

Saint Paul Public Schools Energy Action Plan Update



JULY 2023



Introduction

Looking ahead for the next two years

Minnesota's climate is rapidly changing. Activities such as land use and the burning of fossil fuels raise greenhouse gasses (GHG), which warm and destabilize our climate and increase the frequency of extreme weather events. Over the past 130 years Minnesota has warmed by nearly three degrees, averaging more than three inches of additional annual rainfall.¹ Each of the top 10 combined warmest and wettest years on record occurred between 1998 and 2020.² A broad base of energy and climate awareness, advocacy, and support is essential to build resilience and effect change. This can be achieved with District-wide actions through facilities and operations departments, school-level education and behavior changes, and community advocacy and engagement.

The School Board's recent decision to divest from fossil fuels explicitly notes that actions must prioritize justice and equity and recognize the disproportionate impacts from pollution and waste disposal, food and water shortages, and systemic financial risks on vulnerable populations such as children, indigenous groups, people of color, and the financially insecure.

¹ https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html

² Ibid.

Plan Goals

by 2030.

The SPPS Energy Action Plan overall goals are to:

1

Reduce greenhouse gas emissions by 45% District-wide by 2030, with a stretch goal to reduce emissions 50% by 2030.

2

Engage all buildings to reduce their carbon footprint through energy efficient improvements and behavior changes by 2030.

3

Help the Saint Paul Public Schools community recognize the real and actionable impacts of climate change.

Saint Paul Public Schools (SPPS) is one of the largest school districts in Minnesota, serving more than 33,000 pre-K to grade 12 students. The District consists of 73 buildings with a total 7.7 million square feet of building space. In 2020, SPPS adopted an Energy Action Plan developed through Xcel Energy's Partners in Energy program. The plan identifies goals and strategies for energy conservation, efficiency, and education that focus on facilities, operations, and community. The plan is a framework to implement initiatives and projects to reduce the District's climate impact. Electricity and natural gas utility costs in fiscal year 2022 (FY 2022) totaled \$11.19 million. Even modest savings in this area can meaningfully impact the SPPS total school support services budget.

This document serves as an update to the original Energy Action Plan with new and refined strategies for pursuing our GHG reduction goals.



Drilling of geothermal wells at Johnson Senior High School in the baseball outfield.

Energy Action Plan Impact


2020-2022 Plan Implementation

SPPS implemented strategies from the original Energy Action Plan from 2020–2022 with support from the Partners in Energy program. During the COVID-19 pandemic, SPPS adapted strategies to engage students and the broader community during distance and hybrid learning.

Renewable Energy and Electric Vehicle (EV) Opportunities

To better understand opportunities for renewable energy, Facilities staff completed a solar feasibility study for SPPS roofs, identifying six buildings that meet criteria for roof-mounted solar installations. The Energy Action Team interviewed other area school districts on their solar programs and models, and the District also released a solar request for proposals (RFP) for solar array installations on three SPPS buildings. With the passing of the inflation reduction act (IRA) and the many tax credits now available to school districts, the RFP will be re-released upon issuance of federal guidance.

A geothermal heating and cooling system was [installed at Johnson Sr. High School](#), which will greatly reduce energy use by extracting heat from the ground in the winter and rejecting heat to the ground in the summer. Facilities staff toured the Darcy Geothermal System at the Saint Paul Pipefitters Union Hall. It is the first installation in the nation with this new technology that utilizes the underground aquifer to provide extremely energy efficient heating and cooling. The District is implementing the Darcy Geothermal System as another geothermal option for several upcoming construction projects.



With funding from the Bipartisan Infrastructure Law, the Environmental Protection Agency's (EPA's) new [Clean School Bus Program](#) will provide \$5 billion over the next five years (FY 2022–2026) to replace existing school buses with zero-emission and low-emission models.³ SPPS Transportation and Facilities departments collaborated with one of the District's bus contractors to apply for 25 EV school buses in the first round of funding. The District was not selected, but will stay engaged as more funding becomes available to pilot an EV bus program at SPPS.

Facilities staff also met with Xcel Energy's Fleet Electricity Advisory Program about opportunities for fleet electrification and charging for District vehicles.

Energy Efficiency Projects

SPPS completed energy audits at Groveland Park Elementary, Harding Senior High School, the Administration Building, Bridge View School, and Focus Beyond. These audits provided a comprehensive picture of energy use and opportunities in those facilities to provide staff with a better understanding of next steps for energy efficiency upgrades. Lighting retrofits, chilled water pump upgrades, and fan replacements were completed

with guidance from the building energy audits. The District reports energy consumption in the B3 Benchmarking platform to continue analyzing energy consumption and the impact of efficiency upgrades.

Collaboration and Education

SPPS Facilities staff collaborated to improve energy efficiency understanding and opportunities. Meetings with the Capital Project Delivery and Planning teams addressed creating new construction standards. Meetings with building and custodial supervisors resulted in a new reporting tool to share energy data with building engineers and tip sheets on low-hanging fruit building changes.

Community Connections and Participation

The Home Energy Action Talent (H.E.A.T.) Contest engaged students across the District by asking them to submit a short video on energy savings tips at home. Facilities staff identified environmental clubs at high schools and connected with advisors to understand their set-up and how they might want to be involved in implementing strategies from the Energy Action Plan. Using internal and external community channels, Earth Day materials helped teachers, students, and parents act more sustainably at home and in the classroom.

