Why Green Schools ? Why Now?

2015 Mid-Atlantic Environmental Literacy Summit
November 9, 2015

Green Schools National Network

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132,183

13,588

110,140

14,000

138,000

3,755,125

54,876,000

If our goal is to create green, healthy sustainable schools and school districts….

Who is our audience?

132,183

13,588

110,140

14,000

138,000

3,755,125

54,876,000

- 132,183 Schools
- 13,588 School Districts
- 110,140 Principals
- 14,000 Superintendents
- 138,000 Other District Administrators
- 3,755,125 Teachers
- 54,876,000 Students

Digest of Education Statistics – 2010-11


CLIMATE CHANGE

In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.”

— Eric Hoffer, *Reflections on the Human Condition*

Creating green, healthy, sustainable schools is the most important education initiative of the century….

It is ultimately about developing learners who embrace their role as members of the whole earth community.

Green Schools National Network

Where we learn matters…

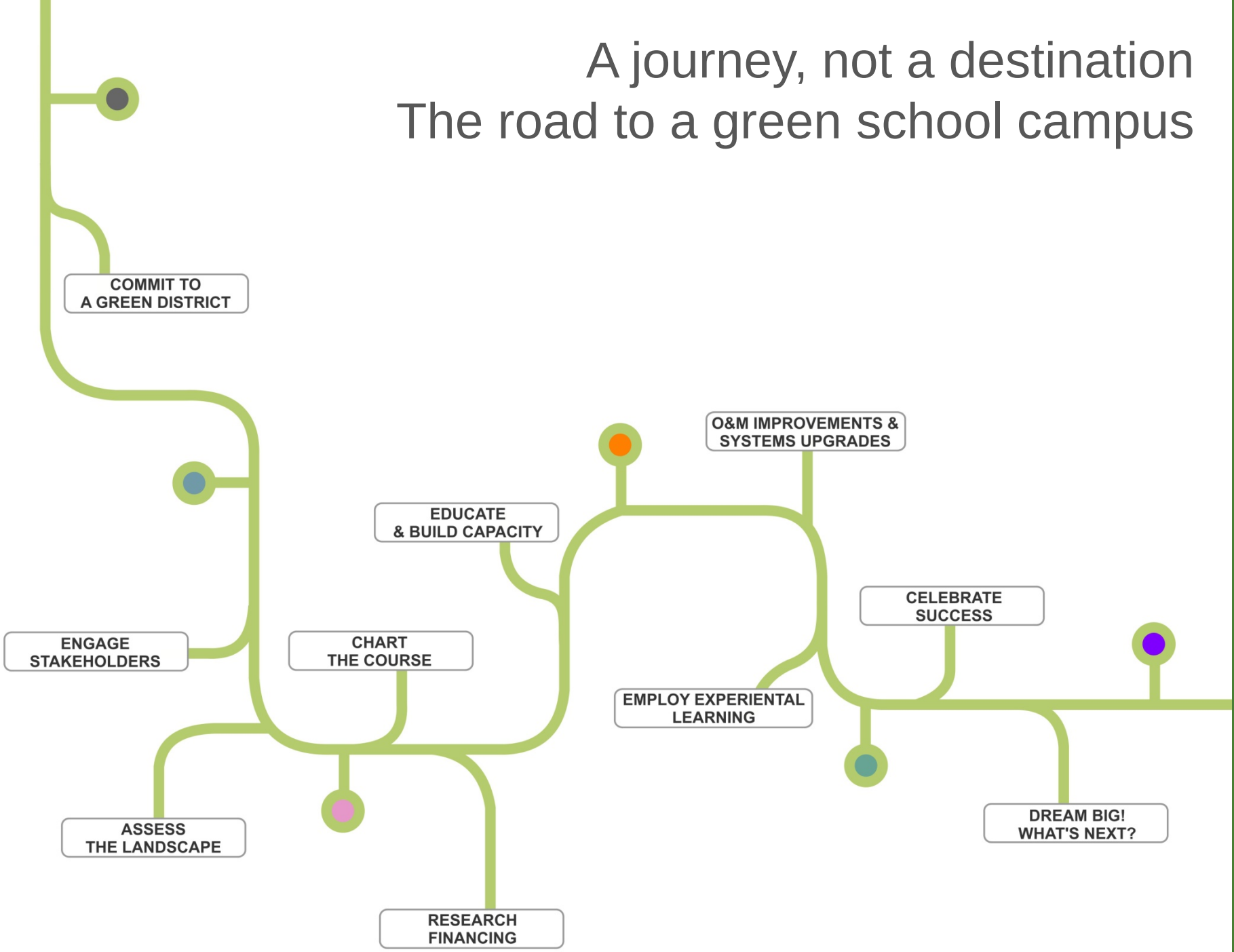
Green Schools National Network

How we learn matters….

