-through in first year of implementation to inform challenge All SPPS schools with environmental clubs complete two walk-throughs per year, per school
Resources	<ul style="list-style-type: none"> Bandwidth on Core Team to create program, meet with stakeholders, prepare materials, and implement

- Leadership support to help establish initiative in schools
- Checklist and audit materials to educate teachers, principals, and students

Tactic E2: Design school vs. school behavior change challenge to promote best practices based on results of classroom energy audits

Description	Survey conducted by the SPPS Core Team among all middle and high school students indicated strong interest and support for a school vs. school energy conservation challenge. A behavior change pledge could extend the energy audit project into tangible actions informed by amount of energy conserved.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Promote the initiative to participating schools as a logical extension from the energy audit project • Gather input from energy audit leaders on biggest contributions students can make • Create list of behavior changes that are tailored for students in elementary, middle, and high school • Assist with creating pledge cards <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • Support pledge activity in schools <p>Partners in Energy</p> <ul style="list-style-type: none"> • Design pledge cards for each target audience (elementary, middle, and high schools)
Timeline	<ul style="list-style-type: none"> • Pilot pledge cards for Spring Semester FY 2021 • Full rollout of pledge cards in FY 2022 academic year
Goal(s)	<ul style="list-style-type: none"> • Publicize and reward the participating school capable of generating the most pledges
Resources	<ul style="list-style-type: none"> • Bandwidth on Core Team to create program, meet with stakeholders, prepare materials, and implement • Leadership support to help establish initiative in schools • Materials to educate teachers, principals, and students about pledge • Pledge cards

Tactic E3: Provide education and outreach to students, teachers, and staff about their buildings' energy use

Description	Most of the people whose behavior changes could meaningfully impact energy efficiency in SPPS buildings have no awareness of their buildings' energy consumption or how it may compare to similar buildings. This idea is designed to address that problem with easy to understand information that can motivate energy efficiency improvements.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Facilities staff access BAS energy use data before interactive dashboard module is implemented • Minnesota GreenCorps member administers program and hosts education sessions for teachers <p>Partners in Energy</p> <ul style="list-style-type: none"> • Communication materials as needed, including standard report and communication templates

Timeline	<ul style="list-style-type: none"> Ongoing, kick-off Q4 FY 2020 to design standard reports and communication channels
Goal(s)	<ul style="list-style-type: none"> Begin hosting education sessions for school staff by end of FY 2022 and continue indefinitely
Resources	<ul style="list-style-type: none"> Dashboard module for BAS system Newsletter, ongoing messaging to share results Behavior change advice to impact energy consumption

Tactic E4: Distribute energy meters to demonstrate impact of changing behaviors even small actions

Description	<p>During planning, it was noted that people are often surprised by the impact that small actions can have on energy consumption. To help motivate behavior change, energy meters can help illustrate the impact of behavior changes for students and teachers by showing the energy use of a plugged in device when in use or when turned off. These meters will be incorporated in the pledge cards and walk-through energy audit strategies.</p>
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Secure funding to purchase several “Kill-a-Watt” style wattage meters Communicate availability of the meters to schools who have participated in earlier Energy Action Team programs <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Engage school environmental club leaders to help distribute meters <p>Partners in Energy</p> <ul style="list-style-type: none"> Create communication materials to facilitate program
Timeline	<ul style="list-style-type: none"> Pilot energy meters for Spring Semester FY 2021, aligning with same schools under pledge card and walk-through energy audit pilots Full rollout of energy meters in 2020–2021 academic year
Goal(s)	<ul style="list-style-type: none"> Distribute meters to schools by spring semester FY 2022
Resources	<ul style="list-style-type: none"> Funding to purchase meters Bandwidth on Core Team to create program, meet with stakeholders, prepare materials, and implement Support from in-school environmental clubs

Strategy F: Share energy efficiency learning activities

Tactic F1: Publicize the availability of Xcel Energy’s off the shelf school solution for 5th grade teachers