Sharing our Success

A case study highlights how the District implements efficiency into new construction and major renovations, and is serving as a template for future case studies. In addition, an [energy action plan webpage](#) shares success stories and highlights past and current energy action and sustainability activities.

Energy Action Plan Purpose Statement

As a learning institution, Saint Paul Public Schools has the opportunity to raise awareness of sustainable energy practices with positive impacts that extend 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, efficiency, and renewables must actively and equitably engage our students, teachers, administrators, and the Saint Paul Public Schools community.

This Energy Action Plan Update is a continuation of our strategy to achieve 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.

³ <https://www.epa.gov/cleanschoolbus>

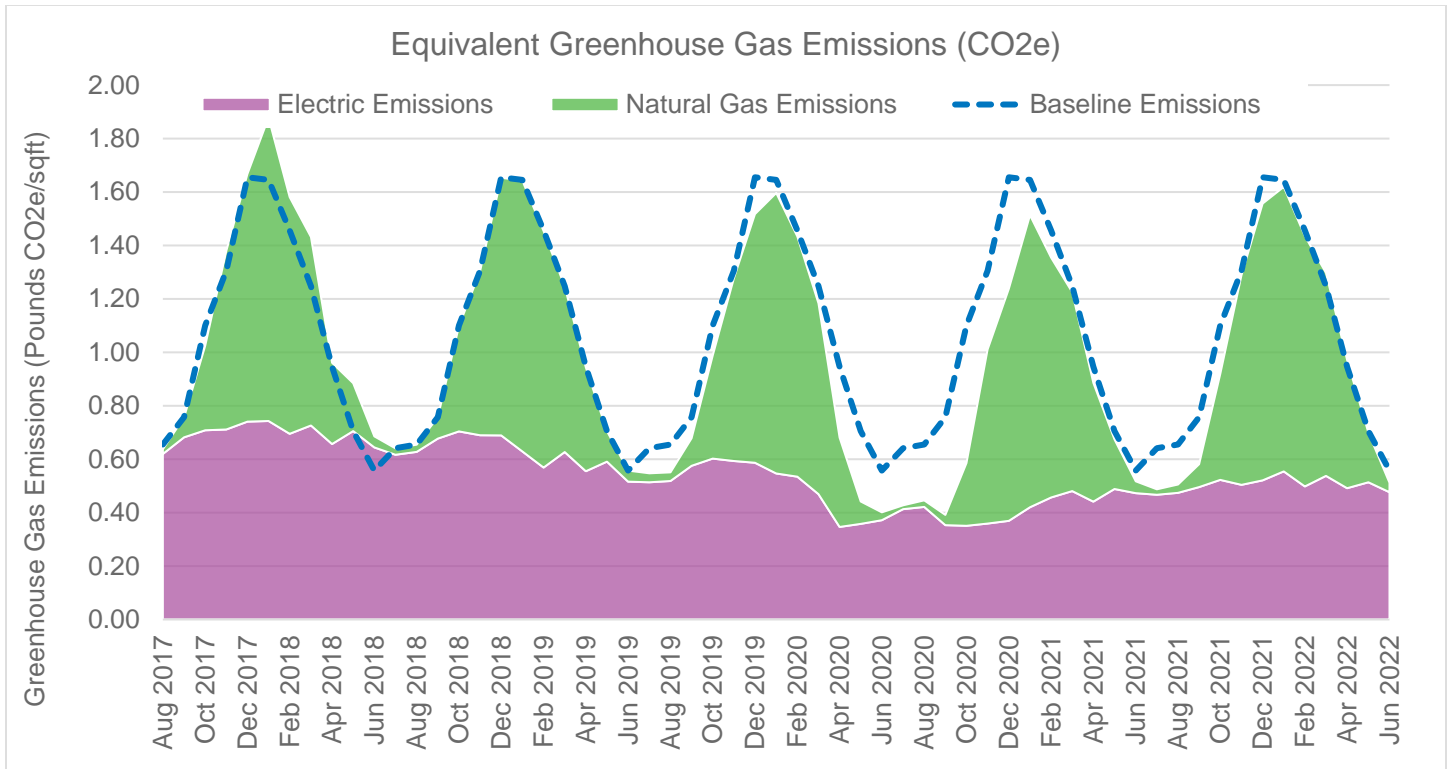


Figure 1: Saint Paul Public Schools B3 Benchmarking Data

Progress Towards Our Goals

2020-2022

As part of this Energy Action Plan update, the Saint Paul Public Schools core team and Partners in Energy facilitators measured progress toward the District’s goal to reduce its greenhouse gas emissions (GHG) by 45% from the fiscal year 2019 baseline. Using data from the B3 Benchmarking platform, the team quantified the GHG emission reduction impacts from improved efficiency and increased energy stewardship at the District during the first two years of implementing the Energy Action Plan.

The figure above shows progress toward our GHG emissions goal. The first phase of the plan, emissions from spring 2020 to winter 2021 were greatly reduced. This was largely due to many schools being closed or only partially occupied during hybrid learning due to the Covid-19 pandemic. Emissions in 2022 returned to nearly baseline year levels after students returned to full time learning, this is due to increased ventilation in response to the pandemic. Once ventilation rates are returned to normal school year operations, emissions are expected to decrease.