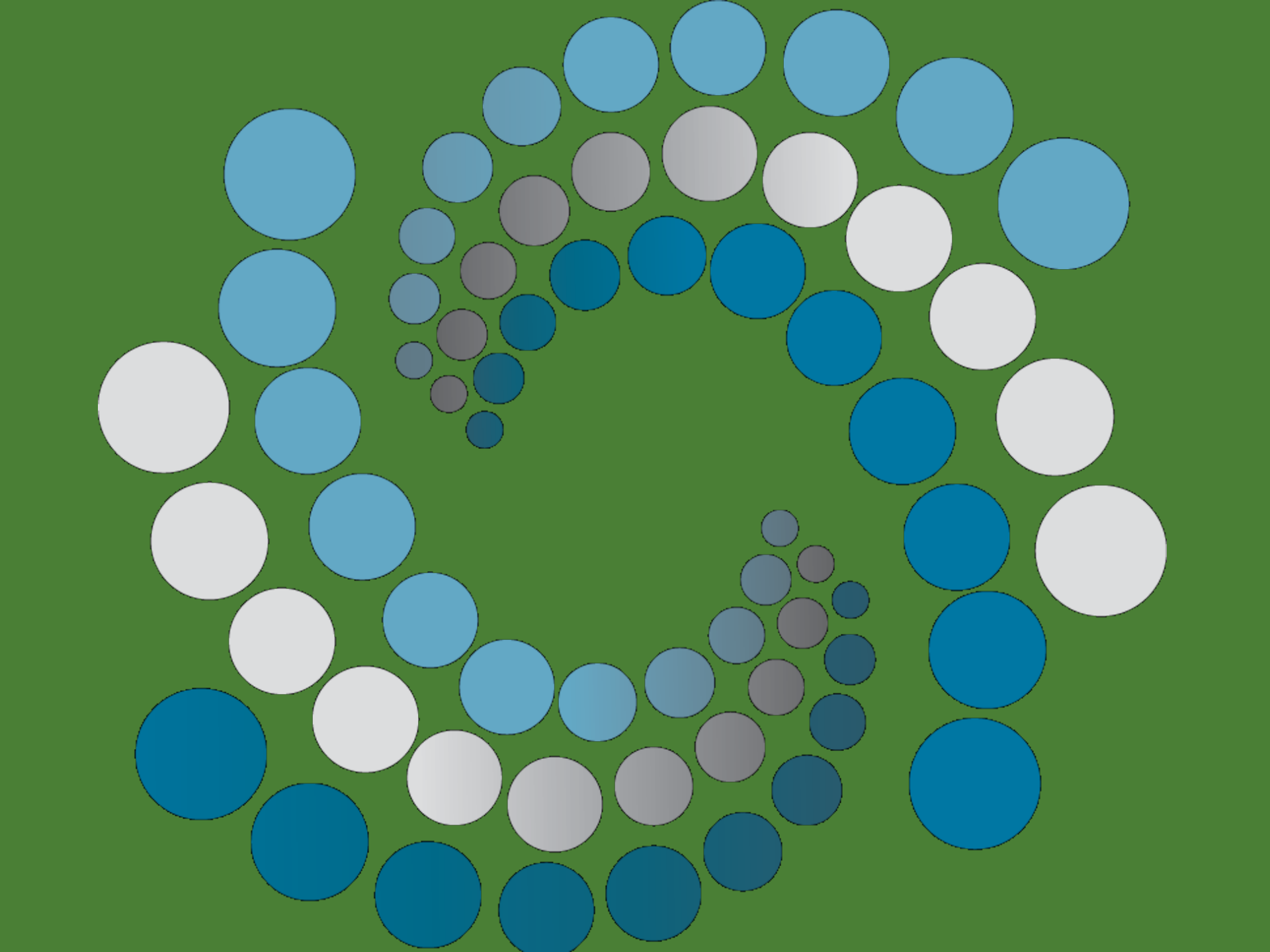
Green Schools National Network

What we learn matters….

