

Sustainable Jersey for Schools @ NJSBA Workshop

Case Studies in School Energy Improvement October 26, 2016



Sustainable Jersey

- Free and voluntary certification program
 - Municipal launched in 2009
 - K-12 public schools launched in late 2014
- NJ based and consensus driven



Program Partners



Sustainable Jersey for Schools Supporters

Underwritten By:



The Geraldine R.
DODGE

FOUNDATION

IMAGINE A BETTER NEW JERSEY



NEW JERSEY
EDUCATION
ASSOCIATION



Sponsored By:

*Sustainable Jersey
for Schools Small
Grants Program
Underwriters*



PSEG

We make things work for you.



NEW JERSEY
EDUCATION
ASSOCIATION



Founding Sponsors



South Jersey Gas



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Bayer USA
Foundation



investorsBank



A Better Tomorrow, One Community at a Time

Municipal

Schools



Sustainable Jersey Program Participants

440: 198 Certified

215 Districts/534 Schools: 118 Certified



Sustainable Jersey

- Three key components:
 - Identifies **actions** to become more sustainable
 - Provides **tools, resources, and guidance** to make progress
 - Provides access to **grants and funding** for districts and schools, and for municipalities.



Small Grants for Schools

| Sponsor | Awards | Total \$ |
|------------------|--------|-----------|
| NJEA | 100 | \$360,000 |
| PSEG* | 68 | \$200,000 |
| DOH-Health | 59 | \$236,000 |
| Gardinier-Energy | 14 | \$165,000 |
| Total | 184 | \$961,000 |

- * 2017 PSEG Small Grants Program currently open
 - Applications due 2/3/17
 - \$10,000 and \$2,000 grants available





A BRIGHTER FUTURE

one school at a time

ABOUT

ACTIONS & CERTIFICATION

EVENTS & TRAININGS

GRANTS & RESOURCES

MEDIA & COMMUNICATIONS

SUPPORT US

REGISTER



REGISTER YOUR SCHOOL DISTRICT OR SCHOOL

Start the certification process by registering with Sustainable Jersey for Schools.



HEADLINES



Sustainable Jersey for Schools Announces 2015 Champion and Leadership Awards

OCT 20, 2015



Sustainable Jersey for Schools Announces the First 59 Schools to Achieve Sustainability Certification

SEP 28, 2015

ABOUT SUSTAINABLE JERSEY FOR SCHOOLS

Sustainable Jersey for Schools is a certification program for New Jersey public schools that want to go green, conserve resources and take steps to create a brighter future, one school at a time. Learn More ->

PARTICIPATING DISTRICTS & SCHOOLS



120

DISTRICTS



306

SCHOOLS



REGISTER NOW ->

UPCOMING EVENTS



New Jersey School Boards Association Workshop 2015

Atlantic City Convention Center

OCT 27, 2015 - 08:00 AM TO OCT 29, 2015 - 05:00 PM

Resources for Eligible Schools*

Programs and Technical Support to help schools improve energy efficiency and advance towards Sustainable Jersey certification

- PowerSave Schools
- EDF Fellows

* Schools registered with Sustainable Jersey for Schools and in the New Jersey Natural Gas Service Area were eligible to apply



Goals of PowerSave Schools

SAVE ENERGY & REDUCE ENERGY COSTS:

- Instill simple behavioral changes
- Create better, more comfortable learning environment

EDUCATE STUDENTS ABOUT ENERGY:

- Hands-on learning

FOSTER STUDENT LEADERSHIP, TEAMWORK, & COMMUNITY INVOLVEMENT:

- Public speaking and community outreach

BUILD PATHWAYS TO GREEN JOBS:

- Field trips, guest speakers, events, etc.