Energy Action Plan Update

In 2022, a core team of SPPS staff identified the need to broaden engagement, build strong partnerships, and include additional strategies (such as EV/transportation) for the next phase of the Energy Action Plan. This team began working to refine and update strategies from the Energy Action Plan, incorporating lessons learned during the first phase of implementation and identifying additional stakeholders to collaborate on the updated Energy Action Plan. The core team of staff recruited a new, broader group of District and community representatives to join the Energy Action Team to review implementation progress, refine strategies, and design a communications plan. The result is this Energy Action Plan Update.



Acknowledgements

The process to update the plan began by convening an Energy Action Team consisting of SPPS Operations staff, educators, parents, and administrators, as well as Xcel Energy staff and community facilitators. The content of this plan is derived from a series of planning workshops and meetings hosted by Xcel Energy's Partners in Energy program.



Thank you to the following individuals who participated in these workshops. An asterisk (*) in the following table identifies those who serve as core team members for the implementation and planning phases.

Energy Action Team	
Angela Vreeland*	Indoor Air Quality Coordinator, Saint Paul Public Schools
Ben Harri	Transportation Director, Saint Paul Public Schools
Carl Samuelson	Parent of SPPS student and Product Manager, Michael's Energy
Chelsea Moody*	Environmental Specialist 2, Saint Paul Public Schools
Erica Wacker	Communications Director, Saint Paul Public Schools
Jaime Dery	K-8 District Science Specialist, Saint Paul Public Schools
Jens Kvaal*	Environmental Specialist 1, Saint Paul Public Schools
Jocelyn Sims	Principal, E-STEM Middle School
John Elling	Environmental Services Manager, Saint Paul Public Schools
Kristen Poppleton	Parent of SPPS student and Sr. Director of Programs, ClimateGen
Michael Arquin	Parent of SPPS student and Founder & Director, KidWind
Pam Bookhout	Project Manager, Saint Paul Public Schools
Rich Bohland	Custodial Supervisor, Saint Paul Public Schools
Rich Hiltunen	Maintenance Supervisor, Saint Paul Public Schools
Robyn Asher	Teacher, Saint Paul Public Schools
Tom Lucy	Social Worker/Behavior Coach, SFPE Climate Group
Partners in Energy Team	
Albert Joe	Account Manager, Xcel Energy
Ashley Haug	Marketing Coordinator, Xcel Energy
Deirdre Coleman	Partners in Energy Community Facilitator, Center for Energy and Environment
Marisa Bayer	Partners in Energy Community Facilitator, Center for Energy and Environment
Paolo Speirn	Partners in Energy Community Facilitator, Center for Energy and Environment
Tami Gunderzik	Partners in Energy Program Manager, Xcel Energy



Planning Workshops

The Energy Action Plan update process consisted of workshops with pre and post surveying to gather input and feedback from the Energy Action Team.

Workshop 1: Anchoring and Orientation

The core team of SPPS staff brought the newly convened Energy Action Team up to speed on the Energy Action Plan and Partners in Energy process, reviewing the plan’s strategies and goals, and reporting on phase one implementation progress. The Energy Action Team provided feedback on existing strategies and identified barriers and opportunities to leverage benefits for each strategy, resulting in actionable steps for the core team to begin refreshing strategies.

Virtual Operations Action Planning

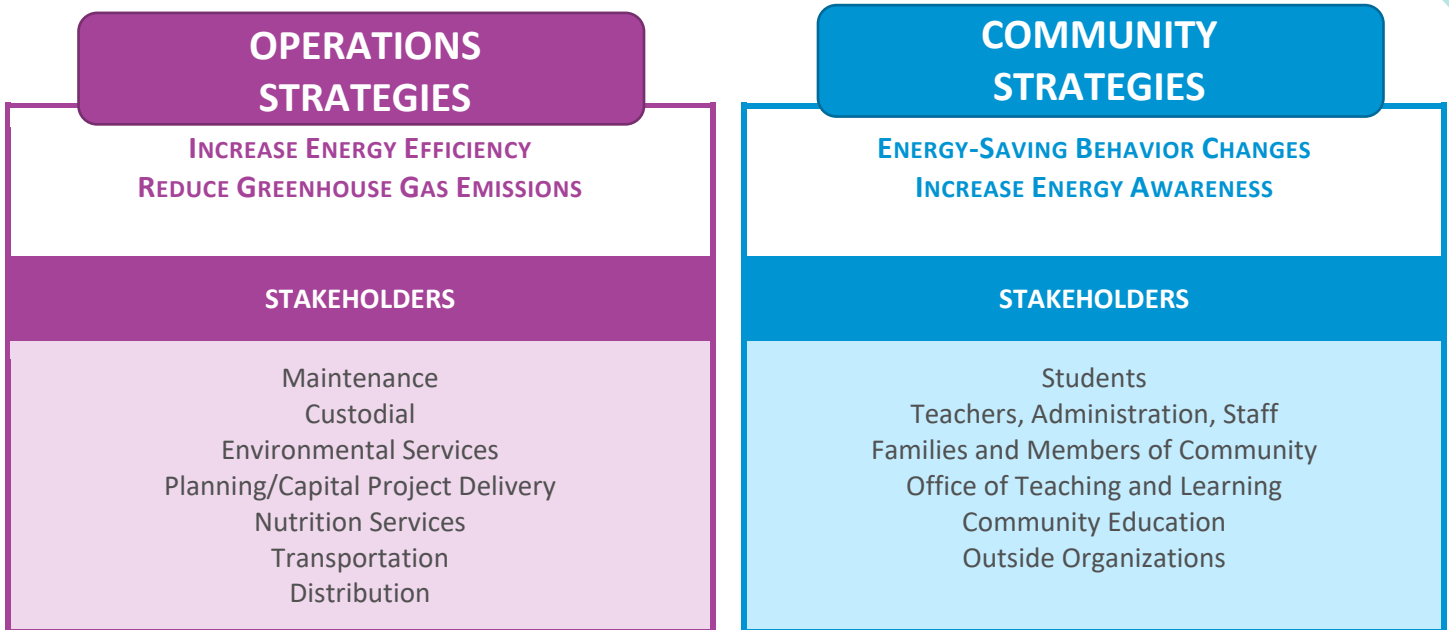
In this virtual workshop, Operations staff reviewed the operations strategies and identified leaders, supporters, resources, and next steps needed to make each strategy successful. This workshop resulted in detailed work plans and goals for each strategy, which constitute the final section of this document.