Description	<p>Xcel Energy has produced a kit to help teachers design lessons around energy efficiency. Broad distribution within SPPS fifth grade classes (where the kit is calibrated) presents an easy, cost-effective way to raise awareness.</p>
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Coordinate publicity around availability of the kit targeted at fifth grade teachers <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Fifth grade teachers to use the kit <p>Partners in Energy</p> <ul style="list-style-type: none"> Coordinate sourcing and distributing the kits Create outreach materials publicizing the kit availability

Timeline	<ul style="list-style-type: none"> • Inform fifth grade teachers before the start of FY 2022 to facilitate easy incorporation into lesson plans • Manage distribution of the kits across the academic year as teachers choose to use the kits
Goal(s)	<ul style="list-style-type: none"> • Achieve distribution of Xcel Energy’s energy efficiency kit so that at least 25% of fifth grade classes are exposed to the kit during academic year FY 2022
Resources	<ul style="list-style-type: none"> • Bandwidth on Core Team to create program, meet with stakeholders, prepare materials, and implement • Support from fifth grade teachers • Xcel Energy school kits • Outreach materials

Tactic F2: Work with Office of Teaching and Learning to discuss opportunities to add energy and climate into their existing classroom activities

Description	The Office of Teaching and Learning (OTL) is where SPPS designs the curriculum for its students. Successfully integrating energy efficiency into curriculum can only occur with support and engagement from OTL.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Create list of opportunities and activities • Confirm current status of any energy or climate initiatives within OTL and how they can be enhanced <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • OTL meets with and considers recommendations from Energy Action Team
Timeline	<ul style="list-style-type: none"> • Start engaging OTL immediately for inclusion in future classroom activities
Goal(s)	<ul style="list-style-type: none"> • Set at least one meeting within the 2021 FY with appropriate OTL staff
Resources	<ul style="list-style-type: none"> • Bandwidth on Core Team to research best practices, prepare materials, and meet with OTL

Tactic F3: Engage Discovery Club Leadership to identify the best opportunities to contribute energy efficiency information into learning opportunities

Description	Discovery Club provides out-of-school time child care in a safe, fun, nurturing environment that supports children's learning and development. At 12 sites across the city, nearly 1,700 children participate in a variety of academic enrichment, recreational, and cultural activities that informally support learning and social development. Discovery Club presents an opportunity to engage with students in a more relaxed environment, offering them an opportunity to learn about energy efficiency on their own terms.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Engage with Discovery Club leadership to introduce opportunities and solicit advice on how best to be helpful • Assist with creating activities to share with Discovery Club <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • Engage with Discovery Club Leadership <p>Partners in Energy</p> <ul style="list-style-type: none"> • Develop communication materials as needed • Create activity sheets or other opportunities to support Discovery Club education



Timeline	<ul style="list-style-type: none"> Engage with Discovery Club team before the start of FY 2022
Goal(s)	<ul style="list-style-type: none"> Share a minimum of three activities with Discovery Club by Spring Semester FY 2022
Resources	<ul style="list-style-type: none"> Bandwidth on Core Team to meet with Discovery Club stakeholders, prepare materials, and implement Support from Discovery Club team List of activities and materials for Discovery Club to use

Strategy G: Communicate benefits of energy efficiency projects and policies to SPPS community

Tactic G1: Share stories about what the District is doing for energy efficiency and renewable energy

Description	Research indicates that people are more likely to change behaviors when they believe that others, particularly peers, are changing in the same way. This tactic capitalizes on that finding and offers multiple opportunities to see that energy efficiency and renewable energy behaviors are gaining momentum across SPPS.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Create editorial calendar to guide story development and identify story ownership (select stories for student involvement) Engage with SPPS Communications staff about plan <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Facilitate outreach to student reporters as needed <p>Saint Paul Public Schools Communications</p> <ul style="list-style-type: none"> Facilitate broad distribution among multiple stakeholder groups across the community (students, parents/guardians, employees, trades, etc.) <p>Partners in Energy</p> <ul style="list-style-type: none"> Support Core Team with any facts needed to support stories (subject to privacy policy restrictions) Create templates and images to share with stories
Timeline	<ul style="list-style-type: none"> Develop schedule and secure buy-in from key stakeholders by Q1FY 2021
Goal(s)	<ul style="list-style-type: none"> Publish two stories per semester
Resources	<ul style="list-style-type: none"> Bandwidth for Core Team to administer program Calendar to manage timing of releases, first drafts, edits, revisions, approvals, etc. Communication channels to share information within SPPS and to broader community

