



NJ Sustainable Schools
Project



GUIDEBOOK

A 3-year study on greening existing schools.



Foreword

The New Jersey Sustainable Schools Project pilot program has been instrumental in helping school leaders understand the monetary, environmental and educational values that green schools provide.

The 11 pilot districts and schools that participated in this program have demonstrated leadership by adopting new policies, environmental curriculum standards and efficient operations and maintenance practices. The measurable success of the districts participating in the program has been a springboard to the formation of the new statewide Sustainable Jersey for Schools program.

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Sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations.

— Paul Hawken

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- Allamuchy School District, Deb DeAngelis
- Cherry Hill School District, Kevin Frost
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- West Orange School District, Pete Ficuciello

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Executive Summary

New Jersey's 581 local boards of education and 87 charter school boards of trustees include more than 5,000 members. These boards govern the operation of all New Jersey public schools, which educate approximately 1.4 million students, ages 3 to 21.

As part of its mission, NJSBA provides a variety of tools and services to help board members effectively govern and make a positive impact on student achievement and efficient operations. Prior to 2011, it was difficult for school board members to learn about sustainability measures in schools. However, as a handful of schools began to pioneer sustainability initiatives, the advantages of doing so became evident. These schools were able to lower their operational costs, and redirect those savings to other educational priorities.

NJSBA recognized the potential opportunity and impact that sustainability initiatives could have, especially in the face of challenging economic times and increased state mandates. Given the many other issues school officials need to address, sustainability has not generally been a priority. Educational decision-makers needed to learn about the processes used by schools and districts that had successfully incorporated sustainability into their strategic plans. In 2011, as a critical first step, NJSBA began training for board members to increase their understanding of how to integrate sustainability throughout school operations into areas such as finance, buildings and grounds, curriculum, policy and other areas involved in the day-to-day and long-term functions of a school. That was a successful first step, but more data was needed to support and justify sustainability efforts.

When this project began, there was little accessible information on greening existing schools, particularly regarding the leadership decisions that facilitated change and how connections to the classroom, if any, impacted teaching and learning. The New Jersey Sustainable Schools Project was created to address a single, guiding question: “Is sustainability a factor in contributing to the success of New Jersey schools?” The intent of the project was to document the impact that sustainability has on schools, capture the process for implementing sustainable practices, and provide the results to district decision makers throughout New Jersey.

Implementing sustainability is not a one-size-fits-all process. Data from multiple types schools — urban, suburban and rural — was needed to accurately capture the variety of methods that were successful, as well as those that did not work. Numerous detailed success stories, as well as reports about challenges were key components of this project.

It is clear that sustainability does positively impact the success of New Jersey schools, in both the academic and the financial arena. Innovative sustainability measures resulted in cost savings, enabling funds to be used for other educational purposes. Sustainability measures also resulted in healthier learning environments.

A few highlights:

In Allamuchy, for example, a district school redirected cafeteria waste. The composted food waste is used in the school garden, presenting the district with a double bonus – the school doesn’t buy fertilizer for the garden and it pays less in “tipping fees” to get rid of its garbage. The district saved money, and also engaged students in experiential hands-on learning.

Swedesboro-Woolwich estimates it has saved \$17,000 by going “paperless” and making the district newsletter and various flyers available electronically.

Medford Township Public Schools (MTPS) is on track this year to surpass its goal of reducing energy costs by 5 percent through various conservation measures. For the 2010-2011 school year MTPS’s electric and natural gas spending was \$940,181. Last year, 2014-2015, MTPS’s energy spending was \$792,094. This represents a 16 percent reduction in gas, electric and natural gas costs. MTPS has saved roughly \$592,000 over the past six years. District spending on energy was lower in 2014-2015 than it had been a decade earlier. Since 1998 the district biodiesel use has reduced busing fleet operating expenses by roughly \$170,000.

Cherry Hill is undergoing a comprehensive energy upgrade in several facilities throughout the district, and expects to save money.

In some districts, the sustainability initiatives have been geared to improving the health of students – a factor which has a documented impact on student achievement. At the Gables Elementary School in Neptune Township, officials are taking steps to improve indoor air quality by upgrading to HEPA (high-efficiency particulate absorption) air filters, replacing carpet and applying low-VOC (volatile organic compound) paint that is routinely used. The school is tracking student asthma incidence by looking at the distribution of nebulizers and inhalers from the nurse to quantify the difference, and document the decrease in asthma incidences.

These are just a few examples of how school districts in the state have successfully implemented sustainability measures.

Project Introduction

More than 20 districts applied to participate in the three-year research project and 12 were selected. Each pilot district passed a board resolution and designated a team leader who served as the point person to collect information, participate in professional development, report findings to project managers and other participating districts, and work with an evaluator for pre- and post- interviews.

When the team leaders and their supporting school project team members were in place, initial professional development training helped establish measurable objectives¹ that were both manageable and attainable for the districts and schools. Each district focused on key measurable objective noted in the profiles.

It is important to me to make my school green. If we start cleaning up our school, others might follow. If other schools start to follow, then maybe we can convince towns or villages, townships or cities! This would make me happy!