Workshop 2: Community Action Planning

The Energy Action Team refined strategies that incorporated input and feedback from previous workshops and reviewed the community-facing strategies. The team participated in facilitated activities around the community strategies, identifying potential champions and goals for each.

2023–2025 Updated Strategies

The following strategies include those from the original Energy Action Plan with additional strategies created during the 2022 planning update. New strategies were added to account for new developments, such as federal grant opportunities and increased availability of technology like EVs, and to create a more holistic approach to engage the SPPS community. The strategies focus on two areas, SPPS Operations and SPPS Community.



For this document’s purposes, the team re-ordered and re-labeled strategies from the original plan.





FACILITIES & OPERATIONS STRATEGIES

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.

Strategy A

IMPLEMENT ENERGY EFFICIENCY PROJECTS AND PRACTICES

A1	A2	A3
Schedule energy audits in buildings to identify energy saving opportunities to implement.	Research and develop energy efficiency design standards for new construction, and major renovations.	Create process to replace aging equipment with more efficient equipment

Strategy B

TRAIN AND EDUCATE OPERATIONS STAFF ON BUILDING ENERGY MANAGEMENT BEST PRACTICES

B1
Train custodial engineers on building automation system scheduling, and share energy management best practices.

Strategy C

COORDINATE WITH THE BOARD OF EDUCATION AND SENIOR LEADERSHIP ON SUSTAINABILITY AND ENERGY INITIATIVES

C1	C2
Form Sustainability Advisory Taskforce to advise Board and senior leadership about sustainability and energy.	Work with Business Office to create process to direct energy rebate dollars to the District Revolving Energy Efficiency Fund (REEF).

Strategy D

INCREASE RENEWABLE ENERGY OPTIONS FOR SPPS FACILITIES

D1
Update design process to include systematic evaluation of renewable energy systems for new construction projects, including geothermal and photovoltaic systems.

Strategy E

ELECTRIFY EQUIPMENT AND VEHICLES

E1	E2	E3	E4
Participate in EV Fleet study to ID vehicle electrification opportunities	Identify school bus electrification feasibility and grant opportunities	Explore public charging station opportunities on District-owned sites.	Identify and convert gas powered landscaping equipment to battery powered.



COMMUNITY STRATEGIES

Members of the community who use SPPS buildings, including students, teachers, staff and administration, groups who rent space, families, and community education groups. Schools across Saint Paul serve as hubs for their communities.-

The 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 during evenings and weekends for a variety of activities.

Strategy F

SUPPORT STUDENT-LED CLIMATE AND ENERGY ACTION

F1	F2	F3
Work with existing environmental clubs to develop guidelines and best practices to help other schools create clubs.	Build a coalition to create an energy games-based, extra-curricular youth empowerment program to educate and challenge students to take action in school and at home.	Implement an anti-idling education campaign targeting District and non-District vehicles

Strategy G

BUILD PARTNERSHIPS BETWEEN SPPS DEPARTMENTS TO INTEGRATE ENERGY AND CLIMATE EDUCATION INTO EXISTING PROCESSES AND PROMOTE ENERGY AWARENESS.

G1	G2	G3
Collaborate with Office of Teaching and Learning (OTL) to connect energy action into existing classroom activities.	Collaborate with before/after school education programs to incorporate energy action into learning opportunities.	Build partnership with Career Technical Education (CTE) and Operations staff to connect students with energy career pathways and job opportunities.

Strategy H

COMMUNICATE ENERGY EFFICIENCY AND CLIMATE ACTION BENEFITS AND SUCCESS STORIES

H1	H2
Share stories and impact about what the District is doing for energy efficiency and renewable energy, including sharing success stories from first phase of Energy Action Plan implementation	Promote public-facing dashboard(s) to inform students, teachers, and staff about their buildings’ energy use and renewable energy project impacts.



How We Stay on Course

Continuing Momentum

By engaging staff, departments, and community members, with ongoing project management from Partners in Energy, the District aims to continue energy efficiency improvements and our progress toward our GHG reduction goals. The energy action plan is a living document that will be updated and refined based on data and feedback from our community.