Tactic G2: Use social media to communicate regularly during Energy Action Plan implementation

Description	No messaging plan is complete without smart, strategic use of social media opportunities. Social media, in its many forms, offers the Energy Action Team a great opportunity to gain a sense of immediacy among multiple stakeholder groups.
Implementation Team and Tasks	Saint Paul Public Schools Core Team

	<ul style="list-style-type: none"> • Create an inventory of social media channels in use by SPPS, including any differentiation of target audience • Work with Communications to decide whether the SPPS Energy Action Team should have its own social media identity or simply be a messaging subject for SPPS <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • Facilitate outreach to students <p>Saint Paul Public Schools Communications</p> <ul style="list-style-type: none"> • Provide advice on strategic questions • Post social media posts <p>Partners in Energy</p> <ul style="list-style-type: none"> • Support team with copy writing as needed
Timeline	<ul style="list-style-type: none"> • Develop process and engage stakeholders to kick off initiative Q4 FY 2020
Goal(s)	<ul style="list-style-type: none"> • One post per month on SPPS social media accounts
Resources	<ul style="list-style-type: none"> • Bandwidth for work to resolve process and strategy questions • Access to Communications resources for support and implementation as needed

Tactic G3: Share energy impact information with Saint Paul community using the District communication channels (e.g. Schoology, announcements, email, posters)

Description	<p>This tactic is predicated on the idea that the community that SPPS serves extends beyond the traditional understanding of students, teachers, and staff. It includes anyone who calls Saint Paul home, who benefits from the presence of schools in their neighborhood or from the presence of well-educated people around them. Successfully engaging this community creates an opportunity to extend the impact of the plan's activities and, secondarily, the reputation of SPPS as a valuable foundation of what makes Saint Paul the place that it is.</p>
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Assist with creating overview and school specific materials for distribution • Develop engagement opportunities for teacher and parent input • Schedule periodic updates to maintain awareness and interest <p>Saint Paul Public Schools Communications Team</p> <ul style="list-style-type: none"> • Team is engaged and supportive of outreach • Work with local news outlets to support feature opportunities • Recognize need to reach non-English speaking people within Saint Paul <p>Partners in Energy</p> <ul style="list-style-type: none"> • Design outreach materials and other information materials to share stories
Timeline	<ul style="list-style-type: none"> • Align communications plan with tactics D1 and D2 • Deploy messaging across academic year as appropriate based on calendar-planning approach
Goal(s)	<ul style="list-style-type: none"> • Create at least two messages per semester targeted at the broader Saint Paul community

Resources	<ul style="list-style-type: none"> • Bandwidth both within Core Team and communications team to successfully create messaging and distribute information via communication channels • SPPS communication channels
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Strategy H: Expand energy career pathways and extracurricular opportunities

Tactic H1: Create “environmental club kit” to help schools create their own club based on best practices from existing clubs

Description	Primary research conducted by the Energy Action Team indicated substantial interest among students around creating or joining an environmental club at their school. This idea is designed to make it easy for schools who wish to pursue the opportunity.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Survey faculty advisors for best practices • Assist with creating materials • Distribute support materials based on advisors’ input • Audit number of clubs successfully formed and size of each club <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • Support from environmental club staff liaisons in schools <p>Partners in Energy</p> <ul style="list-style-type: none"> • Create and design kit materials with Core Team input
Timeline	<ul style="list-style-type: none"> • Initiate best practices survey Spring FY 2021 • Distribute first set of kits in Fall Semester 2022
Goal(s)	<ul style="list-style-type: none"> • Seek input from at least one club faculty advisor in each high school • Survey eight existing clubs for advice they would offer other schools
Resources	<ul style="list-style-type: none"> • Bandwidth on Core Team to design and field survey of faculty advisors and existing similar clubs • Budget as required to support clubs in schools (materials, communications, dedicated web page, etc.) • Kit materials