A journey, not a destination
The road to a green school campus



Whole School Sustainability Report, 2013



U.S. DEPARTMENT OF EDUCATION

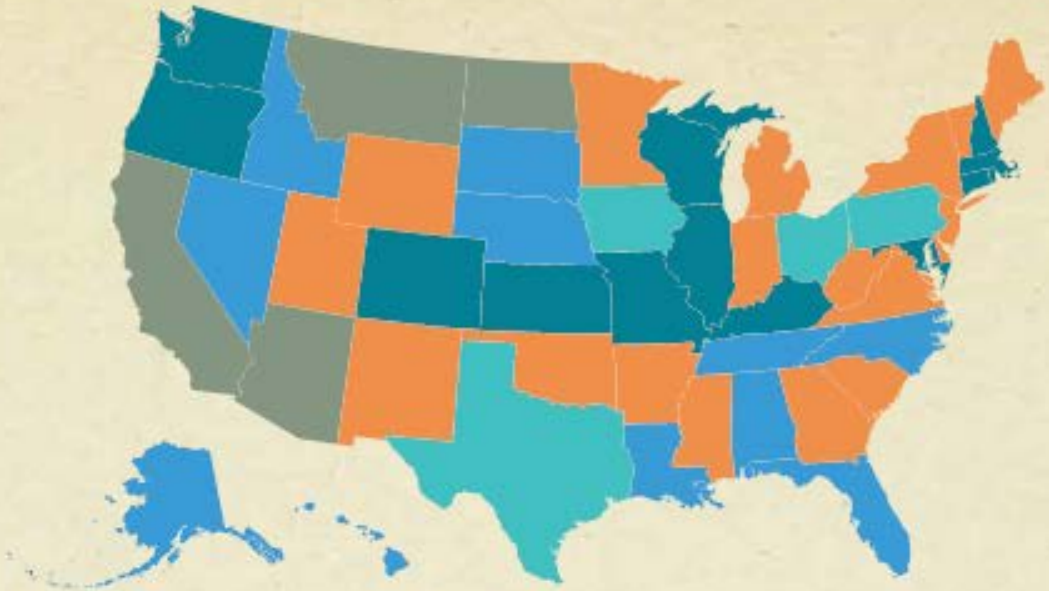
GreenRibbonSchools

Results

- 248 schools; 37 districts; 9 IHEs
- 30+ participating states
- New collaborations
- More resources into schools

ELP Stages by State

- **Have not yet begun ELP development:** AZ, CA, MT, ND
- **Drafting stage:** AR, DE, GA, IN, MA, MI, MN, MS, NJ, NM, NY, OK, SC, UT, VA, VT, WV, WY
- **Completed but not adopted:** AK, AL, DC, FL, HI, ID, LA, NC, NE, NV, SD, TN
- **Adopted but not implemented:** IA, OH, PA, TX
- **Adopted and implementation begun:** CO, CT, IL, KS, KY, MD, ME, MO, NH, OR, RI, WA, WI



Across the nation, states are making significant progress in advancing our national educational goals by creating and implementing plans to enrich the curriculum with environmental education.

These plans to integrate environmental education into the K–12 curriculum will give teachers and students new opportunities to take learning outside; explore their communities; analyze issues; learn about connections between our economy, society, and environment; support economic growth; and become engaged citizens.

Part of the No Child Left Inside initiative, state Environmental Literacy Plans (ELPs) lay out a roadmap to achieving environmental literacy in each state (the next section of this report provides an overview of ELPs and their connection to NCLI). In 2012, the North American Association for Environmental Education (NAAEE) launched the first-ever effort to gauge states' progress in developing ELPs. NAAEE administered a national survey online and through phone interviews, and published the information in a 2013 status report.[1]

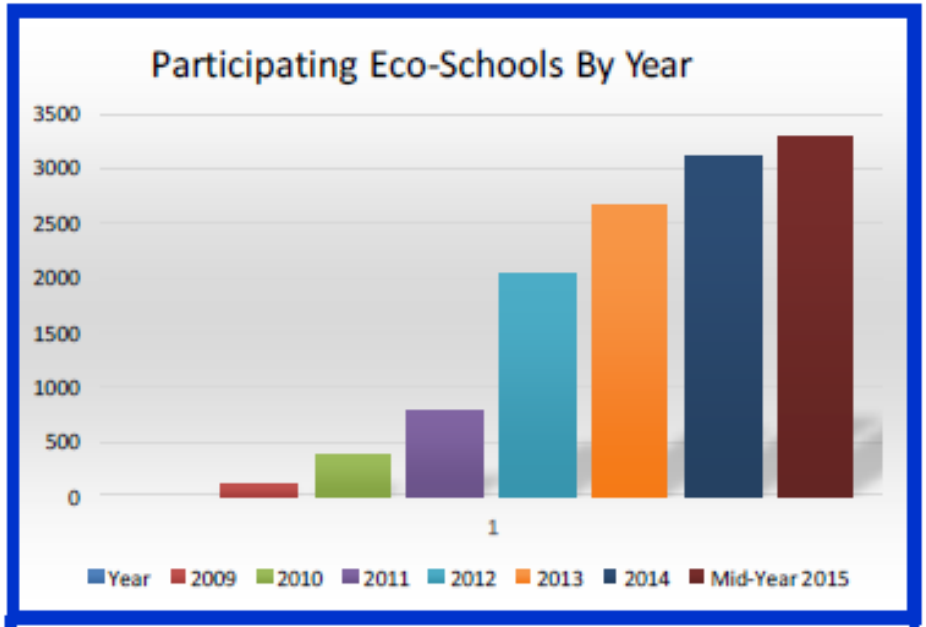
This second status report provides an update to that initial report. Data was gathered during the early part of 2014, from all 50 states and the District of Columbia, through an updated online survey and follow-up telephone interviews. This report details the current status of ELP development throughout the U.S., highlights several states with exemplary ELPs, and gives recommendations for successful ELP development based on the findings.[2]

[1] NAAEE's State Environmental Literacy Plans: 2013 Status Report. Available here: http://www.naaee.net/sites/default/files/us/affiliates/SELP_final.pdf

[2] Note: Since the survey was completed in 2014, many states have moved forward with their ELPs. For example, California is currently working on a Blueprint for Environmental Literacy. NAAEE's website (http://eelinked.naaee.net/n/elp) contains up-to-date information.