Role of Saint Paul Public Schools Staff

Saint Paul Public Schools is committed to collaborate among departments to reduce our environmental impact. By connecting with relevant departments and staff, the SPPS core team will take advantage of energy efficiency opportunities throughout the system. The SPPS core team (refer to Energy Action Team table) will participate in project management meetings with Partners in Energy community facilitators and Xcel Energy staff and support additional strategy coordination with strategy leads.

Role of Saint Paul Public Schools Community

Through the strategies and work plan outlined in this Energy Action Plan, all students, teachers, administrators, and the Saint Paul Public Schools community will have the opportunity to give feedback and participate in energy efficiency measures. We hope this active engagement will cultivate sustainability behaviors and value students as environmental leaders of our community. Community members who participated in the Energy Action Team will serve as important community connectors to leverage their network and channels to spread the vision of this plan.

Role of Xcel Energy's Partners in Energy

Partners in Energy will facilitate regular project management check-in calls, ensuring the team stays on course with the 2023–2025 work plan. Additional support includes creating communications material like flyers and newsletters, coordinating with team members and utility staff on outreach campaigns, and connecting the District to appropriate utility resources to achieve its goals. Support from Partners in Energy will be documented in a Memorandum of Understanding between Xcel Energy and Saint Paul Public Schools.

2023–2025 Work Plan

Glossary of Acronyms in this Work Plan

CPD Capital Project Delivery: This team, which is part of the SPPS Facilities Department, manages construction projects.

CTE Careers & Technical Education: These teachers bring industry and career experiences to the classroom to prepare students for post-secondary career goals.

EDL Extended Day Learning: After-School Elementary Extended Day Learning offers students activities to build academic and social emotional skills by licensed teachers and community partners.

ESG Environmental Services Group: This team within SPPS Facilities oversees implementation of health and safety standards, regulations, and laws; manages waste through recycling and the safe disposal of hazardous materials; and implements energy saving and sustainability initiatives.

FMP Facilities Master Plan: The Facilities Master Plan provides SPPS with a ten-year vision on how best to equitably modernize its portfolio of 73 schools and buildings to meet the evolving needs of teaching and learning in the 21st century.

LCCMR Legislative-Citizen Commission on Minnesota Resources: The LCCMR makes funding recommendations to the legislature for special environment and natural resource projects, primarily from the Environment and Natural Resources Trust Fund (ENRTF).

LTFM Long-Term Facilities Maintenance: A ten-year capital plan (including health and safety projects) approved annually by the Board of Education and submitted to the Commissioner of the Minnesota Department of Education. (*Minnesota Statute 123B.595*)

OTL Office of Teaching and Learning: OTL is responsible for transforming instructional practices to meet each student’s needs, providing research and evidence-based curriculum, resources, and professional development for our staff, schools, and programs that are aligned with state and national standards.

PTA Parent Teacher Association(s): A parent-teacher association/organization is a formal organization composed of parents, teachers, and staff that is intended to facilitate parental participation in a school.

REA Research, Evaluation, and Assessment, office within SPPS: REA manages all requests to conduct research within SPPS and completes research, evaluation, and assessments with District data, while protecting and contributing to the district’s primary responsibility of providing a premier education for all.

SELT Senior Executive Leadership Team: The Senior Executive Leadership Team is comprised of district leaders who advise the superintendent.

SPFE Saint Paul Federation of Educators: The Saint Paul Federation of Educators is made up of over 3,700 school and community service professionals, educational assistants, teachers, and other licensed staff who work at Saint Paul Public Schools.

SPPS Core Team: Angela Vreeland, Chelsea Moody, and Jens Kvaal, Facilities- Environmental Services staff at SPPS

Operations Strategies

Strategy A: Implement Energy Efficiency Projects and Practices

Tactic A1:	Schedule energy audits in buildings to identify energy saving opportunities to implement.
Description	SPPS will schedule energy audits as funding is available to identify improvement upgrades for buildings.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Identify buildings best suited for energy audits. Schedule audits with support from Xcel Energy account manager, if applicable. Use Revolving Energy Efficiency Funding (see Tactic C2) to implement recommended energy saving measures. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> Custodial engineers at individual sites will be present for audits. Maintenance trades and planning will review feasibility of audit results and make plans for implementation. <p>Support Staff/Partners – Custodial, ESG, Trades, Xcel Energy, Partners in Energy</p>

Goal(s)	<ul style="list-style-type: none"> Complete 3 audits per year.
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Tactic A2: Research and develop energy efficiency design standards for new construction and major renovations.	
Description	New buildings and major renovations present an opportunity to holistically address energy savings throughout the entire facility and build them into existing projects.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Convene CPD and Planning Teams to discuss energy design standards for new projects. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> Research other school districts’ energy standards. Planning department will revisit existing research and guide the research and development process. Planning and CPD teams will create the energy efficiency design standards. <p>Support Staff/Partners – ESG, Custodial, Trades, Facilities and Operations Leads, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> Meet with project managers and gather best practices and standards being referenced by end of 2023. Develop energy standards by end of 2024.

Tactic A3: Create process to replace aging equipment with more efficient equipment.	
Description	Aging equipment that is due for replacement provides an opportunity to upgrade to more efficient equipment. This tactic is for creating a process for departments to collaboratively evaluate the feasibility of new, more efficient equipment and leverage Xcel Energy incentives.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Coordinate meeting between Maintenance staff (Trades), Nutrition Services staff, and Xcel Energy to provide updated Xcel Rebate information. Create a guideline document of common rebate opportunities for each trade and rebate forms to simplify the application process. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> Trades factor in applicable rebates and energy efficiency when replacing equipment. Nutrition Services factor in applicable rebates and energy efficiency when replacing equipment. <p>Support Staff/Partners – ESG, Planning, CPD, Supervisors, Nutrition Services, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> Conduct training for Trades on types of rebates available and process to collect data and apply Each Trade will submit at least 5 rebate applications each year (Electrical, Plumbing, Sheet Metal, Pipefitting).