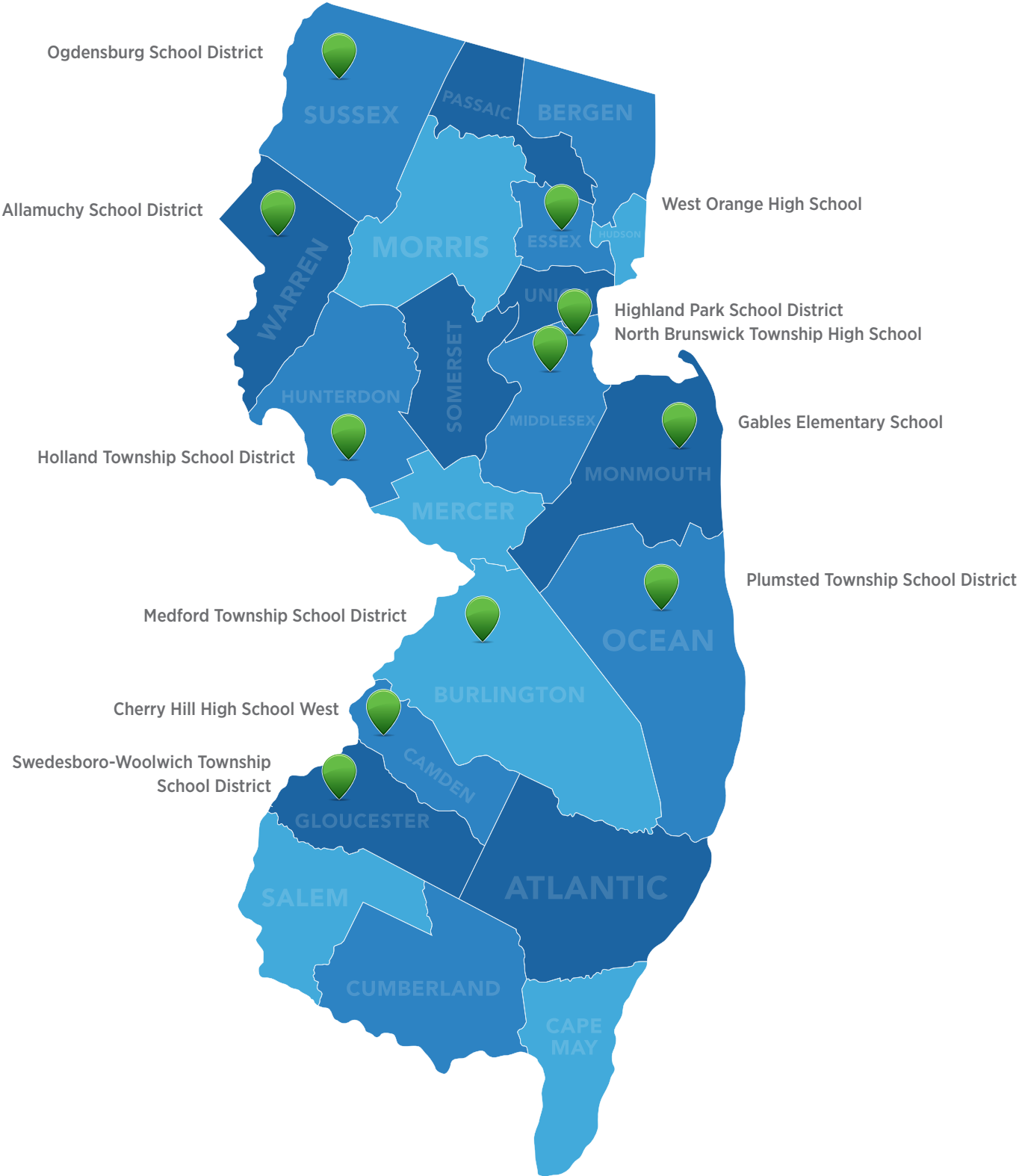
— Mia Gowran, Grade 4

Initial training emphasized the importance of collaboration and the need for district leadership to communicate within the school and with the district green team being formed. All of the schools' green team members and leadership needed to work as a team and understand the economic and health benefits of the sustainability initiatives. Each pilot district had its own set of objectives so the process was unique to that district. This was valuable because it demonstrated a broad range of activities and strategies that were considered significant.

NJSSP's director and manager conducted site visits to the pilot districts to learn about their educational connections to sustainability and explore strategies for continued progress toward measurable goals. Summers proved to be an optimal time to conduct intensive, sometimes multi-day training with the team leaders and their district teams. In 2012 and 2014, these groups came together for team work, professional development and concentrated exposure to subject matter experts. The NJSSP team also observed how the pilot districts established relationships with the private sector, government agencies, nonprofits and community groups to leverage resources to support their sustainability efforts.

¹ Measurable objectives are tangible and can be quantitatively described; they are statistically organized and can help determine how effective a particular action, piece of equipment or service is performing. For an objective to be measurable, the sustainability team must define the parameters of the objective. For example, an objective to reduce energy consumption by 10% must be accompanied by the parameters of benchmarking current energy use as well as determining who will track the objective, how and what methods will be used to capture energy reductions, and what other actions within the culture of the school district must occur to achieve that reduction.

Project Orientation



Project Implementation & Professional Development Delivery

In May 2013, NJSBA took responsibility for the New Jersey Sustainable Schools Project from Educational Information and Resource Center (EIRC) and assumed the role of managing agent. In June, superintendents from the participating pilot districts were asked to recommit their efforts to the project by (re)identifying a team leader and signing an agreement to participate through completion of the program, June 30, 2015. One district declined recommitment and 11 pilot districts moved forward. A monthly stipend, drawn from the project budget, was established for the team leaders for their participation.

To effectively coordinate and support the 11 pilot districts in their goals and outcomes, the NJSSP director hired a coordinator to oversee and participate in routine communication outlined below:

- Monthly one-on-one calls with team leaders
 - Over the course of 15 months, individual calls provided an opportunity for team leaders to seek support and share developments with the project coordinator.
- Monthly team leader Group Call
 - These calls encouraged participants to share best practices and to ask sister pilot schools about processes, tasks, what was working and what was not.
- Monthly webinar*
 - The webinar series was developed in cooperation with the subject matter experts and covered topics such as baseline goal setting, Sustainable Jersey for Schools, sustainable gardening, indoor air quality, Green Apple Day of Service, New Jersey Eco-Schools and sustainable purchasing leadership. Team leaders were encouraged to invite other green team members and key stakeholder staff to participate and were given access to the New Jersey Eco Schools Webinar Series.
 - *During some months the webinar was replaced by full- or half-day, in-person professional development workshops, detailed below. These three topic-specific professional development workshops were designed to deepen sustainability knowledge and expand professional skill sets of the team leaders and their district peers. The workshops were held at venues that demonstrated sustainable practices through services to districts, environmental stewardship and public school children. Attendees earned Certificates of Completion. The carbon footprint of each workshop was offset with alternative energy certificates through www.carbonfund.org deeming each event “carbon neutral”. This effort was taken in order to raise the awareness of the carbon impact of activities and how to potentially address this.
- Submit monthly reports customized to track specific measurable objectives

I think that it is great that we have a little garden area. It's a very good experience to plant and watch it progress and grow.