Tactic H2: Create club activities to engage environmental clubs during implementation to share message of Energy Action Plan

Description	Closely related to Tactic H1, the team recognizes that a new club will need a solid schedule of relevant activities to maintain interest levels and retain membership and attract new members. This tactic is designed to fuel new environmental clubs as they establish themselves.
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> • Create and distribute environmental club activity guides based on input from faculty advisors and existing clubs <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> • Engage faculty advisors and existing clubs to provide advice to new clubs <p>Partners in Energy</p> <ul style="list-style-type: none"> • Design materials and activity sheets based on Core Team’s input

Timeline	<ul style="list-style-type: none"> Introduce activity guide concurrent with introduction of club kit (Tactic H1)
Goal(s)	<ul style="list-style-type: none"> Distribute guide to all existing and newly formed environmental clubs
Resources	<ul style="list-style-type: none"> Bandwidth on Core Team to create activity guide and distribute to new clubs Budget as required to support clubs in schools (materials, communications, dedicated web page, etc.)

Tactic H3: Use the career academy and pathways program to host a construction job fair with an opportunity to meet SPPS Facilities and Operations staff

Description	<p>The Energy Action Plan and its implementation offer students a glimpse into careers and roles that will be increasingly in demand as they move into adult life. Students in the career academy and pathways programs will benefit from access to professionals doing interesting work that they may want to consider more seriously as career options.</p>
Implementation Team and Tasks	<p>Saint Paul Public Schools Core Team</p> <ul style="list-style-type: none"> Coordinate with construction job fair team to secure a position for Facilities and Operations Create communications strategy and informational pieces to help guide participant conversations Evaluate experience at first career fair to determine continued support for construction fair <p>Saint Paul Public Schools Staff</p> <ul style="list-style-type: none"> Access to construction job fair staff to coordinate participation of Facilities and Operations staff <p>Partners in Energy</p> <ul style="list-style-type: none"> Create informational handouts for tabling event as needed.
Timeline	<ul style="list-style-type: none"> Participation in FY –2022 construction job fair
Goal(s)	<ul style="list-style-type: none"> Participate in FY 2022 construction job fair to position Facilities and Operations as appealing career fields based on their very active engagement in energy efficiency and sustainability
Resources	<ul style="list-style-type: none"> Volunteers from Facilities and Operations to attend and table at fair Informational materials about job opportunities and testimonials from staff



Appendix 3: Xcel Energy’s Partners in Energy planning process

Xcel Energy is the electric and natural gas utility serving Saint Paul Public Schools. In the summer of 2014, Xcel Energy launched Partners in Energy to support communities like SPPS to develop and implement energy action plans that supplement existing sustainability plans, strategies, and tools. The content of this plan is derived from a series of planning workshops held in the community with a planning team committed to representing local energy priorities and implementing plan strategies.

Partners in Energy is working with Saint Paul Public Schools to coordinate support for implementing the plan and has developed a Memorandum of Understanding (Appendix 1) that outlines specific support Xcel Energy will provide to help the District deploy its strategies and achieve its goals.



Figure 4. Partners in Energy Process for Success



Figure 5. Resources from Xcel Energy for Implementation

Plan development process

Saint Paul Public Schools staff actively recruited a diverse group of District representatives to create the SPPS Energy Action Plan. Please see the Acknowledgements at the beginning of this document for a complete list of participants.

The Energy Action Team met over the course of three planning workshops to review District energy-use data, identify energy priorities, and develop strategies. A summary of the planning process can be found in **Table 2**.