Strategy B: Train and educate Operations staff on building energy management best practices.

Tactic B1: Train Custodial engineers on building automation system scheduling and share energy management best practices.	
Description	On-site custodial engineers can greatly impact 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>SPPS Core Team</p> <ul style="list-style-type: none"> Create and distribute energy tips to Custodial Engineers in the spring and fall.

	<ul style="list-style-type: none"> ● Share energy dashboard (referenced in Tactic H2) with Custodial Engineers. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> ● Automation shop hosts routine BAS training for Custodial Engineers. <p>Support Staff/Partners – ESG, Custodial Supervisors, Building Engineers, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Develop energy efficiency training for staff, both specific hands-on training and adding energy efficiency material to existing trainings by end of year 2023. ● Train all head engineers by end of 2024. ● Share energy efficiency training and data with head engineers in spring and fall each year.

Strategy C: Coordinate with Board of Education and senior leadership sustainability and energy management initiatives.

Tactic C1:	Form Sustainability Advisory Taskforce to advise Board and senior leadership about sustainability and energy management.
Description	This energy action plan is a framework for increasing energy conservation, efficiency, and renewables but sustainability is multi-faceted and goes beyond energy. Sustainability requires comprehensive, long-term planning, and it needs structure, processes, and ongoing, active participation from stakeholders. This group could expand the positive work of the EAP to other areas of sustainability to align resources, balancing the interconnectedness of social, environmental, and economic factors necessary to meet current needs and sustain our environment for future generations.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Staff and community members with relevant expertise will be needed for contributions and guidance and will be recruited as necessary. ● Convene group to understand where SPPS is at now, objectives, focus areas, and goals. <p>SPPS Staff</p> <ul style="list-style-type: none"> ● Support from Facilities leadership, Board of Education, representatives from key stakeholder groups. <p>Support Staff/Partners – SPPS Executive Director of Operations and Administration, Assistant Facilities Directors, SELT, key representatives from stakeholder groups, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Form working group/taskforce by Fall 2024.

Tactic C2:	Work with Business Office to create process to direct energy rebate dollars to the District 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>SPPS Core Team</p> <ul style="list-style-type: none"> ● Convene Facility Controls team and Business Office to discuss process to direct rebate dollars to the REEF. ● Highlight previous rebates and Strategy A (Implement energy efficiency projects and practices) with REEF as gateway to larger impact. <p>SPPS Staff</p> <ul style="list-style-type: none"> ● Create a group/committee to decide how to prioritize spending. <p>Support Staff/Partners – SPPS Executive Director of Operations and Administration, ESG, Xcel Energy, Partners in Energy</p>

Goal(s)	<ul style="list-style-type: none"> Budget code assigned to program and process created for allocation by summer 2024.
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Strategy D: Increase renewable energy options for SPPS Facilities.

Tactic D1:	Update design process to include systematic evaluation of renewable energy systems for new construction projects, including geothermal and photovoltaic systems.
Description	The design and construction of new buildings and major renovations present an opportunity to integrate renewable energy into our facilities infrastructure. To understand this opportunity, SPPS has completed a solar feasibility study looking at five criteria a building must meet for rooftop solar to be feasible: roof age, orientation to sun, square footage, roof interference, and structural integrity. This tactic is for integrating renewable projects into the Facilities Master Plan (FMP) .
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Keep abreast of emerging renewable energy technologies and available funding opportunities. Convene CPD, Planning teams for opportunities to integrate into the FMP. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> Support from Trades experienced in handling renewable installation and maintenance. <p>Support Staff/Partners – ESG, Facilities Leadership, Xcel Energy, Partners in Energy.</p>
Goal(s)	<ul style="list-style-type: none"> Research renewable plans and goals in place at other organizations by end of 2023. Create a process and guidance document for the Planning team to follow for integrating renewable energy in planned construction projects by end of 2024.

Strategy E: Electrify equipment and vehicles.

Tactic E1:	Participate in EV fleet study to identify vehicle electrification opportunities.
Description	SPPS owns or leases over 100 fleet vehicles. Electrifying our fleet would reduce our carbon emissions and improve environmental air quality in St. Paul.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Monitor funding/grant opportunities including Xcel Energy EV programs that offer fleet advisory and charging infrastructure. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> Transportation Director, Distribution Manager, Nutrition Services, and ESG will work with Xcel Energy to start participation in fleet study. <p>Support Staff/Partners – Planning & CPD, Trades, Operations Leadership, SELT, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> Participate in EV fleet study to identify electrification opportunities by summer 2024.

Tactic E2:	Identify school bus electrification feasibility and grant opportunities.
Description	The Bipartisan Infrastructure Law, EPA’s new Clean School Bus Program will provide \$5 billion over the next five years (FY 2022–2026) to replace existing school buses with zero-emission and low-emission models. SPPS owns, leases, and contracts 290 bus routes in the District daily. This federal funding allows for the electrification of District-owned buses or to partner with our contractors to replace buses used exclusively for SPPS. This is an exciting opportunity for funding to pilot an EV bus program.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Monitor funding/grants from EPA and Minnesota Pollution Control Agency (MPCA) and notify Transportation Director of new opportunities.