— Madison Cobb, Grade 4

Professional Development Workshops

- **Waste Management & Recycling:** Attendees gained a custodial perspective of how to run an efficient lunchroom, and how to engage high school students. They also learned the food service perspective of waste reduction. Waste management audit best practices and bid specs were also addressed. Two valuable and related videos were shown — [Story of Stuff](#) and [Story of Bottled Water](#) — and districts were offered a DVD of [Garbage! The Revolution Starts at Home](#) if they committed to show the movie in their school as a public service. In addition to a certificate of completion for all participants, Continuing Education Units (CEU) credit for Facility Managers was approved by the NJ Buildings and Grounds Association and provided for those who were eligible.
- **Green Leadership:** Pilot schools reported their measurable goals and were introduced to Education for Sustainability with guest speaker Jaimie Cloud, of the Cloud Institute, who presented the Fish Game. Having observed the pilot presentations by the pilot team leaders, Jaimie also offered feedback to each team on valuable next steps in their respective efforts that would support their primary sustainability goals.
- **Whole-School Sustainability Framework:** This professional development workshop was held in early 2015 at the NJSBA offices, which were chosen as a venue to demonstrate NJSBA's leadership role in sustainable practices. Training focused on areas such as water refilling stations and cultivating a school culture for sustainability through a whole-school approach. Presenters had extensive experience in cutting-edge sustainability training and, at the request of team leaders, shared best practices that have been implemented nationwide. Additionally at this training, Elkay donated a water refilling station, which one pilot school subsequently installed at the end of the school year and will use to track the number of water bottles being diverted.

Additional Leadership Education

Best practices, lessons learned and observations from team leaders were shared with various audiences through the NJSBA Workshop & Green Command Center in October 2013 and 2014 in Atlantic City.

Opportunities to learn and network with like-minded individuals were provided at NJSBA's Workshop 2013 and Workshop 2014. At Workshop 2013 a NJSSP informational breakfast session sponsored by Schneider Electric was held. Educational sessions were held in the iSTEM and Green Command Center for team leaders and covered topics such as connections to the classroom, green leadership, and marrying facilities projects to student learning.

Communication loops were established to keep team leaders in constant contact with their peers and give them an opportunity to request targeted support from program administrators.

*It's important to take care of things that take care of you.
"Little things can have a big impact."*

— Keina Amora, Grade 12

Pilot Project Profiles

I learned that by composting, recycling, and disposing of our waste properly, we can reduce our carbon footprint and become more sustainable.

— Sophia McDermott, Grade 9

Allamuchy School District

Allamuchy Township, Warren County

Allamuchy School District is tucked away in a beautiful corner of northern New Jersey, bordered by mountains, creeks and a nearby state park. These surroundings make it especially convenient to connect student learning to the outdoors. The team leader in this district is a master at place-based learning. Children in Allamuchy have restored vernal pools, maintained a school garden, raised chickens that fertilize the plants, tracked and recorded compostable weight totals and have helped build a solar-powered fence to protect a honey bee hive. Some projects were funded through grants and others were moved forward through grit and determination.

The team leader in Allamuchy had a clear goal, worked hard to achieve it, and found ways to make it successful by engaging the students. It is critical that board of education members and administrators know about sustainability projects in their districts. It is also important for green champions and team leaders to explore what is needed and ask for support in order to maintain and continue progress. These initiatives, if scaled across the district, could result in reduced tipping fees, thus shrinking district operating costs. Outdoor education could motivate and develop the next generation of environmental scientists, biologists, botanists and landscape architects. By working together with the team leader to outline values and objectives, staff can provide regular updates to track and highlight progress and challenges. Additionally, sustainability work can feel lonely and isolating. When the administration and board of education commit to support the work, results are far superior, compared to when several champions work in isolation in the district.

MEASURABLE OBJECTIVE

Reduce food in waste stream by **10%**

SKILLS FOR SUCCESS

curiosity
assertiveness
penchant to learn
well-organized
ability to seek outside support



WORDS OF WISDOM

Students need to be involved and [sustainability] needs to be a part of the learning experience. It is more effective when district leaders share the time, commitment, project expectations, responsibilities and intended outcomes while building a team. Regular meetings with district administration and the green team establish a level of importance, open communication and support.

Deb DeAngelis,
team leader



Cherry Hill High School West

Cherry Hill, Camden County

Cherry Hill, a large suburban district outside of Camden, boasts an active community-based team, Sustainable Cherry Hill, and a newly enacted district green team. Together, a group of district stakeholders, community leaders and consultants secured grant funding to create the school district's first green strategic plan. The plan touches all school facilities, requires a contact person at each school, and measures baseline information against actual improvements to goals. The goals target education, operations, and facilities.

Cherry Hill High School West, the single school participating in the NJSSP, displayed a culture of collaboration and goal-oriented work throughout the project. The team leader started with a waste reduction campaign and leveraged access to students and peer-to-peer influence. Although results were less than desirable, the process offered valuable learning experiences. First, through sampling of waste receptacles, it was discovered that less than 10 percent of the school's waste is actually "trash." Most of the waste was compostable food waste, liquids, and recyclables. This information was presented to the district green team and a provision to explore on and off-site composting/waste digesting was included in the district's sustainability plan.

Second, the existing waste and recycling containers lack consistency in form, color, and graphics resulting in confusion among the users of the building. It was recommended to the district green team that the district adopt a standard for waste containers that remain consistent through all grade levels.

Third, the cafeteria produced the largest volume of waste, much in the form of foam lunch trays. Aramark, the food service provider, provided paper plates as an option to foam trays. However, most students opted for the foam trays as these seemed easier to use. This issue was presented to the district green team. Aramark leadership serving on the team suggested that a reusable tray with disposable liner be used at one of the district's middle schools as a pilot program.