Table 2: Partners in Energy Planning Process

Partners in Energy Planning Process	
Pre-Workshop 1 Survey November 2019	<ul style="list-style-type: none"> • Understood why an energy action plan is important to the District • Prioritized energy issues • Gained initial insight into what metrics are important to the District
Workshop 1 November 14, 2019	<ul style="list-style-type: none"> • Team introductions and Partners in Energy process overview • Created a purpose statement for the Energy Action Plan • Determined how to measure goals • Learned about the District's energy use and demographics • Discussed the types of strategies for engaging school districts • Identified barriers and benefits for each focus area
Pre-Workshop 2 Survey December 2019	<ul style="list-style-type: none"> • Confirmed goal metrics • Prioritized strategies and tactics for each focus area
Workshop 2 December 18, 2019	<ul style="list-style-type: none"> • Reviewed Energy Action Plan structure and review process by the team and Board • Refined strategies for Facilities & Operations focus area and identified resources for implementation • Propose near-term goals for Facilities & Operations strategies
Student Survey January 2020	<ul style="list-style-type: none"> • Distributed survey to all high school and middle schools • Surveyed students about their knowledge and thoughts on climate change • Collected information about students' preferences for an energy challenge
Workshop 3 January 30, 2020	<ul style="list-style-type: none"> • Reviewed student survey results • Refined strategies for Community focus area and identified resources for implementation • Propose near-term goals for Community strategies • Celebrated achievements of group during the planning process

Appendix 4: Baseline energy analysis

An integral part of the Partners in Energy planning process is reviewing historic energy data for Saint Paul Public Schools, which includes data on energy use, participation in utility energy conservation programs, and savings associated with participation in those programs. Data was provided by Xcel Energy for all buildings owned by Saint Paul Public Schools to establish a three-year baseline from 2016 to 2018. The data helped the Energy Action Team understand the District’s energy use and opportunities for energy conservation and renewable energy. Data included in this section will also establish a baseline against which progress toward goals will be compared in the future.

Energy consumption and trends

Between 2016 and 2018, Saint Paul Public Schools buildings consumed an average of 513,760 MMBtu of energy each year, spending an average of \$7 million on energy each year.

Natural gas consumption increased from 2016 to 2018, while electricity consumption stayed relatively flat. The increase in natural gas consumption can be attributed to an increase in square footage across the baseline years, changes in practices for natural gas equipment, and an increase in heating degree days, which measures the demand for energy used to heat a building. Energy consumption data is not normalized.

