

# Greening Our Schools

## Remarks of U.S. Secretary of Education Arne Duncan to the Green School National Network Conference, Denver, Colorado

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Thank you for that generous introduction, Tom [Boasberg]. You're doing a great job, and Denver is lucky to have you as their leader, promoting the green movement here. I want to thank as well my green schools team leaders at the Department, John McGrath and Andrea Falken, who are here with me today.

It's great to be back in Denver—and to be talking about a subject that I think is so important but often doesn't get the attention it deserves.

In many ways, today's conference represents a coming of age for the green movement in our nation's schools. It marks a turning point. For too long, greening our schools, developing environmental literacy, and nurturing stewardship and an ethic of sustainability in our students have been afterthoughts in education debates.

This gathering today is a powerful testament to the fact that the green movement is no longer a sidelight in our nation's schools. And when you return home from this conference, I hope you'll leave with a renewed commitment and an even deeper appreciation of the urgency of your work.

I'd like to offer three thoughts today about the maturation of the green schools movement.

First, your movement is helping to debunk the zero-sum myth of green schools and education reform. In the past, skeptics of both green schools and the value of environmental literacy have claimed that reducing our ecological footprint and increasing understanding of the environment was somehow a zero-sum game.

The skeptics said, 'sure, those are nice-sounding goals.' But they warned that green schools would have to come at the expense of reading and math, of repairing broken-down schools, and offering arts and sports. I want to state unequivocally that the green schools movement is not a zero-sum game. It's really a win-win game.

As I'll talk about in a moment, green schools and environmental literacy in fact complement the goals of providing a well-rounded education for the 21st century, of modernizing schools at reduced costs, and of accelerating learning.

A second takeaway message I'd like to share is that while green schools complement much of America's core educational mission, they also nurture unique skills of special value in a knowledge-based economy.

It's no secret that the global economy creates more competition today for jobs than ever before. When I was a kid in Chicago, you actually could drop out of high school and still find a job to support your family at a steel mill or factory. Those days are over. There are no good jobs out there today in the knowledge economy for a high school dropout.

And while the global economy has created new challenges, it has created new opportunities as well. The world is more interdependent today than ever before. Reducing disease, developing renewable sources of energy, curbing pollution, and reducing greenhouse gas emissions are not challenges that stop at our borders.

America simply cannot meet any of these challenges without collaborating with other countries. And those partnerships will require U.S. students to develop better critical-thinking skills, a deeper understanding of science and sustainability, and a greater awareness of ecosystems and energy efficiency.

The final message I hope you'll take with you from this conference is that you have helped pioneer a successful model for government partnerships that represents a marked departure from the traditional model—which often depends on big infusions of new resources and command-and-control regulation.

In a time of tight school budgets everywhere, you helped shape, inform, and develop our U.S. Department of Education Green Ribbon School program with little new money by encouraging innovation. You made smarter use of existing resources. You pushed us hard and other government agencies to get out of our separate silos.

Your movement is helping not only to change the culture of schools in our communities for the better but also the culture in our Department. That's a big deal—and I want you to know how much that means to me personally.

I've been very up front about this—when I was CEO of the Chicago Public Schools, I did not always welcome a call from the nice man or woman at the Education Department back in Washington. The truth is that for far too long, our department has been a grant-monitoring machine, not an engine of innovation.

The great reform ideas always come from the state and local level, not from me or anyone else in Washington. And the ED-Green Ribbon School program is a powerful illustration of innovation that started with you, and that we tried to listen to, learn from, and take to scale.

I would be the first to admit that historically our department has paid too little attention to the green school movement and promoting environmental stewardship. Just a decade ago, the green school movement and the rigorous integration of environmental science in our schools, was still in its infancy.

Nationwide, less than 19,000 students took the AP Environmental Science exam in 2001. In 2011, that number had jumped five-fold, to nearly 100,000 students. That's amazing moment in the right direction—and I'm convinced those numbers will continue to grow exponentially.

Just a few years ago, the National Academy of Sciences published a study on the learning attributes of green schools. It concluded that their impact on learning could not be determined without a clearer, accepted definition of green schools.