Eco-Schools USA

NATIONAL WILDLIFE FEDERATION



NWF Eco-Schools: Engaging **3,300** Schools,

1.9 Million Students, and **88,000** Educators

Eco-Schools

calling all eco-schools

NATIONAL WILDLIFE FEDERATION

Academic Benefits

ADDRESSING THE ACADEMIC NEEDS OF SCHOOL ADMINISTRATORS AND EDUCATORS AND PLANTING SEEDS FOR A MORE SUSTAINABLE FUTURE

When integrated into core curricula or used as an integrating theme across curriculum, environmental education has a measurably positive impact not only on student achievement in science, but also in reading, math, and social studies.

Here's a few studies of how student academic achievement benefitted from the inclusion of environmental education:

> "When I taught the kids math skills like measuring, in the classroom, they forgot it and couldn't make use of it. When the students had a chance to use these skills on our nature trail, they not only learned better but could apply and remember their math skills longer."
>
> Kim Flynn, Math Teacher,
> Jackson County Middle School,
> Kentucky

Improved Reading Literacy—Many people naturally associate environmental education and improved understanding of science. But environmental education also contributes to the development of basic skills including reading. One elementary school employed environment based education for this purpose. Bagley Elementary School in Washington state employed the Environment as an Integrating Context (EIC) and then measured performance on reading scores on the Iowa Test of Basic Skills. Bagley found that the EIC students' Iowa Test scores rose from an average of 44 to 53 among students in the environment-based program.

Source: Lieberman, Gerald A. and Hoody, Linda (1998). Closing the Achievement Gap. San Diego, CA: State Education and Environment Roundtable (http://www.seer.org/)

Improved Math Literacy — The Maryland Association of Environmental Outdoor Education reports that students interested in learning increased when they engaged in authentic environmental investigations on school grounds and in their communities. Statewide test scores rose, too. Maryland Green School 8th grade students had 5.1% higher averages in mathematics than non-green schools. A 2000 case study of schools in North Carolina with environment-based programs shows that 4th grade students achieved a 31% point increase in math achievement in just one year.

Source: Maryland Association of Environmental Outdoor Education; NEETF, 2000, National Scope

Improved Science Achievement and Attitudes Towards Learning — Fifth grade students who participated in school gardening activities scored significantly higher on science achievement tests than students who had a curriculum without garden experiences. Evaluations of the Junior Master Gardener program in Indiana and Louisiana also found greater science achievement gains among gardening students compared to control groups. Gardening activities can be integrated into all areas of the school curriculum, making learning more meaningful. Parent involvement, shown to enhance student achievement increases at schools with garden programs.

Sources: Klemmer, Waliczek, & Zajicek, 2005; Dirks & Orvis, 2005; Smith & Motsenbocker, 2005; Canaris, 1995; Henderson & Mapp, 2002; and Alexander, North, & Hendren, 1995.

Improved Critical Thinking Skills — Environmental education is also associated with improved critical thinking skills. A study of 401 Grade 9 and 12 students from 11 Florida high schools found a strong positive correlation between participation in environmental-education program and higher achievement on tests that measure critical thinking. Environmental-education students scored 4.33 points higher on the Cornell Critical Thinking Test than students in the control group.

Source: J. Ernst & M. Monroe, "The effects of environment-based education on students' critical thinking skills and disposition toward critical thinking". *Environmental Education Research*, 10(4), (2004).

Improved Student Behavior and Attitudes — The Pacific Education Institute's *Environmental Education Assessment* (2004) project compared 77 pairs of demographically equivalent schools across Washington State: one with environmental education (EE) integrated throughout the grades and curriculum and a matching school without EE. Schools with EE programs consistently showed higher test scores on state standardized tests in math, reading, and writing, and more support from parents, community and administration. Young people exposed to EE tended to improve their overall GPA, stay in school longer, receive higher than average scholarship awards, and display more responsible behavior in the school and community. Schools with as little as 20% of the teaching staff involved with EE showed statistically higher standardized test scores and more students who met state standards.

Source: 2004 Report Card on the Status of Environmental Education in Washington State

For more information on the academic benefits of environmental education, please visit our blog at: http://blog.nwf.org/tags/eco-schools-usa/