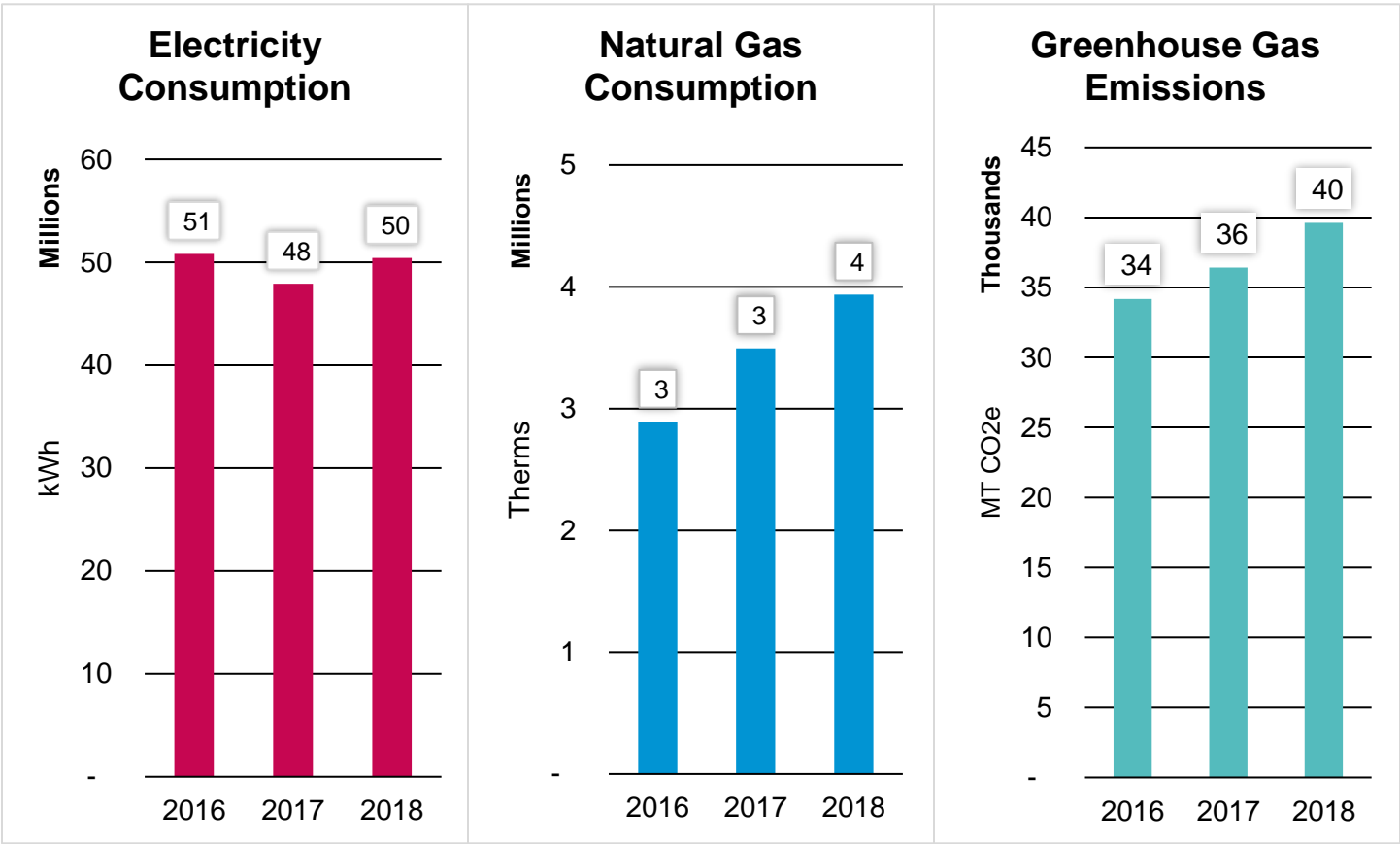


Figure 6: Saint Paul Public Schools Energy Consumption by Fuel Source and Greenhouse Gas Emissions, 2016–2018



Greenhouse gas emissions and trends

Energy-related greenhouse gas emissions increased between 2016 and 2018. In 2018, Saint Paul Public Schools premises accounted for 39,600 MTCO₂e.

Energy conservation program participation

Between 2016 and 2018, Saint Paul Public Schools participated in 123 Xcel Energy programs and enrolled 21 of their buildings in Xcel Energy's Electric Rate Savings, saving a combined total of 2.6 million kWh of electricity and 807,170 Therms of natural gas.

The most popular projects in the past three years were heating efficiency projects, where heating systems were replaced or upgraded for higher-efficiency heating systems. Over 40 heating projects were completed, resulting in almost 91% of total natural gas savings. For electricity savings, Xcel Energy's new construction programs led the way with almost 1.5 million kWh of electricity savings in 11 projects over three years.