	<p>SPPS Operations Staff</p> <ul style="list-style-type: none"> ● Transportation Director and ESG work to apply for available grants/funding. <p>Support Staff/Partners – SELT, Trades, Planning, CPD, Operations Leadership, Bus Contractors, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Apply for grants/funding to electrify 2 district-owned buses by 2025.

Tactic E3: Explore public charging station opportunities on District-owned sites.	
Description	Saint Paul Public Schools owns over 500 acres of land at 70+ locations throughout St Paul, often located in residential areas and near main traffic corridors. Installing EV charging stations on District property would be an opportunity to expand access to affordable, efficient, and convenient transportation to St Paul residents.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Research existing charging station networks/users and purchasing/charging fee structures. ● Research ongoing maintenance requirements. ● Explore grant opportunity for electrifying. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> ● Planning Team and ESG will work with existing networks to determine potential EV charging station locations. <p>Support Staff/Partners – CPD, Trades (Electrical), Director of Transportation, Distribution Manager, Facilities Leadership, SELT, Financial Services, Xcel Energy, Partners in Energy, City of Saint Paul</p>
Goal(s)	<ul style="list-style-type: none"> ● Explore partnership, grants and funding opportunities to install public charging infrastructure. ● Apply for grants/funding as available.

Tactic E4: Identify and convert gas-powered landscaping equipment to battery-powered.	
Description	According to the U.S. Environmental Protection Agency, a gas-powered push lawn mower produces as much air pollution (volatile organic compounds and nitrogen oxides) in one hour of operation as 11 cars driven for the same length of time. These pollutants impact the health of those operating the equipment as well as nearby residents. Replacing gas powered landscaping equipment provides an opportunity to make proactive changes and embrace more sustainable operating practices.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Assist Maintenance staff with identifying opportunities. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> ● Establish a time frame for understanding turnover based on current inventory and changes in maintenance requirements. ● Research battery-powered equipment options. ● Develop training and standard operating procedure for new equipment. <p>Support Staff/Partners – Trades (Grounds), Maintenance Supervisor, Custodial Supervisors, Distribution Manager, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Assess opportunities to replace equipment by fall 2023. ● Research grants or other funding opportunities to replace equipment by fall 2023. ● Pilot to convert one piece of equipment to electric by fall 2024.

Community Strategies

Strategy F: Support student-led climate and energy action.

Tactic F1: Work with existing environmental clubs to develop guidelines and best practices to help other schools create 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. A new club will need a solid schedule of relevant activities to maintain interest levels, retain membership, and attract new members. This tactic is designed to fuel new environmental clubs as they establish themselves.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Continue to connect with existing environmental clubs. ● Look into incentives for students, such as volunteer hours. ● Research other school districts' clubs. ● Work with Partners in Energy to design materials. <p>Support Staff/Partners – SPFE, club advisors, school PTAs/PTOs, Communications</p>
Goal(s)	<ul style="list-style-type: none"> ● Produce a club creation template for schools without environmental organizations to emulate by end of year 2023.

Tactic F2: Build a coalition to create an energy game-based, extracurricular youth empowerment program to educate and challenge students to take action in school and at home.	
Description	<p>Students would play energy games as an extracurricular opportunity to learn about energy efficiency, empowering them to take action and challenging them to reduce energy use in the schools. Gameplay would then extend to the students' homes and neighborhoods and would target increasing household and family awareness of energy efficiency and availability of assistance to reduce the energy burden, energy use, and carbon footprint in the homes.</p> <p>This program was inspired by eFargo, an energy game-based program created in partnership between NDSU, City of Fargo, and their utilities to reduce energy use in Fargo. The UMN college of design is connected to the research team for eFargo — this tactic would build on that research to develop a program for Saint Paul.</p>
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Coordinate buy-in of idea with appropriate school leaders. ● Recruit schools, principals, teachers, and students to support and participate. ● Explore opportunities to coalition build with UMN Design Program and City of Saint Paul to create game similar to eFargo. <p>SPPS Staff</p> <ul style="list-style-type: none"> ● Arrange principal approval, teacher participation, and communication to staff and students in advance. ● Building engineer will participate by providing access to spaces. <p>Support Staff/Partners – University of Minnesota College of Design, SPFE, school PTAs/PTOs, Head Engineers, Custodial Staff, Student Groups, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Launch an energy challenge with support and guidance from the UMN Design Program by 2025.

Tactic F3: Implement an anti-idling education campaign targeting District and non-District vehicles	
Description	To reduce exposure to combustion by-products from diesel school buses, Saint Paul Public Schools works to limit the amount of bus idling and the proximity of buses to school air intakes, in compliance with MN Statute 123B.885. There is an opportunity to educate the SPPS community on the impact of idling for district vehicles and personal vehicles on SPPS property.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Create signage and education materials. ● Connect to communication channel. ● Partners in Energy will offer design support for materials and promotion. ● Explore partnering with Wellness. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> ● Identify possible exposure areas for vehicle exhaust. <p>Support Staff/Partners – Communications, School PTAs/PTOs, Head Engineers, Custodial staff, Student Groups, Xcel Energy, Partners in Energy.</p>
Goal(s)	<ul style="list-style-type: none"> ● Design an anti-idling education campaign by fall 2023. ● Begin implementing an anti-idling campaign by spring 2024.

