SUSTAINABILITY IN K-12 SCHOOLS

STRATEGIES TO OPTIMIZE BUILDING PERFORMANCE FOR HUMAN HEALTH AND OUR ENVIRONMENT
Education for Sustainability aspires to educate students who have the ability, ambition, and knowhow to make decisions that balance the need to preserve healthy ecosystems with the need to maintain vibrant economies and equitable social systems in this generation and in all generations to come.

(National Action Plan for Education for Sustainability (2014))
MCPASD has a successful track record as a sustainability leader.

- Through conservation practices, energy cost avoidance of almost $4,000,000 since 2004
- U.S. Department of Energy Green Ribbon School Award - 4 schools (Park, West Middleton, Kromrey, and MHS) & District

- MCPASD is the only school district in the U.S. to receive more than one of these awards, and we’ve received 5 as of 2017!

https://www.youtube.com/watch?v=0Avvi8MOqM#action=share.
MIDDLETON-CROSS PLAINS AREA SCHOOL DISTRICT

2017-2018 BOARD GOALS

Enhance student achievement so that all students graduate prepared for career, college, or military or public service.

Enhance student engagement and well-being so that all students receive a quality and equitable education and graduate as responsible citizens of our community and the world.

Enhance engagement and well-being of educators and all district stakeholders to maximize the investment in our schools.

Ensure that the district has facilities and resources to meet expected district growth and change.

Ensure that board policies and district goals are aligned, and that the board maintains an effective policy governance model.

Board Approved 8/14/17
District Strategy Map 2016-19

**Inclusive**
Learning together benefits everyone
Embracing everyone and making a commitment to provide each student and staff member with the inalienable right to belong and succeed.

**Innovative**
High standards for all
Implementing bold, creative practices to create meaningful, active learning experiences that increase student success.

**Inspiring**
Holistic development that goes beyond the curriculum
Strengthening personal initiative to promote intentional and creative learning.

Sustainable & equitable practices are the foundation of an inclusive, innovative, and inspiring learning community.

**Goals**

**Plan for Growth**
Community and Staff Input
Facility Planning
Broad Community Support

**Improve Student Engagement & Wellbeing**
Relationship with All Students
Student Voice and Choice
Innovative Practices
Culturally & Linguistically Responsive Instruction
Growth Mindset in All Students
Physical & Mental Wellbeing

**Enhance Adult Engagement & Wellbeing**
Educator Voice in Professional Growth
Growth Mindset Among Staff
Adaptive Schools Practices
Physical & Mental Wellbeing
Meaningful Feedback from Families
MCPASD has been invited and agreed to join the GSNN’s Catalyst Network: a select group of school districts and schools across the country who will chart the course for advancing sustainable schools from niche to mainstream.

- 10 school districts and 10 schools were invited based on the 10 EPA regions
- The closest school is Prairie Crossing Charter School in Illinois.
Demonstrate how green, healthy, sustainable schools help:

- decrease operational costs
- improve the health & well-being of all who work, learn, and play in our schools
- close the achievement gap
- graduate students who are college, career, or military or public service
MCPASD is making the long-term commitment to implement the following core practices.

- Curriculum that Advances Environmental Literacy & Sustainability
- Stewardship & Service Learning
- Sustainable Facilities Design & Management
- Health & Well-Being
- Strong Partnership & Networks
Executive Leadership Summit

- Leith Sharp, Harvard University’s Director for Executive Education in Sustainability Leadership and Jennifer Seydel, Executive Director of the GSNN co-facilitated a summit for MCPASD.

- Administrators, Supervisors, Teachers, Students
- City Officials
- Chamber of Commerce
Focus on Energy Design Assistance Program

- **OVERVIEW:** Provides incentives for implementing energy-saving measures

- **COMPONENTS:** Provides energy modeling + analysis used to explore energy-saving strategies
  - First cost + return on investment estimates used for decision making
  - Verification of as-built + submittal information as building is completed
  - No additional soft costs added

- **BENEFITS:** Reduce energy costs + district receives incentive monies
Executive Leadership Summit Results:

- Update strategy map to include guiding principles based on sustainability and equity
- Include student voice on various committees and curriculum renewal teams
- Develop and implement a system that radically increases the healthy flow of purpose-driven ideas
  - ideas flow from students, staff, families, and community
RATING SYSTEMS

WHICH PROGRAM IS RIGHT FOR YOUR SCHOOL?