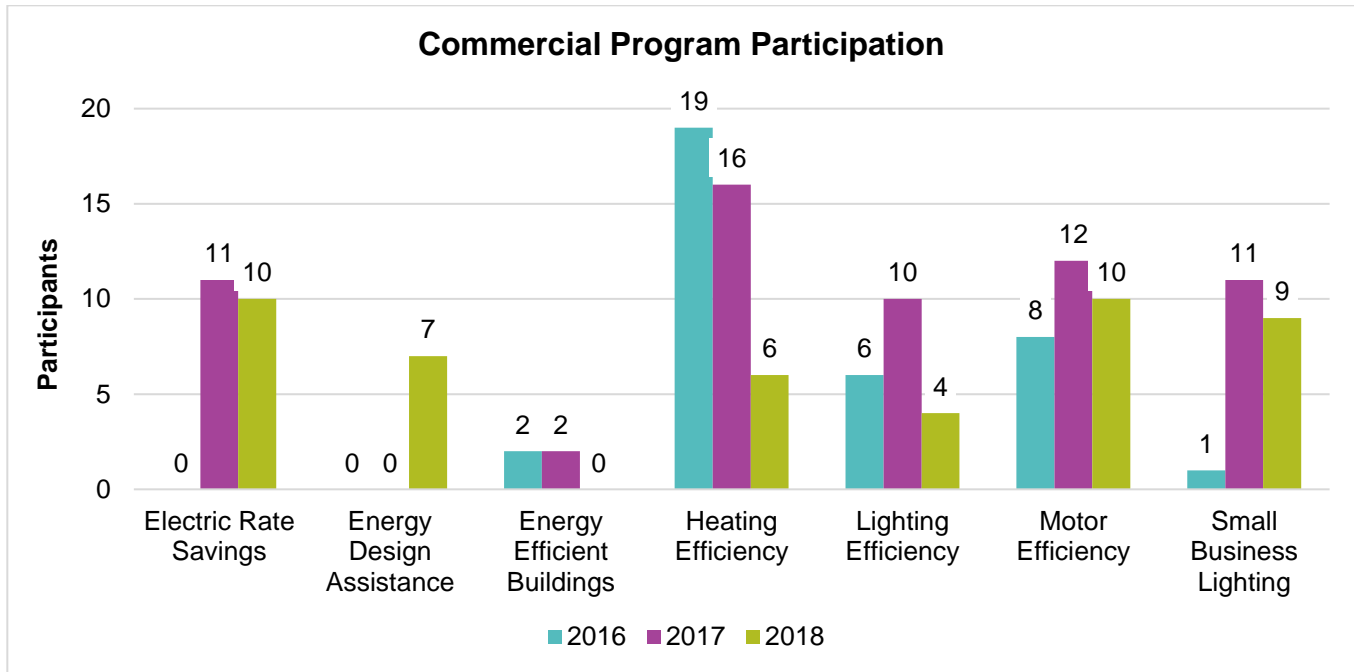


Figure 7: Saint Paul Public Schools Program Participation, 2016–2018

Table 3: Saint Paul Public Schools Program Participation, 2016–2018

	2016			2017			2018		
	Count	kWh Savings	therm Savings	Count	kWh Savings	therm Savings	Count	kWh Savings	therm Savings
Electric Rate Savings	—	—	—	11	7,257	—	10	2,743	—
Energy Design Assistance	—	—	—	—	—	—	7	1,200,765	52,160
Energy Efficient Buildings	2	45,344	10,387	2	218,926	11,329	—	—	—
Heating Efficiency	19	—	327,519	16	—	279,707	6	—	126,072
Lighting Efficiency	6	6,084	—	10	233,309	—	4	57,598	—
Motor Efficiency	8	119,515	—	12	282,235	—	10	95,335	—
Small Business Lighting	1	33,284	—	11	187,228	—	9	69,865	—
Total	36	204,227	337,906	62	928,955	291,036	46	1,426,306	178,232
Total Combined Energy Savings (MMBtu)	34,487			32,273			22,690		

Appendix 5: Methodology for measuring success

As part of implementation support, Partners in Energy will provide biannual progress reports that include metrics of success and overall progress toward goals. The following section defines how progress toward goals will be measured.

For purposes of this plan, the baseline year is fiscal year 2019, which is July 1, 2018–June 30, 2019. All goals will be measured based on fiscal year using the B3 Benchmarking platform.

Greenhouse gas reduction

- Measured in CO₂e lbs/sqft.
- Annual greenhouse gases (in pounds of CO₂e) will be weather normalized in B3 and divided by floor area.
- Percent change in CO₂e lbs/sqft will be determined by comparing FY2030 CO₂e lbs/sqft to the baseline year.

Energy use intensity reduction

- Measured in kBtu/sqft.
- Annual Electricity use (in kWh) and Natural Gas use (in Therms) will be converted to kBtus and summed.
- Energy use in kBtus will be weather normalized in B3 and divided by floor area.
- Percent change in kBtu/sqft will be determined by comparing FY2030 to the baseline year.

