IMAGINING TOMORROW: ALTERNATE ENERGY FUTURES

In Partnership With

NESEA™

The Northeast Sustainable Energy Society

Presents the Second Annual

Massachusetts

IMAGINING TOMORROW Awards Reception

May 11, 2007
Genzyme Center
Kendall Square
Cambridge, MA

Awards Reception Made Possible through the Generosity of Genzyme Corporation

genzyme

The *IMAGINING TOMORROW* program in Massachusetts is supported in part by MTC

MASSACHUSETTS TECHNOLOGY COLLABORATIVE
RENEWABLE ENERGY TRUST

"Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world."

Albert Einstein

Awards Reception Schedule of Events

***10:00 – Gallery**: Browse through the Entries And Meet the Finalists*

***10:45 – Remarks and Presentations**:*

Welcome, Mr. Rick Mattila, Director of Environmental Affairs, Genzyme Corporation

Mr. Greg Watson, Massachusetts Assistant Secretary for Clean Energy Technology

State Senator Marc R. Pacheco, Chair, Special Senate Committee on Climate Change

Ms. Beth Daley, Environmental Reporter, The Boston Globe

The gallery will reopen following the presentations

About our Speakers

Greg Watson is Assistant Secretary for Clean Energy Technology within the Executive Office of Energy and Environmental Affairs, a newly combined department headed by Ian Bowles. Mr Watson also serves as the Vice President for Sustainable Development with the Massachusetts Technology Collaborative (MTC). He is the point of contact for the new administration with the clean energy entrepreneurial community, a rapidly growing sector of our economy.

Mr. Watson has a long history of experience of service in the clean energy and environmental community in both the public sector and in non-profit organizations.

He joined MTC in 1999 when he was appointed the first program director for the Massachusetts Energy Trust. Prior to that he was executive director of the Dudley Street Neighborhood Initiative, Director of Educational Programs for Second Nature, and also served as an executive director of The New Alchemy Institute.

His public service is equally impressive: from 1990 to 1993 he was Commissioner of the Massachusetts Department of Food and Agriculture; from 1983 to 1989 he was Assistant Secretary for Science and Technology within the Executive Office of Environmental Affairs, and he served for three years as Deputy Director of the Massachusetts Centers of Excellence Corporation.

Mr. Watson formerly taught at the Charles River Academy and environmental science at the Thompson Island Education Center. He serves on the boards of The Buckminster Fuller Institute, of Ocean Arks International, and was a founding member of "*Clean Air-Cool Planet*".

He attended Tufts University where he majored in civil engineering.

State Senator Marc R. Pacheco has served in the Massachusetts State Senate since 1993, representing the first Plymouth and Bristol District.

In February of this year, Senator Pacheco was named chair of the newly created senate Committee charged with studying the impact of climate change on the Commonwealth and formulating public policy to help reduce greenhouse gases.

In addition to chairing the Special Senate Committee on Climate Change, Senator Pacheco is on the Senate committees for Post Audit and Oversight (chair); Ways and Means; Environment, Natural Resources and Agriculture (Vice-Chair), and Telecommunication, Utilities & Energy.

Senator Pacheco is a member of many civic and benevolent organizations. He has an Associates degree in Agronomy from the University of Massachusetts, Stockbridge; then earned a bachelor's degree in Human Services from New Hampshire College and a Master's Degree in Public Administration from Suffolk University.

Beth Daley joined the Boston Globe staff in 1995, and has been covering the environment since August 2000. She focuses on marine issues, forestry and a wide range of environmental policies in New England and throughout the country. After 9/11 she covered Ground Zero in New York City, the anthrax cases in Florida, and the war in Pakistan and Afghanistan and returned to the environment beat in early 2002.

Born in New York, she attended Northeastern University, graduating in 1989. She worked for three years as a reporter at the Daily News in Newburyport, and then spent a year teaching English and traveling throughout Southeast Asia and Sri Lanka.