PLT®

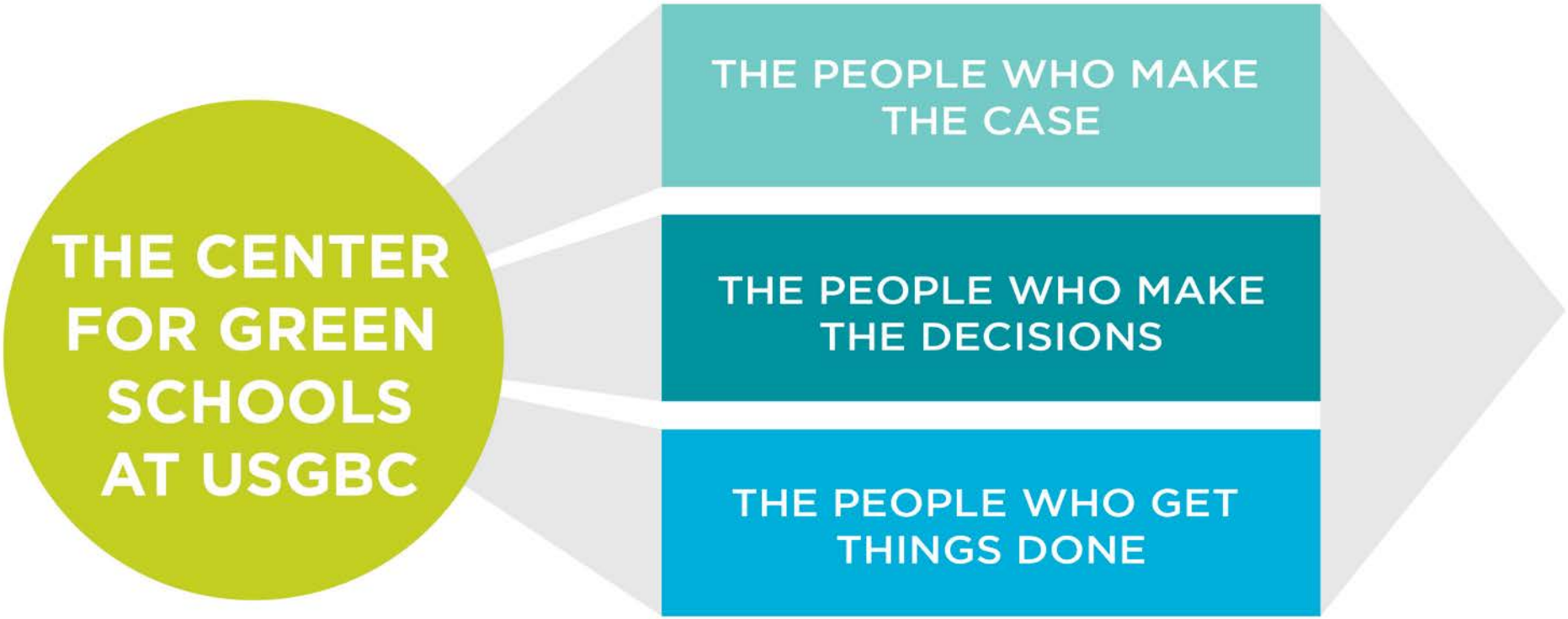
GreenSchools!

www.plt.org

Program Components

1. Professional Development
2. Five *GreenSchools!* Investigations
3. Environmental Service-Learning Action Projects

www.plt.org


THE CENTER FOR GREEN SCHOOLS AT USGBC
THE PEOPLE WHO MAKE THE CASE
THE PEOPLE WHO MAKE THE DECISIONS
THE PEOPLE WHO GET THINGS DONE


USGBC
50 for 50
GREEN SCHOOLS
CAUCUS INITIATIVE

MANAGING SUSTAINABILITY IN SCHOOL DISTRICTS:

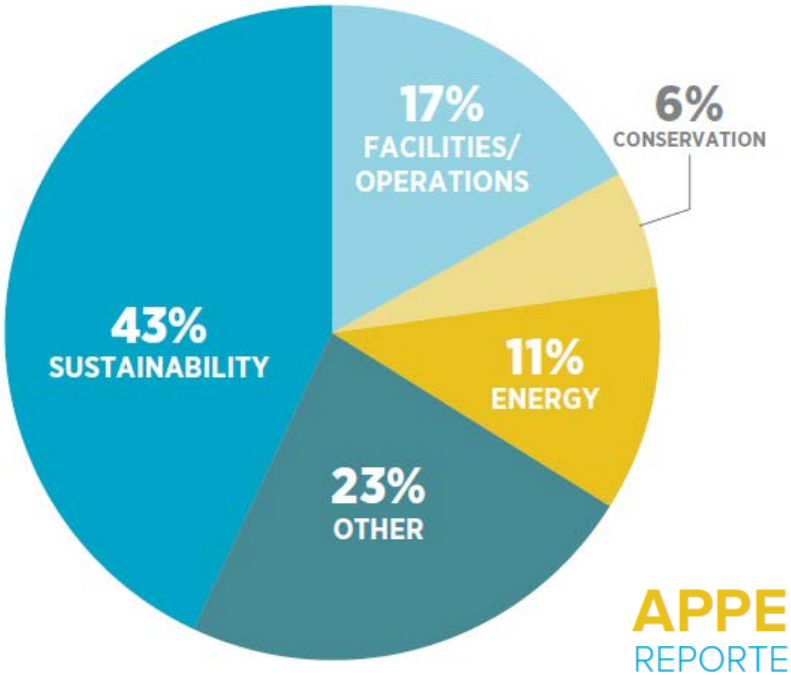
A PROFILE OF SUSTAINABILITY STAFF IN THE K-12 SECTOR

DANIA GUTIERREZ
Master's Candidate
University of Michigan School of Natural Resources and Environment