Greenhouse gas emissions savings

- Measured in Mt CO₂e.
- Greenhouse gas emissions saved each year is determined by taking the annual weather-normalized greenhouse gas emissions each fiscal year and comparing it to the baseline year.
- Annual greenhouse gas emission savings will be added up and converted to megatons to determine the total avoided greenhouse gas emissions over time.

Electricity savings

- Measured in kWh.
- Electricity saved each year is determined by taking the annual weather-normalized electricity use each fiscal year and comparing it to the baseline year.
- Annual electricity savings will be added up to determine the total avoided electricity use over time.

Natural gas savings

- Measured in Therms.
- Natural gas saved each year is determined by taking the annual weather-normalized natural gas use each fiscal year and comparing it to the baseline year.
- Annual natural gas savings will be added up to determine the total avoided natural gas use over time.



Estimated projections for 2030 goals

10-year Goal	% GHG (lbs CO ₂ e/sqft) Reduction	% EUI (kBtu/sqft) Reduction	Saved GHG (Mt CO ₂ e)	Saved Electricity Use (kWh)	Saved Natural Gas Use (Therms)
2030 Goal	45%	9%	16,300	27,298,400	2,170,900
2030 Stretch Goal	50%	17%	31,400	52,492,200	4,174,500

Projected program participation

Xcel Energy will provide bi-annual reporting for program and rebate participation. Below is the estimated program participation based on business as usual (continuing 2016-2018 average participation) and Energy Action Plan impact.

- Measured in participation counts, kWh, Therms, MMBtu, and MTCO₂e.
- Savings based on deemed savings as reported by Xcel Energy through Partners in Energy reporting.
- Progress towards achieving these targets will be measured by adding total participation and total electricity and natural gas saved. Electricity and natural gas savings will be converted to MTCO₂e to measure the total impact of avoided greenhouse gas emissions.

	Business as usual by 2030	Energy Action Plan Impact by 2030	Percent Change
Program Participation	451	613	36%
Avoided Energy Use (MMBtu)	326,909	422,486	29%
Avoided GHGs (Mt CO₂e)	18,920	23,886	26%

Appendix 6: Glossary of terms

15 x 15: Xcel Energy's privacy rule, which require all data summary statistics to contain at least 15 premises, with no single premise responsible for more than 15% of the total. Following these rules, if a premise is responsible for more than 15% of the total for that data set, it is removed from the summary.

Conditioned Floor Area (CFA): The total floor area of enclosed conditioned space on all floors of a building

Conservation Improvement Programs (CIP): Portfolio of approved utility energy efficiency and demand management programs. Minnesota electric utilities have a goal of saving 1.5% of their total energy sales each year via customer conservation efforts. Minnesota natural gas utilities have a goal of saving 0.5% of their total energy sales each year via customer conservation efforts.

Energy Use Intensity (EUI): A measurement of a building's annual energy consumption relative to its gross square footage. It's calculated dividing the total energy consumed by the building in one year by the total gross floor area of the building. EUI is a key metric when benchmarking buildings.

Greenhouse Gases (GHG): Gases in the atmosphere that absorb and emit radiation and significantly contribute to climate change. The primary greenhouse gases in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

Grid Decarbonization: The current planned reduction in the carbon intensity of electricity provided by electric utilities through the addition of low- or no-carbon energy sources to the electricity grid.

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

Million British Thermal Units (MMBtu): A unit of energy consumption that allows both electricity and natural gas consumption to be combined.

Metric Tons of Carbon Dioxide Equivalent (MTCO_{2e}): A unit of measure for greenhouse gas emissions. The unit "CO_{2e}" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas.

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.

Therm (thm): A unit of natural gas consumption.

Trades: Trades refers to in-house trade shops who are responsible for servicing and installing equipment and maintaining our buildings and grounds. Trades staff at Saint Paul Public Schools are responsible for plumbing, pipefitting, painting/glazing, sheet metal, carpentry, labor & grounds, masonry, roofing, and electrical and automation.