Finally, waste reduction is not glamorous and it can be difficult to gain momentum on a project such as this, especially among the higher-grade students where activities, sports, jobs and other responsibilities greatly impact the number of involved students and the amount of time they can commit to these projects. Until sustainability projects become part of the regular school day, this will remain a challenge.

After working on improving recycling rates and seeing little improvement, the team refocused its efforts outside of the building. The team completed a wildflower meadow project and began building a trail system. The trail will serve to foster connections between students and the natural world. Through each of these projects, Cherry Hill High School West and the district are moving toward their goals and transforming their internal and external communities into groups of citizens with a higher awareness and connectivity to their surroundings.

MEASURABLE OBJECTIVE

Reduce polystyrene trays by **25%**

SKILLS FOR SUCCESS

collaboration
creativity



WORDS OF WISDOM

The district administration quickly established a foundation of trust, which encouraged staff and students who are passionate about sustainability to lead the transformation of their school in a unique way that reflects the culture of their population.

Kevin Frost,
team leader



Gables Elementary School

Neptune Township, Monmouth County

Gables Elementary School is the sole representation from a former Abbott district involved in the NJSSP. The district boasts two recently constructed facilities that earned the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Gold and LEED Platinum certification. Gables Elementary is the oldest facility in the district, which drove the project team’s excitement and interest in finding ways to reduce operating expenses and prove that old buildings can still perform.

The district leadership, district nurse, school principal and teaching staff came together on various efforts to address the ever-increasing asthma rates in their student population. The facilities director, a facilities trainer in the state, successfully transitioned to micro-fiber towels, backpack vacuums, green cleaning products and high efficiency HVAC units. The team worked together to earn the school an asthma-friendly award and continues to strive for healthy learning environments. Some best practices are student-friendly signs in the lavatories thanking students for not wearing fragrances. By creating a culture of respect, adults and students are able to work, play and learn in a safer environment.

While maintaining good indoor air quality and tracking nebulizer administrations, the school green team engaged students by starting a composting program. To make sure their efforts at targeting cafeteria waste would be successful from the onset, the team collaborated with the director of science curriculum to create lesson plans and processes.

During a site visit, the green team shared observations of a shifting culture among the staff at Gables. They recalled the moment they walked into the first NJSSP all-team training with their Styrofoam coffee cups and pads of paper and admitted that they learned more than they expected by looking around the room at the people who brought reusable beverage containers and even some cutlery and cloth napkins. Over the past three years, by leading through action, the team members have changed their habits and now serve as role models for their peers. Neptune School District and Gables Elementary are leading through transformative environmental education programs, best building practices and using their buildings as teaching tools for students and the community.

MEASURABLE OBJECTIVES

Establish a program that reduces landfill waste to composting. Reduce asthma instances by **10%**

SKILLS FOR SUCCESS

- collaboration
- ability to start with simple goals
- observe and listen

“ WORDS OF WISDOM

Through vertical and lateral collaboration, Gables Elementary and Neptune School District achieved recognition for addressing a common health issue (Asthma) plaguing children and adults, and continue to expand environmental education to include building operations.

Sally Millaway and Michelle DeRitis, team leaders ”

Highland Park School District

Highland Park, Middlesex County

The Highland Park School District took the initiative in all schools to teach students why it is important to save energy, explaining the difference between renewable and nonrenewable energy sources, and demonstrating ways to cut back on energy. Each school recruited students to be “Vampire Hunters” and remind faculty to unplug unused appliances. Each school bought energy efficient appliances and replaced incandescent light bulbs with compact fluorescent light bulbs. All schools closed early on Fridays in the summer to conserve. The district purchased new energy-efficient copiers in all schools and reduced the number of copies used in the classroom. Copier costs, including toner, staples and services, were reduced. To conserve power the printer screens are set to go to sleep after an interval of non-usage. In addition, the technology services manager has provided tips for free paper-saving software that can be downloaded to help save paper.

Students beginning in grades K-5 relied on teachers to volunteer their time to train students how to conserve energy either during class or after school. At the high school and middle school level, extracurricular groups were allowed to create posters to hang around the school and provided incentives to praise/admonish energy users.

The high school and middle school used energy efficient appliances and recycled non mandated materials. By purchasing 180 Chromebooks in the high school and nearly 150 in the middle school, students submit papers and homework via email. Several teachers place assignments, lecture notes and handouts online. This has enhanced the paperless initiative in both schools. Replacing very old windows, caulking, and using weather stripping were also important in conserving energy. Staff and students at Bartle Elementary School now communicate without using paper 90 percent of the time; during the 2013 school year, they did so 50 percent of the time. Teachers were asked to forgo product catalogs and purchase supplies from companies that have websites or page-flipping catalogs and online ordering. To further the paper-saving efforts, students’ notebooks were made from recycled paper and both sides of the paper were used. Rather than work out math equations or create brainstorm lists or do other in-class activities on paper, students used small white boards with ultra low-odor dry-erase markers. Some marker brands were even made from recycled materials and are refillable, too. The primary school now has geothermal energy, a source of renewable energy. In addition to the energy conservation goal the district also conducted water efficiency audits, identified and stopped leaks in all buildings, installed rain water barrels, and upgraded water fountains by using refilling stations awarded through grant opportunities.

MEASURABLE OBJECTIVE

Reduce energy consumption by **5%**

SKILLS FOR SUCCESS

ability to build capacity
value vertical alignment
and support
organizational goals



WORDS OF WISDOM

Assess the existing momentum and lead the team through active participation. Active participation may include face-to-face meetings, monthly calls, announcements to all staff, curriculum development, community engagement and approval of professional development.

Tracey M. Maiden,
team leader



Holland Township School District

Holland Township, Hunterdon County

Every school has an entry point to sustainability. At Holland Township School, the catalyst was the receipt of a school garden grant which began with a teacher's interest in carrying her students' learning experiences outside. Holland Township School is located in a rural setting and had the land and teacher expertise to help establish and maintain a garden. The focus quickly moved from a butterfly garden to edibles. The Extended Summer Year students utilized compost bins to collect the garden and food scraps. Then after the first harvest luncheon the school set more challenging goals. These included reducing plastic water bottle waste and conserving water by building rain barrels with families.