ANISA BALDWIN METZGER, Assoc. AIA, LEED AP® BD+C O+M
The Center for Green Schools at the U.S. Green Building Council

THE CENTER FOR GREEN SCHOOLS

FIGURE 4: Job titles by theme selected by respondent



APPENDIX C:
REPORTED JOB TITLES

Certified Facility Director/Maintenance
Coordinator, Utilities Services
Director of Buildings and Grounds
Director of Business/CFO
Director of Operations & Technology
Director of Sustainability (2 responses)
Director, Energy and Sustainability
Energy Conservation Specialist
Energy Manager (3 responses)
Environmental Services Assistant
Environmental Sustainability Manager
Environmental, Occupational, Health and Safety Officer
Green Schools Coordinator
High Performance Schools Program Manager
LEED Program Specialist
Plant Engineer
Program Manager, Environment, Energy & Sustainability
Recycling & Sustainability Coordinator
Resource Conservation Manager
Schools Conservation Coordinator
Science Specialist K-12
Senior Facilities Architect
Senior Manager, Facilities Design
Senior Sustainability Specialist
Sustainability & Purchasing Manager
Sustainability Analyst
Sustainability Coordinator
Sustainability Manager (3 responses)
Sustainability Officer
Sustainability Planner

EQUIP & EMPOWER

2,325,209
STUDENTS & SCHOOL STAFF CONNECTED TO OUR TOOLS

Further strengthening our network of sustainability professionals in K-12 school systems, we launched **six school district scholarships** and **one new Green Schools Fellow**, providing these staff with hands-on coaching, support, and training.

Center director Rachel Gutter made the case to **3,000 executives** for educating sustainability natives at the **World of Business Ideas (WOBI) World Business Forum** in Mexico City, Mexico.

36,147
INDIVIDUALS EQUIPPED WITH OUR RESOURCES

1,576
ADVOCATES EMPOWERED THROUGH OUR LEADERSHIP TRAININGS

The Center co-hosted a summit for **125+ state legislators** to help them advance green schools in their communities, including a powerful keynote from George Bandy, Chair of USGBC's Board of Directors.

CATALYZE & CONNECT

REACH & RECOGNITION

"Your work is changing the paradigm in which schools operate across the country. Because of the work that you've done, I've been able to learn from your example. In turn, districts all across the St. Louis and Missouri region have been reaching out to me, learning about my processes and doing what they can to replicate."

Erik Lueders, Sustainability and Purchasing Manager, Parkway School District (Chesterfield, MO)

"All of us have a critical role to play in making our schools safe, healthy, welcoming environments for our kids...seeing so many people come together, to make schools more efficient, to teach kids about the environment, to connect them to the real world - this to me is the ultimate triumph of common sense."

Arne Duncan, U.S. Secretary of Education, on the Green Apple Day of Service

"The ability to work with students from varying disciplines, apply critical thinking skills and engage in a professional project that improves our university was very rewarding. [LEED Lab] has been my favorite course at NC State."

Jacob Seyle, student at North Carolina State University

Taking action at school and beyond

Through the GSA, schools worldwide are uniting to take action on climate and conservation.

> *"The NYC Department of Education needed to make a strong public statement about our commitment to sustainability. Joining the GSA showed clearly that we were committed at the highest level."*
>
> – John Shea, CEO, Division of School Facilities, NYC DOE

GREEN SCHOOLS ALLIANCE
gsA
CLIMATE STEWARD

GREEN SCHOOLS ALLIANCE
gsA
CLIMATE CHAMPION

GreenCup Challenge

Sc3


ASSOCIATION FOR
LEARNING
ENVIRONMENTS
Enhancing the Educational Experience

COLLABORATIVE FOR
HIGH PERFORMANCE
SCHOOLS


UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

New!