Since then, green schools have taken a leap forward, thanks in large part to your support and guidance for the Department's new Green Ribbon program. Today, we can agree on a meaningful, common definition of green schools.

Collectively, we're seeking to reduce schools' environmental impact and improve their energy efficiency; improve health, in both everyday practices and surroundings; and advance environmental learning.

Remember, it was only a year ago when many of you here today sent us a letter requesting a new initiative from our Department. You were among some 75 signatories, ranging from the Alliance to Save Energy to the Zero Footprint Challenge, to associations for national school boards, principals, and teachers.

You asked for a coordinated program at the Department dealing with environment, health, and education—and we appreciated your passionate and thoughtful advocacy.

As we developed that new green schools program, the U.S. Department of Education Green Ribbon Schools, we worked to include each of the areas you emphasized. We were determined that environmental impact and energy efficiency, health, and environmental literacy would all be part of our new program.

I can't thank the many people here today enough who lent their expertise, time, and support to help create the U.S. Department of Education Green Ribbon Schools initiative. This program simply would not have been possible without many of you.

In particular, I want to acknowledge the U.S. Green Building Council Center for Green Schools, the Earth Day Network, the National Wildlife Federation, and, especially, the Campaign for Environmental Literacy.

I'm thrilled to hear that the Green Ribbon awards are generating a lot of attention and interest in your communities. Literally, almost every day when I look through our national news clips, I see a story about Green Ribbon schools somewhere.

From Hawaii to Virginia, from Arizona to Kentucky, we are hearing of real change, driven by programs you promoted, refined, and continue to support.

Looking back, this maturation of the green school movement seems to me to be mostly a matter of following common sense.

When I was CEO in the Chicago schools, I saw first-hand how changes in school construction and renovation affected students' ability to learn.

When children and teachers no longer had to go to school in stuffy buildings, in classrooms that were noisy and poorly lit, they felt they could do a better job of teaching and learning. Just as importantly, they felt we cared about them to create a better learning environment. In devastated and neglected inner-city neighborhoods, the symbolic impact of this work cannot be overstated.

It is no surprise that improving the quality of our school environments can have a powerful effect on productivity and student achievement.

Everyone here knows that childhood asthma has unfortunately exploded in recent years and is now a leading cause of school absenteeism. The causes of the increase in childhood asthma are still unsettled. But it only makes sense that we should strive to improve indoor and outdoor school environments to curtail asthma attacks.

One study from the Centers for Disease Control and Prevention finds that reducing indoor air pollution could prevent more than 65 percent, or two in three asthma cases among elementary school-age children.

A healthier environment is also a more equitable one. We know that our underserved students are more likely both to attend schools with poor indoor environments and to suffer from asthma. They desperately need more time in school, not less.

Advancing equity, and improving achievement and productivity—these are goals for all of our department programs, not just in the Green Ribbon initiative.

But the ED-Green Ribbon program also creates some unique opportunities. Sustainable schools, for example, can help engage not just the school but the whole community.

Before I joined the Chicago Public Schools, my sister and I ran an "I Have a Dream" program on the South Side of Chicago for six years. We wanted our Dreamers to be leaders in their neighborhood. One summer, under professional supervision, they literally helped build a single-family home on a vacant lot. Another summer we planted trees along a mile-long stretch of Drexel Boulevard, crossing between gang territories. We were, at several levels, trying to send a message.

These were tremendous learning opportunities for all of us. And I later got to see up close in Chicago's aging schools that upgrades to existing facilities—not just building brand new ones—can help improve students' health, productivity, achievement, and public attitudes about schools.

What was common sense in Chicago then still makes sense to me in Washington today: Healthier school environments and healthier habits of nutrition and exercise make for happier, healthier, more attentive, and more productive students. And that common sense notion is now being borne out by a growing body of academic research linking high-quality physical activity and nutrition to better student performance.

Now, some skeptics of green schools sometimes say they are a nice idea in theory but too expensive in practice. Your example is helping to refute that zero-sum game worldview of public school investment.

Green schools are saving actually "green" for education administrators in states and districts across the country—in the form of real dollars that help tight budgets go further. In fact, green schools on average use roughly a third less energy and water than conventionally-designed schools.