Each project aligned with lesson plans and opportunities to extend learning from the classroom to the community. The green team realized how much waste they could divert and reuse by the compost pile, which drew their attention to the waste generated by users inside the building. Supported by the principal and led by a small group of teachers and students, the green team set a measurable goal of eliminating polystyrene trays by 20 percent and eliminating waste in classrooms on early dismissal days. The engagement of students in collecting and calculating real-world lunchroom waste totals was also helpful. Those figures taught graphing, percentages and decimals, which met core curriculum standards. The students were an important part of the project as they were actively involved in collecting sorting and analyzing data as well as communicating what they learned to their parents and local government.

Over 18 months Holland Township's team successfully launched 'Styrofoam-Free Fridays and hosted a Green Apple movie night with "Garbage: The Revolution Starts at Home." The sustainable goal was embedded into districtwide after-school events; Holland launched a t-shirt sustainable logo design contest as part of an awareness campaign, and having these t-shirts placed at each entrance reminds visitors that Holland is striving to be a sustainable school.

The team faced common challenges with each initiative: staff time, collaborating with outside vendors, conflicting interests as students age and inconsistent messaging across the district. Throughout the project the team met regularly and openly discussed their challenges and ways to improve the process. Due to the support of administration and a very active green team the district was able to move forward. The green team has become instrumental in ensuring that the district continue to add goals to create a more sustainable learning environment.

Holland Township hired a new superintendent in the midst of the project. By engaging district administration in green workshops, they had a shorter line to the board of education and were better able to work with the superintendent to communicate district sustainability goals. Holland Township now has a sustainable goal in the district's strategic plan so student achievement standards continue to be met as facilities are monitored, updated and embraced into the sustainable environment.

MEASURABLE OBJECTIVE

Reduce polystyrene trays in food service by **20%**

SKILLS FOR SUCCESS

supportive leadership
unifier
active listener
creativity
able to work well in groups
self-reflective
persistent
evaluative
able to delegate



WORDS OF WISDOM

Have a dedicated committee with a broad range of members. Have specific measurable goals and responsibilities and ask your team, 'How can we help and support your efforts?'

Dr. Nancy Yard,
team leader



Medford Township School District

Medford Township, Burlington County

Medford Township school district leaders participated in the NJSSP with the intent of addressing two district-wide goals: energy benchmarking and connecting facilities projects to student learning. Over the past 17 years, the district completed several large-scale projects to reduce reliance on fossil fuels by increasing renewable energy production and converting its fleet of school buses to biodiesel. Although Medford has greatly diminished its energy costs, improving the performance of its school facilities became the district's next target. The district recently contracted with a vendor to carry out related energy shared services that included procuring energy, conducting in-depth facility assessments and implementing comprehensive energy efficiency upgrades. This process will allow the district to further lower energy costs and redirect the funds to meet other district needs, such as technology upgrades, professional development and capital improvement projects.

Medford's operations and curriculum directors built an unlikely collaboration to identify infrastructure needs and create a development plan. Both directors had goals specific to their teams and together successfully launched new testing standards and found ways to keep facilities projects on schedule.

One of Medford's greatest strengths is its diverse and invested stakeholder group. From administrators to students, teachers and parents, sustainability has become a commonly used term and the culture has shifted to one that embraces more progressive ideas and practices. It is important to note that Medford has nearly two decades of experience in this area. The district is driven by clear, measurable goals and has a successful track record of completing large-scale projects that were environmentally, educationally and fiscally responsible. The administration and the board of education are strong proponents of new projects that align with the district's sustainable mission. Longevity in leadership has been a clear benefit to this district's success. The superintendent and operations director have a combined 51 years of service between them. So much of what makes their work successful involves relationships and trust. Years of successful projects earned the trust of district leaders, which now allows projects, thought to be risky by some, to be considered and implemented. The superintendent communicates goals across the district and to the board of education.

The single point of contact for this project, Joe Biluck, was open and communicative about processes, ideas and lessons learned. He invited various parties to the conversation to develop ideas from multiple perspectives, especially beyond his role in facilities. His ability to navigate organizational politics and his willingness to collaborate for the advancement of the district's vision and priorities are two valuable characteristics of a change leader. Initially, he admits that sustainability projects were driven by economic benefits and that those projects were led by his department. Over time, various stakeholders joined the conversation and that approach has become part of the culture at Medford. When sustainability permeates the operations, education and leadership of a district, it is not easily cast aside with administrative transitions.

MEASURABLE OBJECTIVE

Reduce energy consumption by **5%**

SKILLS FOR SUCCESS

- interpersonal skills
- collaboration
- sensitivity to needs of other departments
- trustworthiness
- communication
- patience and willingness to accept some risk

WORDS OF WISDOM

Open your mind to other methods that improve the culture and climate of your district. Traditional methods no longer apply to solving the many challenges faced by districts and the communities they serve. Sustainable strategies rely on the tenets of collaboration and problem-solving. These same tenets provide the foundation used by all high performing districts.

Joe Biluck, Jr.,
team leader

North Brunswick Township High School

North Brunswick Township, Middlesex County

About three years ago, North Brunswick Township School District contracted with an outside vendor to help achieve substantial energy savings. The facilities director led the initiative, which has achieved success as the district nears \$3 million in energy savings. The same facilities director started out as the NJSSP team leader but transferred responsibilities to a teacher in the high school for the remaining 18 months in an effort to increase the number of colleagues in the district who were involved with sustainability initiatives. As a result of his recent experience initiating behavior change across a district, he offered his support to the new team leader to help her achieve the goal of waste reduction in the high school.

Not long after the team leader accepted the responsibility, she was promoted to an administrative position where she found it easier to communicate with the superintendent than when she was a teacher because she felt more at ease asking for his time and attention to this work.