School IAQ
Assessment Mobile App

Download on the App Store

GET IT ON Google play

energy

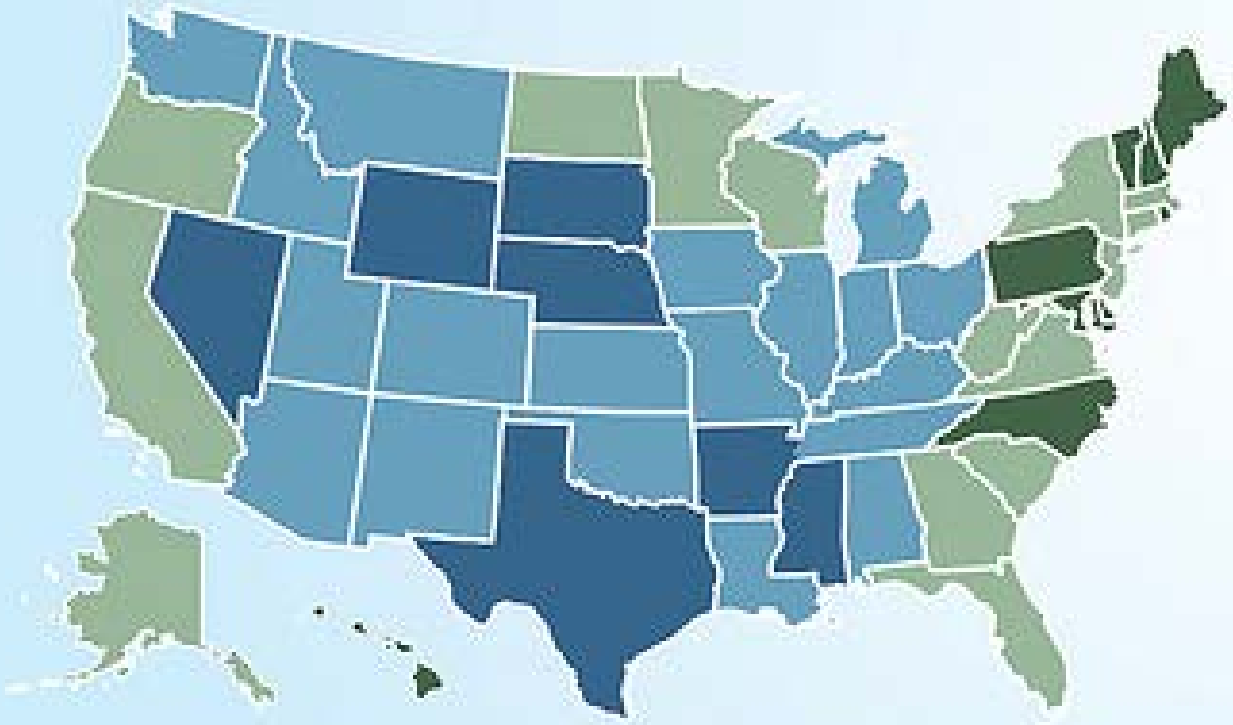
ENERGY STAR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Environmental Education

USDA
The United States Department of Agriculture

HEALTHY HABITS TAKE ROOT



Percent of school districts participating in farm to school activities

Less than 25% | 25% - 50% | 51% - 75% | More than 75%

THE FARM to SCHOOL CENSUS

USDA estimates that as of the 2012-2013 school year, **3,812 districts** operating approximately **38,629 schools** with **21,008,254 students** in attendance are buying local products and teaching children where their food comes from.

HUNGRY FOR MORE?
www.fns.usda.gov/farmtoschool/census/

GSNN Looks Beyond the Conference

Green Schools National Network

00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 26

2000-2009

80 non-profits emerge with green schools in title or with green school initiatives.
In 2008, the Green Charter School Network (GCSN), the pre-curser to GSNN, is incorporated.
GSNN convenes thought leaders to establish Green Print 1.0 .

2010

GSNC changes its name to Green Schools National Network (GSNN).
GSNN launches Green Schools National Conference.
GSNN establishes an Advisory Board with representatives from 40 non-profits, corporate, federal and state agency, and green school partners,

2011

GSNN supports USGBC, Eco-Schools, Earth Day Network to establish the US Department of Education Green Ribbon Award

2012

GSNN completes the first comprehensive review of green school metrics and programs. Proposes a common rating system.
GSNN and UC Denver pilots 1st study on green school impact on student learning

2011-15

GSNN sustains and grows conference to 1200 attendees reaching 8838 schools, 530 school districts, and 6,448,269 students

2015-16

GSNN participates in USGBC convening of thought leaders to determine common metrics for "Measuring Our Impact"

- Environmental footprint of schools
- Health and well being
- Environmental and Sustainability Literacy

2015-16

GSNN completes Strategic Plan to leverage expertise beyond the Green Schools National Conference.
GSNN revamps GreenNotes as an online /social media outlet for evidence-based resources for the green schools movement. In ten years GreenNotes will reaches 1,000,000 .

2016-26

GSNN and USGBC Center for Green School co-host and grow Green School Conference and Expo into international event with 4000 annual attendees from 40 countries, 2000 school districts serving at least 50% of the students in the U.S.

2016-18

GSNN uses "Measuring our Impact" metrics to create GreenPrint 2.0.
GSNN and partners identify 30 hub schools and districts across the country who will implement GreenPrint 2.0 and participate in rigorous evaluation of impact instructional/operations model.

2018-26

GSNN and hub schools host site seminars, provide professional development, and school/district level coaching .
GreenPrint Schools and District s demonstrate how GreenPrint schools impact students. Network grows to 200 schools , serving 50,000 students


Green&Healthy
SchoolsWisconsin


PA
GREEN &
HEALTHY
SCHOOLS


greenSCHOOLS


KANSAS
GreenSchools


OREGON
Green Schools


GEORGIA
GREEN&
HEALTHY
SCHOOLS


GREEN SCHOOLS
INITIATIVE


washington
green
schools


Florida Green School Awards


OKLAHOMA
Green School


KENTUCKY
GREEN AND HEALTHY
SCHOOLS


Michigan
GREEN
AWARD
2015-2016


GREEN SCHOOLS
MAEOE


GROWING
GREEN
SCHOOLS

Promising Practices Ready to Scale….