That is a huge savings for our nation's schools and districts. On average, green schools save \$100,000 per year on operating costs—enough to hire two new teachers, buy 200 new computers, or purchase

5,000 new textbooks. We must push scarce resources into the classroom, and out of operations budget lines.

We all want to see schools hiring back teachers and purchasing new equipment and educational technology—instead of laying out taxpayer dollars to cover rising utility costs.

So, green schools really are more of a win-win game, than a zero-sum game proposition. Let me give one last example. Cost savings from energy efficiency measures produce a multiplier effect, because they, at the same time, reduce pollution and a school's environmental footprint.

Buildings are one of the biggest consumers of natural resources in our country. Nationwide, buildings consume more than 70 percent of electricity and contribute nearly 40 percent of carbon dioxide emissions. By contrast, green schools help conserve the planet for future generations. They provide—to quote President Obama—an education built to last.

An education built to last must, of course, also be an education that prepares students to compete in the knowledge-based, global economy of the 21st century.

Thanks to many of your efforts, we now have data that suggests high-quality environmental education increases academic achievement, whether it is used as a theme across the curriculum or integrated into core subjects. And that research suggests that environmental studies boost achievement not only in science, but also in reading, math, and social studies.

You've effectively used the study of the environment as a hands-on learning tool to engage students in the science, technology, engineering and mathematics disciplines, in the STEM fields—all of which we need our students to get more excited about and excel in if they are going to be successful in the 21st century.

Its results like that which led us to include subjects like environmental literacy in the funding reserved for a well-rounded education in our Blueprint for reauthorizing the Elementary and Secondary Education Act.

Students who receive a well-rounded education are more likely to graduate ready to innovate and collaborate in working toward a sustainable, clean energy economy. They are more likely to grow into caring responsible citizens, ready to participate in the civic life of their communities, ready to be good stewards of the world.

The third and final takeaway message that I wanted to reaffirm today is that the Green Ribbon competition has helped advance a model for government partnerships that represents a significant departure from the federal government's traditional way of operating.

The Green Ribbon award program was launched without new authority or new money. We didn't have to wait for a dysfunctional Congress to act. And thanks chiefly to your hard work and support, we didn't have to hire new staff for the program.

To create this ambitious program, you didn't ask us to reinvent the wheel. Instead, we brought together existing, often under-used public and private sector standards and resources in one coherent program.

Your schools are using EPA's long-standing energy, water, waste, and hazardous materials standards to gauge environmental impacts. Some schools are benefitting both from the U.S. Department of Energy and Agriculture's alternative energy grants. Schools are turning to the EPA and CDC for guidance on asthma, pest, and contaminant management and to assess indoor and outdoor air quality.

Others are looking to improve the management of school bus fleets. And leadership is coming from some very interesting corners.

Students like Jonny Cohen, a 17 year-old, in Highland Park, Illinois, are part of the solution. He literally invented a way to retrofit school bus windshields that reduces aerodynamic drag, increases mileage, decreases pollution, and reduces school bus fuel use by as much as 25 percent.

I'm glad to report that many schools are heeding the First Lady's advice about fitness and nutrition in the "Let's Move" initiative. They are taking advantage of programs like USDA's Farm-to-School Program, the Healthier US Schools Challenge, and the President's Council on Fitness Challenge.

In the area of environmental and outdoor education, schools are connecting to teacher and student resources long provided by the EPA, the National Science Foundation, and the National Oceanic and Atmospheric Administration. And we just created a great new partnership with the Department of Interior and my good friend Ken Salazar to connect more young Americans with the outdoors.

For the first time, several federal agencies are now talking—and, more importantly, working together. All told, our Department partnered with more than two dozen offices at seven agencies to develop this new award and initiative.

Finally, the Green Ribbon awards stimulate innovation and encouraged flexibility in the federal-state partnership. I am always looking for ways to incentivize creativity and reduce the heavy hand of Washington. This partnership was a fantastic way to continue to build this new culture I am striving for.

States had a lot of flexibility in designing their state nomination. At the same time, we've set a broad, high bar for schools that aspire to the U.S. Department of Education Green Ribbon School title.