The team leader led a waste reduction initiative in the high school that involved students, staff and administrators. During the Fall of 2014, the North Brunswick Board of Education passed a Sustainability Resolution, which gave the team leader and her team the support necessary to ask leadership for compliance. After applying for, but not receiving, a Green Ribbon Schools Award in 2014, North Brunswick began working with outside partners to address opportunities for improvement in recycling. This is an excellent example of the strengths of the diverse North Brunswick community. Understanding that time and capacity are increasingly rare in school districts, the team leader and her team have engaged the county recycling coordinator, sustainability consultants, Rutgers University, neighboring districts and others in an effort to achieve their goals.

MEASURABLE OBJECTIVES

Reduce landfill waste from cafeteria by **5%**;
Increase recycling compliance by **5%**

SKILLS FOR SUCCESS

curiosity
determination
motivation
patience
objectives

WORDS OF WISDOM

Change is difficult in any dose. Change in behavior is especially difficult. My advice is to never take things personally. Individuals want to do the right thing, but there is a constant need for modeling the needed behavior.

Remember words can fall on deaf ears; actions speak louder. So I suggest that you broadcast the change desired through videos, posters, actions, reminders, contests, and anything else that may cause a spark. From sparks we just may be able to set a fire to change.

Be conscious of others and what sits on their plates. Always be respectful.

Amy Rafano,
team leader

Ogdensburg School District

Ogdensburg, Sussex County

Ogdensburg is a single-building district located in northwestern New Jersey, a part of the state with a healthy bear population. This was an important consideration, given the district's waste diversion sustainability initiative. Due to the curious wildlife, the NJSSP team leaders focused on indoor efforts such as paper reduction, food service and increased recycling rates; outdoor composting was not feasible until safety could be guaranteed.

The operations of a school/district involve everything from staff to resources to curriculum. Although the original team leader was in an administrative position, leadership was transferred to two teachers for the remaining 18 months of the project. Their work focused on waste diversion and increasing environmental literacy. During this time, the teachers coordinated Green Apple Day of Service events, submitted a Green Ribbon School application, expanded the district's book collection to include more environmental texts and initiated negotiations with the food service provider. The focus established by the principal/superintendent, allowed the newer team leaders to maintain momentum and build off a unified approach. Over three years they highlighted successes and communicated to students, parents and staff that their effort was impactful.

Operations with students, parents and staff were easier to manage than working with outside vendors. For example, district stakeholders wanted to transition from single-use trays to reusable, washable trays during lunch periods. Their food service vendor was resistant to change for many reasons and the district had to weigh the benefits and drawbacks, especially the increased lunch costs that would be passed on to students' families. In a case such as this, it is critical to include contracted vendors who could assist with sustainability efforts at the outset of your discussions. Together the principal/superintendent, district green team, board of education and food service vendor could have openly discussed their goals and evaluated solutions to meet the needs of their community and environmental efforts.

While these negotiations are on-going, the team leaders continue with district-wide events, environmental education and community awareness efforts.

MEASURABLE OBJECTIVE

Reduce outbound waste by **10%**

SKILLS FOR SUCCESS

positive outlook
ability to event plan, analyze and to be able to objectively evaluate projects and progress



WORDS OF WISDOM

Have a team in place that will be willing to take on a project challenge for many years. It will not get done in one year. Time and planning are key. Engage many people at all levels to progress the plan faster and easier.

Michelle Cooper
and Claudia Lenscak,
team leaders



Plumsted Township School District

New Egypt, Ocean County

Striking a balance between what is good and what is mandated can be a challenge. In many districts, especially those that are in the midst of administrative transition, individual staff members often lead projects that are meaningful and provide work satisfaction. This approach may benefit a school by allowing a creative outlet and encouraging passion in the classroom; on the other hand it may isolate initiatives that are difficult to scale and may lead to scattered efforts.

Midway through the NJSSP work on the Common Core initiative and the associated PARCC assessments began, which demanded additional time and resources from the district. As these standards and testing practices were rolled out, districts like Plumsted focused on revising their curriculum standards, which diminished the resources available for other activities. A secondary challenge arose out of the varying contractual start and end times at each building, which made it difficult for the district group to meet with any regularity. Stipends and monetary support became part of the discussion that circled back to finding ways to make progress on district initiatives that are not mandated but result in planned and unplanned benefits to the district and the educational community.

MEASURABLE OBJECTIVE

Reduce polystyrene trays by **25%**

SKILLS FOR SUCCESS

ability to juggle multiple projects

communication, communication, communication

ability to collaborate, but delegate when the need arises

WORDS OF WISDOM

Do this because you believe in it. Our team started with a focus on compliance. Those who are left – and will continue to do this work – are those who believe.

Colleen Gravel,
team leader

Swedesboro-Woolwich Township School District

Swedesboro-Woolwich Township, Gloucester County

Swedesboro started with two initiatives with district-wide impact, one led by the superintendent and one that was part of a contractual agreement. The energy reduction project was led by an elementary art teacher with no prior knowledge of energy efficiency, building management or operations. Although an unlikely candidate for the job, she is high-energy, positive and creative and quickly learned the importance of engaging the facilities staff. Some efforts involved behavior modification, but others focused solely on heating and cooling set points, lighting and timers. Without involving key stakeholders in facilities, the same level of success may not have been achieved. The district reached its goal and is tracking toward a second year of positive results.

After beginning a project and settling into the process, it is critical for a team to reflect and document on what worked and where improvement is needed. Looking back, the team leader believed team meetings, announcements and ongoing communications could have helped establish a positive tone and expectations for teamwork. One recommendation for future project is for school administrators to better support the team leader. For example, a district-wide announcement by the superintendent at an in-service or principals' meeting to introduce the project and the team leaders may have helped establish a level of understanding, authority and value. Additionally, selecting a co-team leader may be another opportunity for project leaders to navigate and work through organizational politics that exist in school districts. These two intentional actions could help teams hit the ground running.

MEASURABLE OBJECTIVE

Reduce energy consumption by **20%**

SKILLS FOR SUCCESS

honesty
transparency
openness to new ideas
communication
practical experience,
empathy with staff
to keep their
challenges in mind



WORDS OF WISDOM

Empower the individual and encourage the thought process that "I can make a difference." Truly believing that you can is the first step towards impacting change.