GREENING CHICAGO
SPACE
GROW

Chesapeake Bay Program

Science. Restoration. Partnership.

GREEN SCHOOLS CONFERENCE & EXPO

March 30 – April 1, 2015
Pittsburgh, PA

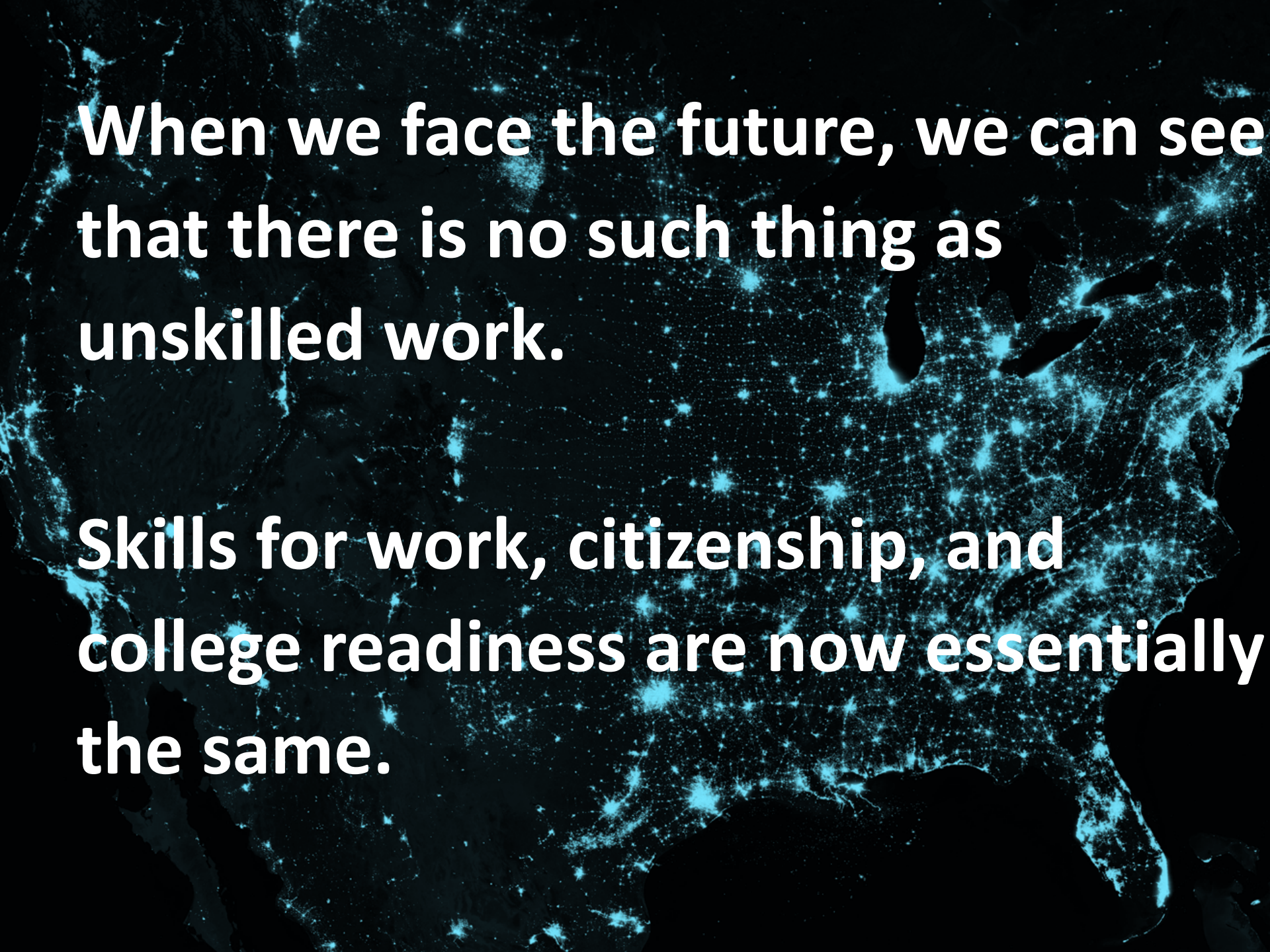
8,838 SCHOOLS

530 SCHOOL DISTRICTS

221,898 TEACHERS

6,448,269 STUDENTS


Green Schools
National Network


When we face the future, we can see that there is no such thing as unskilled work.
Skills for work, citizenship, and college readiness are now essentially the same.

The learners who inherit the future will need:

1. **Higher order thinking skills**
2. **Global and ecological thinking skills**
3. **Skill and mindset for innovation**


Sustainability
Sustainable
Developing
Waste
Energy
Environment
Water
Developed
Resources
Transportation
Fossil
Fuels
Regional
Green
Measuring
Assessment
Studies
Urban
Recycling
Reuse
Approaches
Planet
Science
Goals
Countries
Challenges
Inventory
Indicators
Case
Criteria
Electricity
Generation
Managing