In a short first year, this flexibility meant that state education agencies had to launch their nominee selection processes for the national award in a matter of weeks. Everyone had to move in a non-bureaucratic way, and participating state education agencies deserve real kudos for taking on this challenge.

We have deeply appreciated the expertise, commitment, and generosity of the non- and for-profit sector during the inaugural year of the award. And our Department will continue to work with all of you to send more resources to schools working toward the mileposts our award establishes.

I would urge each of you to continue to support state education officials in the pilot year of the award—and please encourage new state agencies to nominate schools next year. We want to grow and improve, every year.

As a result of the Green Ribbon program and recent research, we have a better understanding today of what works and what doesn't work in the field.

Green schools don't have to be brand new schools. They can be older schools taking simple steps to reduce their environmental impact or teach environmental literacy.

Perhaps they start with packing lunches in reusable containers, providing healthy alternatives to birthday cupcake celebrations, and using private sector partnerships, as they have at Bond Mill Elementary in Laurel, Maryland.

Not far from Bond, at Northwood High School, older students worked with community partners to restore a wooded area, install rain gardens, construct a trail, and improve habitat.

At Pine Jog Elementary in West Palm Beach, Florida, students plant and maintain a hydroponic garden. Working with members of the community, they then sell their produce—and develop a business plan for the revenue.



Other schools are using environmental education to give their graduates a leg up in the new green economy. At Raymond Kellis High School in Glendale, Arizona, a vocational technical program uses aspects of the school facility, such as solar panels, to prepare graduates for green jobs in renewable energy.

And green schools don't need to have a lot of funding. In fact, they often reduce expenditures. At Rosa Parks Elementary in Lexington, Kentucky, the school cut its energy usage almost in half, saving over \$50,000 last year, with no added expense to the school.

At Casey Middle School, up the road from here in Boulder, a major renovation including solar panels and a new ground source heat exchange system is saving the school more than 50 percent on its energy bill—and they saved taxpayer dollars at the same time that the school expanded its facilities by 40 percent.

In this era of lean budgets, these savings are so attractive that whole districts are getting on board the green bandwagon. Council Rock School District in Pennsylvania reduced its energy consumption in its 16 schools by nearly 50 percent. For an expenditure of just \$150,000, they saved more than seven million dollars over four years.

Finally, states such as Ohio, which has instituted green schools construction policies, estimate that the first 250 green schools built in the state will save the state \$1.4 billion dollars—that's right, billion—over the next 40 years.

The lesson learned here is that any school can take some relatively simple steps to become greener and promote environmental stewardship. Schools don't have to be brand new or acquire any special building certification.

Through creative partnerships and community outreach, students, parents and teachers alike can acquire a better understanding of how they can strengthen the quality of our children's education and improve student outcomes.

Now, for all of the success of the green schools movement, several real challenges lie ahead.

Through the Green Ribbon program, we intend to shine a spotlight on the work of a hundred or so exemplary schools. But our real aim, and I think the aim of the field, must be much more ambitious. We don't seek pockets of excellence. We want success to be the norm. We want to encourage all schools to provide a sustainable education.

In the 21st century, green schools are not add-ons to a good education. To succeed in the knowledge-based, global economy, children should receive tasty, nutritious food and plenty of outdoor physical activity to help them excel academically.

A thorough understanding of how humans and the environment interact and are interconnected, a deep curiosity for the sciences, and an ability to infer and extrapolate knowledge should not be reserved for just a few high-achieving students in more prosperous communities.

Green educators also still face the equity challenge. We need all students hooked on math and sciences. All schools should be helping students stay free of the complications of obesity and asthma. And all schools should be able to dedicate more funds to teachers and technology to educate students with a view toward providing a world-class education—instead of with an eye to paying the utility bill.

So, I want to close by thanking you for all that you are doing, and by asking that you keep up your remarkable effort. This is an idea, a movement, whose time has come.

Each of you has a critically important role to play in encouraging excellence, increasing productivity, and promoting environmental and fiscal responsibility in our schools. Each of you can help to ensure our students' good health, high achievement, and readiness for success.

With your commitment, and with your leadership, I know we are moving closer to the day when we will have an education system that is built to last for the 21st century.