PowerSave Schools

National K-12 program in:

- CA, TN, KY, AL, MS, NY, DC, PA, FL, VA, NJ
- Started in California - 2,300 participating schools since 1999

New Jersey program:

- 2016-2017 is Second Year
- 22 schools participating in Morris, Ocean and Monmouth Counties



NJ PowerSave Schools

| County | School District | School Participating in PowerSave Schools |
|----------|--|--|
| Monmouth | Howell Township Public School District | Memorial Elementary School |
| Monmouth | Howell Township Public School District | Ramtown Elementary School |
| Monmouth | Long Branch School District | George L Catrambone Elementary School |
| Monmouth | Long Branch School District | Long Branch Middle |
| Monmouth | Manasquan School District | Manasquan Elementary School |
| Monmouth | Manasquan School District | Manasquan High School |
| Morris | Boonton Township Public School | Rockaway Valley School |
| Morris | Denville Township K-8 School District | Lakeview Elementary School |
| Morris | Denville Township K-8 School District | Riverview Elementary School |
| Morris | Denville Township K-8 School District | Valleyview Middle School |
| Morris | Mine Hill Township School District | Canfield Avenue School |
| Morris | Mount Arlington Public School District | Mount Arlington School |
| Ocean | Brick Township Public Schools | Brick Township High School |
| Ocean | Brick Township Public Schools | Drum Point Elementary School |
| Ocean | Brick Township Public Schools | Lake Riviera Middle School |
| Ocean | Brick Township Public Schools | Lanes Mill Elementary School |
| Ocean | Brick Township Public Schools | Osbornville Elementary School |
| Ocean | Lacey Township School District | Lacey Township Middle School |
| Ocean | Lacey Township School District | Lanoka Harbor Elementary School |
| Ocean | Little Egg Harbor Township School District | Frog Pond Elementary School |
| Ocean | Little Egg Harbor Township School District | George J. Mitchell Elementary School |
| Ocean | Little Egg Harbor Township School District | Robert C. Wood, Sr. Early Childhood Center |

Red text indicates schools that have earned certification with Sustainable Jersey for Schools