Vanessa Paccione,
team leader



West Orange High School

West Orange Township, Essex County

Over the course of the NJSSP project, the West Orange School District hired a new superintendent. During this time of transition, the facilities director and a board of education member continued to make progress and support the ongoing initiatives across the district and support the team leader. During the first four weeks in his new position, the superintendent introduced and announced his support for the project team leader and the project, which established value around sustainability. Over the following year, regulatory mandates created uncertainty about the district's sustainability efforts.

Now in his second year, the superintendent and his team of administrators, a green team leader and a board of education member agreed to establish a formalized plan to move key initiatives forward. The local municipality has an active and successful green team, which will help strengthen the connections between the district and local government goals. The first and most critical step for the West Orange team is to collect baseline information about ongoing efforts across the district, their impact on district goals, and any associated reduction in operating expenses. This information will be valuable as the district plans short-, middle-, and long-term sustainability goals.

MEASURABLE OBJECTIVES

Sustainability PD for
10-40% of staff

SKILLS FOR SUCCESS

forward-looking
strategic



WORDS OF WISDOM

Understand the landscape before moving an entire district forward. Create a plan with key stakeholders and set goals that are achievable and appropriate for the uniqueness of the district and the surrounding community

Pete Ficuciello,
team leader



Project Evaluation

A third-party project evaluator reviewed the quality of the following areas:

- Selection of schools
- Professional development
- Online technology platform for communication among schools
- Communication and consultation between pilot schools and NJSSP team
- Project team performance reflecting measurable objectives
- Quality of measurable objectives
- Assessment of existing sustainability initiatives

Throughout the three-year pilot period, the project evaluator used questions to guide the evaluation and review the effort within each district as well as review the New Jersey Sustainable Schools Project as a whole.

I think it's great to have a compost pile because if we throw everything away it will all go to the landfill, and the landfill is just another problem for the Earth.

— Alexandra Wilt, Grade 4

Project Observations, Recommended Actions & Essential Questions

The following are observations, recommendations and essential questions about the NJSSP. The observations have been compiled over a two-year period from the project team, which included the project's director, manager and coordinator, and are not intended to be prescriptive or suggest that there is one way for implementing sustainable best practices. In fact, sustainability for each school, and the way in which it has been implemented, was different for each pilot school, including the position of team leader, the students who participated in projects and the level of commitment from the school administration. The pilot schools provided a snapshot of what may occur in any school and what may motivate or impede the implementation of sustainable best practices.

Project Observations

- Schools that did not have a well-established green team struggled with implementing their measurable objectives.
- If professional development sessions were not attended by a diverse group of key stakeholders. The sustainability goals of the professional development were often misunderstood and not connected to the school's measurable objectives.
- PARCC and other existing school initiatives diverted time and resources that were necessary for sustainability efforts to have a greater impact on operations and maintenance and student achievement.
- Sustainability was often seen as an add-on project and not a whole-school improvement plan.
- Teachers and facility directors needed to connect more on curriculum and to utilize the building as a teaching tool.
- Additional education on sustainability was needed to be provided to the pilot schools by the project team and was difficult to schedule due to time commitments and personnel job responsibilities.
- All participants did not have a common understanding of sustainability.
- Committed individuals in the pilot schools worked with a small percentage of the staff to implement measurable objectives.
- Pilot schools that engaged their students in almost every phase of implementing measurable objectives increased their capacity to reach their objective.
- Turnover in a school's leadership had a negative impact on progress in sustainability efforts.

Recommended Actions to Support Schoolwide Sustainable Practices

- Provide guidance through policy development in the areas of:
 - professional development for all key stakeholders involved in the daily operations of the school;
 - personnel job responsibilities;
 - general administration;
 - fiscal and business management for energy procurement, conservation and efficient systems, waste management, water conservation, green purchasing;
 - physical plant operations and maintenance;
 - community relations and transparency for sustainability efforts and clarify the benefits and connections to the community;
 - education for sustainability; and
 - health and wellness
- Create a green team consisting of teachers, facility directors, students, board members, parents, business and industry members, associations and government agency representatives
- Approve quality instructional programming by adopting:
 - Education for sustainability that aligns to current statewide curriculum standards such as the Next Generation Science Standards as well as connecting student learning to sustainability efforts of the district
- Approve professional development training for staff (administrators, facility directors, teachers, etc.) aligned to district sustainability goals
- Use school buildings and grounds as teaching tools to apply real-world learning and curriculum standards to achieve academic goals for all students
- Assess district and personnel needs to ensure student achievement of the standards aligned specifically to college and career readiness and the skills students will need to thrive in the 21st century global workplace
- Provide for the effective management of the school by:
 - employing and evaluating the chief school administrator’s understanding of sustainable strategies; and
 - establishing policies for monitoring district finance, curriculum, buildings & grounds, and personnel, and requiring reports on the results of sustainability policy implementation
- Provide for two-way communication between the community and board by:
 - register for NJ Eco-Schools;
 - informing the public about the school’s and district’s sustainability programs and how they will impact students and the community financially and environmentally;
 - promoting parents’ presence and involvement in the schools’ sustainability efforts;
 - evaluating the chief school administrator on how effectively parental input is solicited and considered;
 - working to secure public support for the schools and public understanding of school goals in the area of sustainability as a vehicle for ongoing school improvement;
 - register for Sustainable Jersey for Schools; and
 - apply for Green Ribbon Schools awards recognition program

Sustainability is a decision and isn't always easy, but we need to remember how important it really is.

— Colin Marx, Grade 11

Making certain that we had a consistent message from kindergarten to grade 8 helped to ensure widespread participation in our efforts to be sustainable.

