2009 High School Essay Contest Winner

To encourage young people to consider careers in science and engineering, where they can have a positive impact on important environmental issues, each year A&WMA invites high school students to submit essays for its annual award. This year's winner, **Aneta Molenda** of Bergen County Academies, Hackensack, NJ, answered that call with a well-designed essay on the push toward sustainability.

'Driving Environmental Progress: What Can Students do?'
The Push Toward Sustainability

Abstract
Humans will achieve ultimate environmental progress when we learn to live sustainable lifestyles by reducing consumption and waste, increasing efficiency, and growing and/or buying local food. Students are most qualified to lead this initiative as they become increasingly environmentally conscious due to the recent trend in media and business concerning eco-friendly practices. The food we eat accounts for a large chunk of our total carbon footprint, because it travels thousands of miles before it even gets to our plates. We are able reduce our carbon emissions tremendously by sustainable gardening at school and at home. Growing food and becoming independent of mass-produced goods is what sustainable living is fundamentally about, and if you can convey that idea through schools, communities will follow suit.

"We do not inherit the Earth from our parents; we borrow it from our children,"[1] and so we cannot blame anyone for the existing environmental situation, however disastrous. At the head of the force is the younger generation, especially students. The key to environmental progress is the decision to bring about change, without blaming "our parents." Many people do not realize how much power they possess in reversing global warming due to two of the many factors of environmental progress that blind them: recycling and saving energy. More important and less recognized, though, is sustainability. Humans will achieve true environmental progress, not when they develop new ways of recycling or a fuel that does not produce toxic emissions, but when we learn to live sustainable lifestyles by reducing consumption and increasing efficiency. Sustainability is a broad term used to describe the process, rather than the goal, of a better life through individual interactions with society, the economy, and the environment.[2] The latter can be achieved through different means, including limiting your waste and growing your own food.

The impact of industrial agriculture on the environment is tremendous. The only benefits of this type of mass farming are short-term: affordability and convenience. However, the long-term social and environmental detriments far outweigh these two benefits. Huge amounts of herbicides, insecticides, and fertilizers are used because these farms utilize monocropping, the use of enormous fields of just one type of crop that make it vulnerable to pests. The industrial chemicals used in this method have very negative effects on individual health, as well as the environment. "Nitrogen compounds from Midwestern farms, for example, travel down the Mississippi to degrade coastal fisheries and create a large 'dead zone' in the Gulf of Mexico where aquatic life cannot survive."[3] Widespread nutrient deprivation and soil deterioration through heavy machinery use destroys the Earth even further. This "is one of the most serious challenges facing humankind as it attempts to feed a growing population."[3] There are many, many more environmental impacts, but we must be optimistic, and rather than dwell on all the harm that has already been done, look at what students can do in terms of progress.

Opportunities for students to get involved are everywhere. It has been almost forty years since the first celebrated Earth Day, and awareness continues to increase. Just two weeks ago, PSE&G (Public Service Enterprise Group) held their second annual "GreenFest," which I eagerly attended. The workshops and speakers were extremely informative and knowledgeable. Mike Azzara, one of the lecturers, spoke about the importance of sustainable and organic gardening, both at school and at

home. He explained how the food we eat accounts for a large portion of our total carbon footprint, and most people do not realize that their food travels thousands of miles before they buy it at the supermarket. We are able reduce our carbon emissions tremendously by buying locally and even growing our own vegetables. This idea intrigued me, and the next day, I spoke to my biology teacher about starting a garden at school. We already grow quite a few herbs, including rosemary and basil, for the culinary department of the school. It is more achievable than most people imagine, especially if the school has the capacity and student determination to start a garden. Growing food and becoming independent of mass-produced goods the fundamental element of sustainability, and if you can convey that idea through schools, communities will follow suit.

Before going out and educating family, friends, and communities about the importance of green living, students have to start with themselves. Green living is not only limited to saving energy and recycling, as is the common misconception. Many people that live in houses have backyards and room to plant a modest garden, capable of producing a whole summer's worth of vegetables for the family and neighbors. All it takes is one or two Saturdays to plant some of the basics: tomatoes, radishes, lettuce, and maybe some herbs. This garden will be cost effective, healthy, and most importantly, environmentally friendly. After all, "There is no act more gratifying, more basic, more liberating, than to coax food from the Earth."[4] Starting an organic garden requires a little more effort, but it is definitely worthwhile. An organic garden reduces carbon emissions already in the atmosphere, in addition to eliminating the potential carbon emissions you would have contributed by buying your vegetables at the supermarket. Soil with 1% organic matter reduces about .3 lb of carbon per square foot or 2.5 lb with 7.7% organic matter.[5] Now we get to the important point of not only sustainability, but also the reversal of harm, such as global warming.

It's time we realize there should be no "waste" to recycle in the first place. Humans are the only species that produce useless waste, and we are very rapidly running out of room to put it all. As depressing as it sounds, we need to be optimistic and, as students, spearhead the push for sustainable living. Something as simple as planting a garden has short- and long-term positive effects on you, your community, and most importantly, the environment. **em**

In The Next Issue…

Special Extended Issue!

For the first time ever, the January and February 2010 issues of *EM* will be combined into a special, single extended issue that will include extra feature topics and articles in addition to all of the regular columns and departments. Look for this special issue to arrive in the mail around the first week of February.

Energy Efficiency to Achieve Environmental Goals
A look at some of the programs and opportunities designed to improve energy efficiency, including the U.S. Green Building Council's Leadership in Energy and Environmental Design program, weatherization programs, and government programs that encourage or require reductions achieved through energy efficiency.

NAFTA and Transboundary Issues
An evaluation of the environmental aspects of the North American Free Trade Agreement (NAFTA), as well as what role NAFTA may play in addressing the current transboundary issues involving Mexico, Canada, and the United States.

Also look for…
- PM File
- Competitive Strategy
- EPA Research Highlights

…And a special thank you to our volunteer reviewers and issue champions

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5. Meadows, Donella H. "THE GLOBAL CITIZEN: How Much Greenhouse Gas Does Your Garden Cut?"AlterNet. November 2000. <http://www.alternet.org/ story/10050>. 21 April 2009.