Biggest Energy Saving Opportunities



1. Lighting - 30-50% of energy consumption



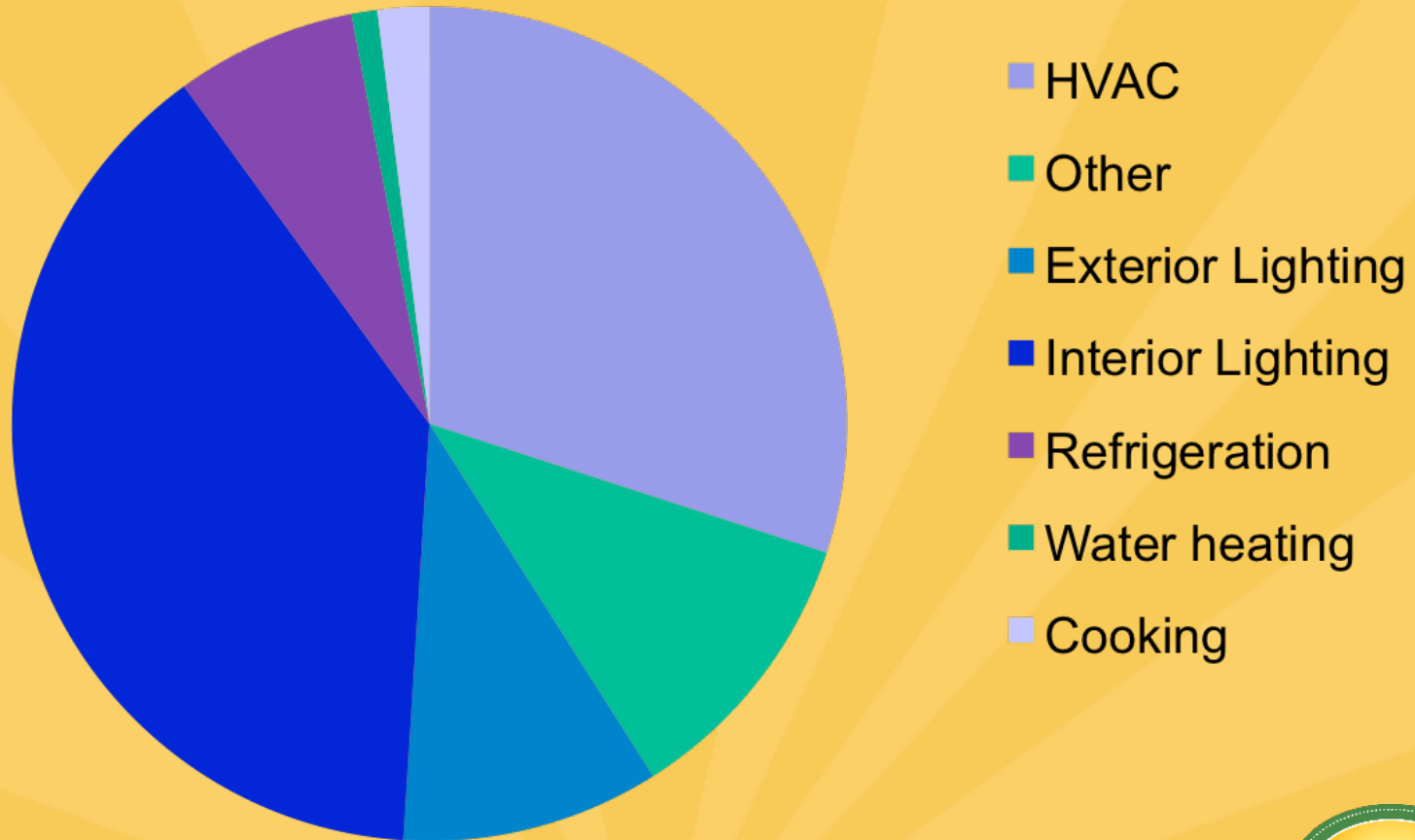
2. Heating & Air Conditioning - 30-40%



3. Appliances – 10% (e.g. computers, projectors, smart boards)

Areas of Opportunities

School Energy Consumption





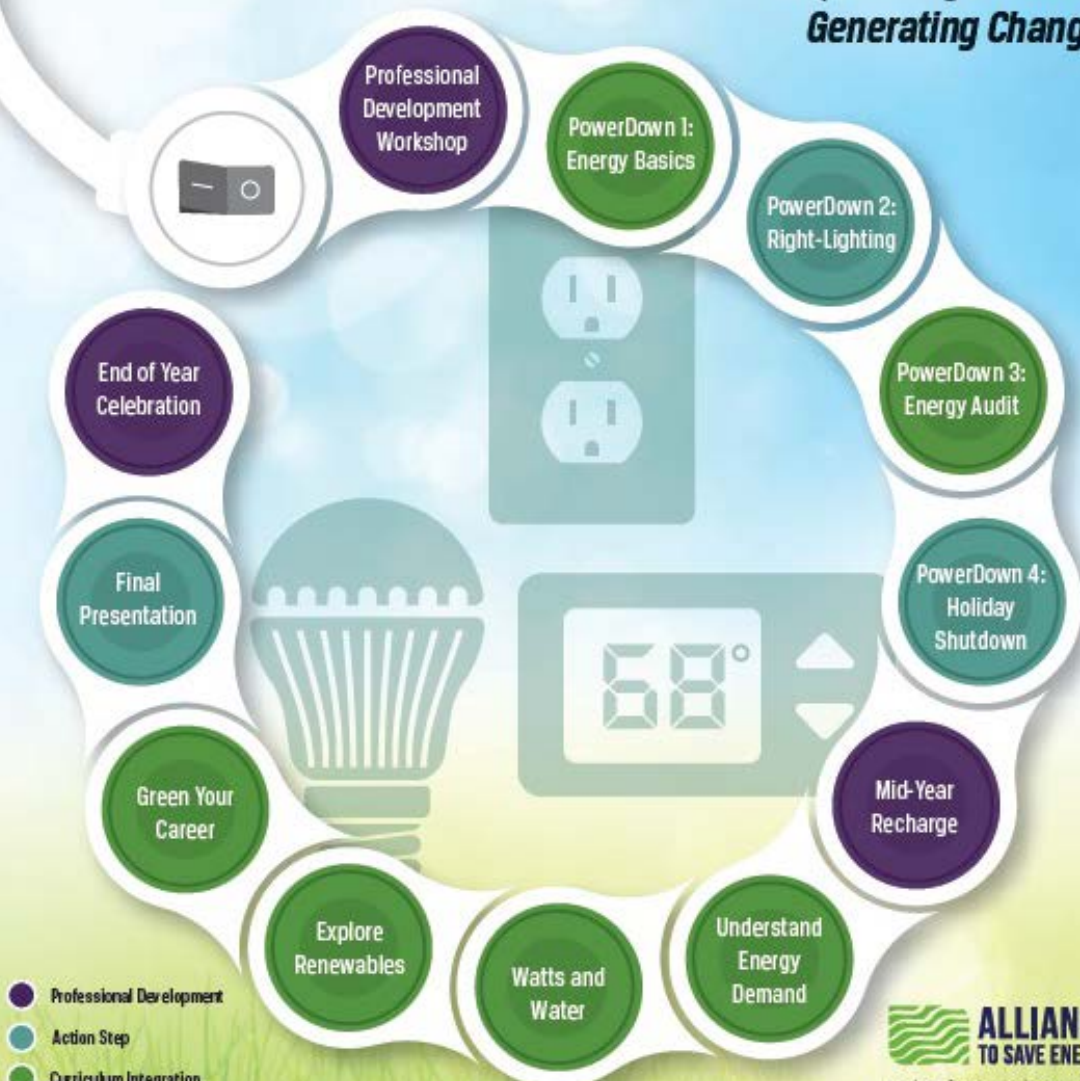
AN ALLIANCE
TO SAVE
ENERGY
PROGRAM



ROAD MAP

3rd-5th GRADE

*Empowering Students.
Generating Change.*



- Professional Development
- Action Step
- Curriculum Integration


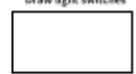
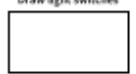




Student-Led Energy Audits

MASTER ENERGY AUDIT SHEET

Classroom: _____ Teacher: _____

LIGHTING AUDIT

| | | | |
|--|--|--|---|
| <p>Lighting Level Recommended Light Level for Classrooms: 30-50 Foot-candles (FC)</p> | | <p>Number of Lamps</p> | <p>Example: 3 lamps</p>  |
| <p>All Lights Draw light switches</p>  | <p>Right-Lighting Draw light switches</p>  | | |
| _____ FC | _____ FC | Total number of lamps | <p>1 fixture often has 2-3 lamps</p> |
| _____ IFC | _____ IFC | Number of lampsoff with right-lighting | |
| _____ FC | _____ FC | Hours used per day | |
| Average:  FC | Average:  FC | | |
| <p>CALCULATION AREA:</p> | | | |




| APPLIANCE AUDIT | | |
|-------------------|----------|--------------------|
| Appliance name | How many | Hours used per day |
| Example: Computer | 4 | 8 |
| | | |
| | | |
| | | |

TEMPERATURE AUDIT
Dept. of Energy recommended temp range: 68-78°F

Temp 1: _____

Temp 2: _____

Temp 3: _____

Average Temp: 

Does the teacher think that the room is:
Too hot Too cold Just right

Can the teacher control the temperature in the room? Yes / No

Are the doors or windows kept closed when HVAC is in use? Yes / No



Easy Ways To Save Energy

PowerSave Patrol Contest Checklist

1. Last Out **Lights Out**
2. Close doors when the **AC** is on
3. Turn off **computers** when not in use or put in **sleep mode**