— Dr. Nancy Yard, team leader

Essential Questions for Districts

- Who will be the key stakeholders or green champions in your district and what purpose will they serve?
- What sustainability resources already exist that can help your school?
- What case studies or sustainable best practices exist that your school can visit or use as a guide?
- How will you demonstrate your commitment toward a sustainable school (e.g., mission statement, green resolution, sustainable policy adoption or green goal setting)?
- How can sustainability initiatives connect to your school goals and impact student achievement?
- Has your school conducted a sustainability audit (energy, water, materials and resources, purchasing, waste, etc.)?
- How will sustainability efforts be benchmarked, tracked and evaluated in your district?
- What knowledge does your board of education need to support sustainability in your school and communicate to the public?
- How can you integrate sustainability programs, green rating systems or environmental education, and science, technology, engineering, arts and mathematics (STEAM) throughout your district?
- How can you involve parents and other community members in your sustainability initiatives?
- How can the school sustainability initiatives be in collaboration with a municipality effort?
- How can the building maintenance personnel and facility managers help your school be more sustainable?
- What cost, if any, will there be to your district's sustainability efforts and what is an acceptable return on investment?
- How could your district take advantage of sustainability as a lens for school improvement, staff and administration collaboration and a rich connection between the school and the community?
- How could sustainability efforts help engage students and improve test scores (e.g., using the school building as a learning lab)?
- What programs does your school have planned to educate for sustainability to the staff and students?
- What can the district do to increase awareness about sustainability and the school's sustainability projects?
- How can students be part of the process for benchmarking, implementing and tracking sustainability in your school?
- What school event or activity can your district create that will showcase and celebrate your accomplishments?

Project Resources

To find extensive resources that were used in this project, please visit www.njsba.org/sustainability, under the NJSSP Guidebook Resources section.

Without a measurable goal, we would have been working toward improving our waste stream but could not have put numbers to it.

— Dr. Nancy Yard, team leader

Project Conclusion

For NJSBA, the New Jersey Sustainable Schools Project was the genesis for integrating sustainability into its own organizational structure. It set the stage for providing both sustainability education for NJSBA members and the support for schools in areas from policy to facility operations.

The Association understood that in an era of budgetary pressures in school districts, sustainability measures could save money and free up funds for the classroom. They can also improve student health and wellness by improving the learning environments in schools.

As NJSSP evolved, success stories and challenges were emerging from the pilot districts, as well as from other schools around the state. This was exactly what was needed for NJSBA to continue learning, discovering accurate and trusted resources, developing new partnerships and ultimately, sharing those best practices with member districts. It also provided the foundation for the organization to embark on a number of sustainability projects at NJSBA headquarters. The projects ranged from reducing paper use, and pursuing Leadership in Energy and Environmental Design (LEED) certification from the US Green Building Council, to forming a green team consisting of NJSBA staff members passionate about the environment and dedicated to changing their actions in a way that will create a more sustainable NJSBA.

Given NJSBA's own experiences, the project team understood the good intentions of the pilot schools to become sustainable and was well aware that changing behaviors and documenting those changes is not always easy. However, getting to "change" requires data and positive outcomes that can be replicated and, as always, a dedicated group of green champions willing to commit to becoming a sustainable school. It requires an understanding of the short- and long-term benefits of strategically implementing sustainability and a clear view of the importance of identifying measurable objectives that are realistic and achievable in the local school and community. It was also important to report obstacles so other schools can avoid making the same mistakes and wasting time and resources.

One challenge for the pilot schools was how to build and maintain momentum, and not have sustainability be viewed as an add-on project, but an integrated approach to school improvement that can be embedded in every aspect of a school's operations. It is critical for board members and other educational decision makers to understand this in order to maximize the benefits of sustainability. No two pilot schools took the same approach to managing the project. However, all the pilot teams learned along the way that these initiatives are most rewarding when students were involved in the objectives. Students understand what is at stake—the preservation of their environment and the future health of the ecosystems.

Furthermore, during the course of the three-year project, NJSBA developed training for school board members, established an iSTEAM and Green Command Center at the annual Workshop conference, partnered with the New Jersey Department of Education to manage the Green Program of Study in schools, welcomed a "Green Fellow" from the US Green Building Council who was assigned to NJSBA, hired a full-time sustainable schools specialist, and partnered with Sustainable Jersey to establish the highly successful Sustainable Jersey for Schools certification program. With these resources in New Jersey—and beyond the state's boundaries—schools now have the tools to implement sustainability measures, and to create an academically-engaging, healthy learning environment, while saving the school district money.

Immediate Next Steps

After much consideration and reflection on this project, the New Jersey School Boards Association has created a series of next steps that will benefit their member school districts. With the completion of this project, and the launch of Sustainable Jersey for Schools (in cooperation with partner organization Sustainable Jersey), NJSBA has developed a level of expertise and a familiarity with the sustainability best practices that are being implemented in school districts throughout the state.



This expertise can be put to work for NJSBA's member school districts and charter schools. Beginning in January 2016, the Association, as a member service, will assess the effectiveness and efficiency of sustainable practices in specific schools.

This Sustainable Practices Working Session is intended to support the school in assessing its sustainability status and assist the district in setting new goals. This new member benefit will involve an in-person assessment and discussion with NJSBA staff and industry experts at the NJSBA headquarters.

Following the Sustainable Practices Working Session, member schools will have the opportunity to further commit to their sustainable practices by contracting with NJSBA sustainability services to achieve the goals identified from the working session.

Become a Sustainability Champion for your district! It is as easy as taking the following steps:

1. Contact NJSBA Sustainability Services at sustainability@njsba.org to receive guidance on how to start.
2. Visit www.njsba.org/sustainability to a) register for your dues-based Sustainable Practices Working Session, b) access the electronic version of this NJSSP Guidebook, and c) review the complete suite of NJSBA sustainability services listed.
3. Communicate to your entire board of education that you are in favor of initiating a plan of action for sustainable practices to be implemented in your district/school.
4. Begin to identify your green team members.

We look forward to collaborating with you on these efforts and providing ongoing services, both dues- and fee-based, to support your school in achieving your sustainability goals, one step, one stakeholder, and one student at a time.

The future belongs to those who understand that doing more with less is compassionate, prosperous and enduring and thus more intelligent, even competitive.

— Paul Hawken



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