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<td>Green Globes</td>
<td>Living Building Challenge™</td>
<td>WELL Building Standard®</td>
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## HISTORY

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| Buildings Registered + Certified (as of August 2016) |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|
|                                | 20,400         | 152,000        | 1,090          | 21             | 200*           |
Energy Star Certification (ES)

**OVERVIEW:** Achieving better than median energy performance

**COMPONENTS:** Use EPA’s Portfolio Manager + Target Finder to set energy goals for the building

- Tools allow comparison between buildings similar to yours
- Verification of energy performance (utility bills) entered in Portfolio Manager
- Commissioning required
- Minimal additional soft costs added

**BENEFITS:** Reduce carbon footprint + lower operating costs
Leadership in Energy & Environmental Design (LEED)

• **OVERVIEW:** Conserving resources + improving quality of life

• **COMPONENTS:** BD+C, ID+C, Building O+M, ND, Homes
  - Levels: Certified, Silver, Gold, Platinum [Total Points = 110]
  - No site assessor visit
  - Recertification is required as part of O & M
  - Regional approaches to sustainability not addressed

• **BENEFITS:** Reduce carbon footprint + operating costs
6 CATEGORIES

- LOCATION + TRANSPORTATION
- SUSTAINABLE SITES
- WATER EFFICIENCY
- ENERGY + ATMOSPHERE
- MATERIALS + RESOURCES
- INDOOR ENVIRONMENTAL QUALITY
• **OVERVIEW:** Conserving resources + improving quality of life

• **COMPONENTS:** Building Design + Construction // Guiding Principles program
  
  • Levels: 1, 2, 3, or 4 Globes [Total points = 100]
  
  • Site assessor visit
  
  • Recertification not required
  
  • More practical, cost effective, customizable than LEED

• **BENEFITS:** Reduce carbon footprint + operating costs
7 CATEGORIES

- Project Management
- Site
- Energy
- Water
- Materials + Resources
- Emissions
- Indoor Environment
• **OVERVIEW:** Restorative / regenerative to the environment with “Net Positive”

• **COMPONENTS:** New construction, existing buildings, communities
  • 7 “Petals”: Place, Water, Energy, Health/Happiness, Materials, Equity, Beauty
  • Site visit by auditor / project reviewer
  • Recertification not required
  • 12 months of building operation prior to certification

• **BENEFITS:** Healthy earth + occupants
LIVING BUILDING CHALLENGE

PLACE
WATER
ENERGY
HEALTH + HAPPINESS
MATERIALS
EQUITY
BEAUTY
OVERVIEW: Focused entirely around building inhabitants

COMPONENTS: New buildings or interiors; existing buildings or interiors; core and shell + pilot programs for building typologies (multifamily, retail, restaurants)

- Levels: silver, gold, platinum
- 7 Categories: air, water, nourishment, light, fitness, comfort, mind
- On-site performance verification / testing by site assessor
- Recertification required after 3 years

BENEFITS: Healthy occupants
7 CATEGORIES

- AIR
- WATER
- NOURISHMENT
- LIGHT
- FITNESS
- COMFORT
- MIND
Optimize + achieve indoor air quality

Strategies include:

• Removal of airborne contaminants
• Prevention
• Purification
Optimize water quality while promoting accessibility

**Strategies include:**

- Removal of contaminants through filtration + treatment
- Strategic placement
Encourage healthy eating habits

Strategies include:

• Provide occupants:
  • Healthier food choices
  • Behavioral cues
  • Knowledge regarding nutrient quality
Minimize disruption to the body’s circadian rhythm

Strategies include:

• Improving energy, mood + productivity through:
  • Window performance
  • Lighting output + controls
  • Task-appropriate illumination levels
Encourage physical activity

Strategies include:

• Provide numerous opportunities for activity + exertion

• Enable occupants to accommodate fitness regimens within their daily schedule
Distraction-free indoor environment that is soothing + productive

Strategies include:

• Thermal + acoustic controllability

• Policy implementation covering acoustic + thermal parameters that are known sources of discomfort
Support mental + emotional health

Strategies include:

• Regular feedback + knowledge about occupants’ environment through:
  • Design elements
  • Relaxation spaces
  • State-of-the-art technology