Daley also covers space, and won the 2005 Ocean Science Journalism Award from the Woods Hole Oceanographic Institution for excellence in communicating ocean science to the public.

About the Contest:

The *IMAGINING TOMORROW* contest encourages students to learn about clean energy and global climate, and then express what they have learned in creative writing of near-future fiction or in video.

All entries have to have energy issues, polices, or technologies for the basis of their work. All students were required to include an afterward that explained their starting point for their idea and what they learned in the course of the project. The finalists were selected by a panel of judges, giving equal rating to the creative work itself, and to the educational experience described by the student.

~ *Finalists* ~

Creative Writing, Near-Future Fiction:

Emily Allen, Arlington High School, "Broken Man"

Amanda J Bennett, Deerfield Academy, "Ethanol with a Side of Trouble, Please"

Alison M Crandall, Lee High School, "Summer Rain"

Katherine B. Kinkel, Wellesley High School, for "The Sovereignty of the Faithful"

Amanda Cain-Mailly, Marlborough High School, "Going Backwards"

Julie Cain-Mailly, Marlborough High School, for "The Diary of Jane"

Colleen M Ottomano, Hopkinton High School, "Tennis Matches and Space Bugs"

Megan M Roy, Shrewsbury High School, "The Panic of 2020"

Video Shorts (3-5 minutes): Listed alphabetically by team leader, who is the first person listed; the rest of the team members are in alphabetical order.

Tom Klenkotka, John Lyons, Northampton High School, "Winds: Tomorrow's Clean Power"

Bryan Magdelensky, Jake Ruyffelaert, Tom Belavance-Grace, Northampton High School, "Grease Cars"

Luke McMahon, Jesse Barton, Angrea Gingra, Chole Sernet, Landmark School in Prides Crossing, "Heat"

Matt Motamed, Chris Nagle, Lauren Garlock, Northampton High School, "Wood Chip Burner at Cooley Dickenson Hospital"

Matt Motamed, Chris Nagle, Lauren Garlock, Northampton High School, "Solar Panels at JKF School"

# # #

Video PSAs (1 minute or less): Listed alphabetically by team leader, who is the first person listed; the rest of the team members are in alphabetical order.

Erin K. Bates, , Kristy Hamilton, Bridgette Tattersall, Autumn Wolf, Mt. Greylock High School, "Wobal Glarming", by *Purple Armadillos*

Anthony Belman, Jordan Adames, Sam Garavaltis, Mt. Greylock High School, "Make a Difference" by *SAJ*

Britany R. Calderwood, Trevor Rathbun, Mt. Greylock High School, "Global Warming" by *Einstein Productions*.

Danny Chhuon, Andy LeBarron, Don Maffucio, Jim Nichols, Mt. Greylock High School, "Global Warming PSA" by *Hooves Productions*

Mike Helly, Northampton High School, "Global Warming Opinions"

Katie-Rose De Candia, Michael J. Leja, Dylan Sikelianos, Mt. Greylock High School, "Earth in Twenty Years" by *KMD Productions*

Lindsay A. Maynard, Brigid Flynn, Ty-Kia Hay, Hayden Kuhn, TJ McCarthy, Brier Turner, Mt. Greylock High School, "Global Warming PSA" by *All Stars*

Charlene E. Michon, Mt. Greylock High School, "Days of Summer?" by *Charbar Inc*

Ryan G. O'Conner, Mt. Greylock High School, "Saving Energy" by **Revo-lution**

Sean Peitier, Dominic Boschetti, Nick DelNegro, Caleb Pudvar, Mary Shanley, Mt. Greylock High School, "Where'd That Snow Go?" by *Rubber Ducks*

Colin Sullivan, Northampton High School, "Red Pill, Blue Pill"

Gina Riggins, Jessica Lemieux, Kelsie Leon, Cameron P. Szymanski, Mt. Greylock High School, "Global Warming" by *CGJK*

Credits:

Mt Greylock Students were under the direction of Mr. Michael J. Powers, M. Ed., Instructional Technology Specialist.