Strategy G: Build Partnerships between SPPS departments to integrate energy and climate education into existing processes and promote energy awareness.

Tactic G1: Collaborate with the Office of Teaching and Learning (OTL) to provide experiential energy and climate activities for students and teachers.	
Description	The SPPS Office of Teaching and Learning (OTL) designs the curriculum for SPPS students. New MN K12 science standards are being implemented in the District that have a stronger focus on energy and climate. This creates opportunity to integrate additional experiential learning activities such as field trips, guest speakers, workshops and community partner sponsored learning activities.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Leverage connections with industry experts and non-profits to provide opportunities for climate and energy teaching resources, such as the TeachScience workshops hosted by ClimateGen. <p>SPPS Operations Staff</p> <ul style="list-style-type: none"> ● Act as a resource to OTL. <p>Support Staff/Partners – Communications, School PTAs/PTOs, Existing ClimateGen Lesson and Grant Funding (e.g., LCCMR grant), Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Host ClimateGen teacher workshop summer 2023. ● Pilot 1 experiential learning activity by summer 2024.

Tactic G2: Collaborate with before/after school education programs to incorporate energy action into learning opportunities.	
Description	SPPS has a variety of before and after school education programs available to students including Discovery Club, Extended Day Learning, and FlipSide. These programs are somewhat flexible and have potential to incorporate energy and climate learning activities and projects into their programming.
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Reach out to Alternative Education staff and determine interest in expanding the Empowered

	<p>Schools program to more schools.</p> <ul style="list-style-type: none"> Reach out to before and after school program coordinators to gauge interest in including energy education into their programming. <p>Support Staff/Partners – Community Education, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> Identify 2 schools that are interested in including additional energy and climate learning activities into their programs by Fall 2023. Meet with Flipside staff to discuss ways to incorporate energy education or energy-reducing activities in their program and develop recommendations for inclusion by the end of the 2023-2024 school year

Tactic G3: Build partnership with Career Technical Education (CTE) and Operations staff to connect students with energy career pathways and job opportunities.	
Description	<p>The intent of CTE is to provide students with skills through classes, guest speakers, field trips and internships, to build interest in and experience for in-demand, high paying jobs. CTE coordinates many external partnerships to support students in pathways programs and at the career academy. Students benefit from access to professionals doing interesting work that they may want to consider more seriously as career options. There is an untapped opportunity to partner with ourselves at SPPS. Connecting students to SPPS Facilities staff working in our buildings, students could get a glimpse into careers and roles that will be increasingly in demand as they move into adult life.</p>
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> Convene meeting with CTE and core team Convene meeting with Custodial and Maintenance Supervisors and CTE to understand opportunities. Discuss opportunities with Operations Leadership Collaborate with CTE to build a project-based internship program Explore opportunities to provide field trips and guest speakers for CTE classes. <p>SPPS Facilities Staff</p> <ul style="list-style-type: none"> Facilities provide support to career fairs, guest speak at classes, host field trips and other student career engagement opportunities <p>Support Staff/Partners - Communications, Operations Leadership, School Counselors, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> Collaborate with CTE in supporting an energy career pathway by fall 2025 Create a program and project plan to host student interns to support research and implementation of the EAP by fall 2023. Host student intern 2024.

Strategy H: Communicate energy efficiency and climate action benefits and success stories.

Tactic H1: Share stories and impact about what the District is doing for energy efficiency and renewable energy, including sharing success stories from first phase of Energy Action Plan implementation.	
Description	<p>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.</p>

Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● In coordination with Communications, create a schedule for when and how to share stories. ● Work with Partners in Energy to create templates to share with stories. ● Identify progress in EAP implementation to share and highlight with SPPS Community. ● Update EAP website to reflect current engagement opportunities on a regular basis. <p>Support Staff/Partners – SELT, Students & Environmental Clubs, SPFE climate action team, Xcel Energy, Partners in Energy</p>
Goal(s)	<ul style="list-style-type: none"> ● Post monthly updates about EAP progress to the SPPS community via social media and other District communication channels.

Tactic H2: Promote public-facing dashboard(s) to inform students, teachers, and staff about their buildings' energy use and renewable energy project impacts.	
Description	<p>SPPS tracks and benchmarks energy data providing an opportunity for schools to understand their buildings' energy consumption, impacts of energy projects and how it may compare to similar buildings. The current dashboard is complex, this tactic is to create a user-friendly dashboard. There is additional opportunity to explore creating dashboards for renewable energy projects.</p>
Implementation Team and Tasks	<p>SPPS Core Team</p> <ul style="list-style-type: none"> ● Work with REA to develop a public-facing dashboard that allows staff and students to view and download energy data for their school. ● Share dashboard with Custodial Engineers to empower them to track the energy use of their own building and make efforts to reduce it. <p>SPPS Staff</p> <ul style="list-style-type: none"> ● Consistent channels for promotion. ● Partners in Energy design support for materials and promotion. <p>Support Staff/Partners – Communications, Principals, teachers, REA, city of Saint Paul</p>
Goal(s)	<ul style="list-style-type: none"> ● Create a public-facing energy use dashboard by fall 2023 that is user-friendly and accessible.