TURN IT OFF



1. Use **RIGHT** lighting or **DAY** lighting
2. **TURN OFF** lights when the room is empty (Last Out Lights Out)
3. **SHUT** doors/windows when HVAC is on
4. **TURN OFF** monitors and use sleep mode when not in use



Energy Patrol Contest

- **RANDOM PATROLS OF CLASSROOMS:**
 - Last Out, Lights Out
 - HVAC on, Doors & Windows closed
 - Turning off appliances or setting to sleep-mode
- **COMPETITION STRATEGY:**
 - Who's competing?
 - Classrooms, hallways, grade levels, floors, etc
 - How many patrols?
 - Minimum of 10-12 patrols in a school year



Holiday Shutdown

Significant Savings Opportunity!!

- Thanksgiving Break
- December Winter Break
- February Break
- Spring Break
- Summer Break

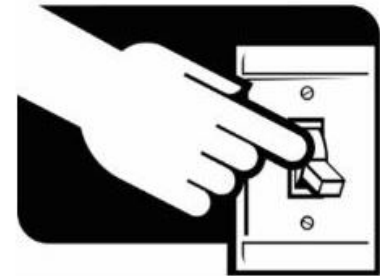


ENERGY SHUT DOWN CHECKLIST

Happy Holidays! Over the holiday break, please help the school save energy – and money – by doing a simple shutdown of your classrooms or office.

Before you leave for the day, please to ensure that:

- Lights are turned off at the switch (do not rely on sensors).
- Thermostats are adjusted to use the least amount of energy that is practical.
- Blinds and curtains are adjusted to save energy.
- Computer monitors are turned off.
- Computers in the classrooms, offices, and computer labs are shut down, not just in sleep mode.
- All other appliances and equipment (non-networked printers, speakers, projectors, electronic white boards, etc.) are turned off. (Unplugging mini-refrigerators saves lots of energy, but remember to clean them out, leave the door open, and let them drain while they defrost to avoid mildew).



Post your completed checklist to the outside of your door to encourage other classrooms to shut down too!



Energy Savings in 2015-2016

11 New Jersey Schools participated in 2015-2016

Total Electricity Savings:

- 612,315 kwh
- \$74,225

Total Natural Gas Savings:

- 8,228 therms
- \$10,609



Notable Accomplishments

Student Mentorship

George J. Mitchell Elementary School



Notable Accomplishments

Energy Campaign

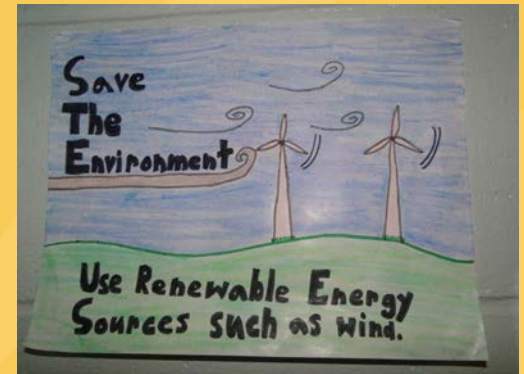
Lacey Township Middle School



**Don't be
fuelish**

Notable Accomplishments

Community Outreach Lake Riviera Middle School



Notable Accomplishments

Pre-School Program

Robert C. Wood Early Childhood Center



Sustainable Jersey Certification



PowerSave School activities can help to earn points in:

- Energy Tracking and Management (10+ pts)
- School Carbon Footprint (10 pts)
- Innovative Project (10 pts)
- Community Education and Outreach (10 pts)
- Green Challenges (10 pts)
- Enrichment Programs Through Partnership (10 pts)
- Education for Sustainability (10 pts per subject area)



For More Information

- Visit website at www.sustainablejerseyschools.com
- Email schools@sustainablejersey.com
- Call Sustainable Jersey Staff
 - Heather McCall 609-771-2469
 - Veronique Lambert 609-771-3427