Northampton Students worked with Ms. Jane Madden and Mr. Michael Jacobson-Hardy, both members of the Technology and Business Faculty

The Landmark School in Prides Crossing was an independent entry.

Science Fair Award Winners:

This year, with funding from MTC, *IMAGINING TOMORROW* and NESEA, presented "Clean Energy Awards" at each of the Regional Massachusetts State Science and Technology Fairs.

These awards went to the best project related to Clean Energy in any way. This included clean energy technologies, efficiency analyses, and understanding global climate, including system dynamics and non-linear behavior.

There was an impressive range of topics, some focusing on specific questions, and some with a completely holistic view of a problem. We are very proud of the curiosity, creativity, and scientific standards of these award winners:

High School Clean Energy Award Winners:

Region I: *Ian Boyd, Mohawk Trail HS*, Buckland, MA, for *"The Use of Closed Carbon Cycle Biomas Materials for Metalurgical Heating"*

Region II: *Anna Chase, Wachusett Regional High School*, Holden. MA, for "*The Alternative to Alternative Energy Solutions*" (a combination wind and solar project)

Region III: *Elizabeth A. Gringas, Bishop Feehan High School*, Attleboro, MA, for *"Wind Turbines"*

Region IV: *Catherine Chan-Tse & Sarah Sterman, Lexington High School*, Lexington, MA, for "*Better to Light One LED: Human-Powered Electric Generation"*

Region VI: *Taufique Chowdhury & Jason Lu, Urban Science Academy,* West Roxbury, MA, for "Solar Energy"

Region V: *Janoah Bailin, Falmouth Academy,* Falmouth, MA, for *"Mimicking Lake Nyos: The Solubility of Carbon Dioxide in Water*

Middle School Clean Energy Award Winners:

Region I (tie):

Christopher Bergeron, Michael E. Smith Middle School, South Hadley, MA, "The Wonder of Water" (A portable solar still)

Michah- Botkin-Levy & Dylan Kay, Amherst Regional Middle School, "The Effect of Temperature on a Sediment Battery"

Region II (tie):

Paul Johnson, Bancroft School, Worcester, MA *"Hydropower Highlights" (tie)*

Geode Sibbick, Melican Middle School, Northborough, MA, *"Force, Wind, and Power"*

Region III: *Julia A. Aparicio, Taunton Catholic Middle School*, Taunton, MA, "*Non-Newtonian Fluids"*

Region IV (tie):

Sarah Jones & Lindsey Puglisi, St. Michael School, North Andover, Ma, *"Biokleen vs. Tide"*

Timothy Plouffe, Fruit of the Spirit School, *"Which Battery Lasts the L*ongest?"

Region V (tie):

Tommy Andrews, Millis Middle School, Millis, MA, "What Materials are Best for a Solar Heater"

Anna Cocuzzo, Pollard Middle School, Needham, MA, *"From a Glacier to an Ice Cube"*

Erica Jobse, Newton Country Day School, Newton, MA, "Twist and Dry"

Region VI: *Celixia Slayton, Jackson Mann*, Allston, MA, *"Global Warming Effects"*

Note: All science fair award winners will be listed with biographical information, photos, and abstracts of their projects online.

What You Can Do

"Some day, son, all this will be yours. Sorry."

Fortunately, you have more power than you think.

By 2008, more than half of today's high-school students will be able to vote.

What you do can have a great effect, not just in your individual life, but in changing general attitudes toward energy use, the environment and in government policy.

Remember: It is your future

Here are some ideas for you:

Note: These are an abbreviated version of "What You Can Do" on our website, www.itomorrow.theforesightproject.org. .

1. *Make Your Voice Heard:* Write to your state and federal representatives.
2. Better Yet: *Invite them to your school*. Most representatives love to talk to students. Be prepared and ask intelligent questions – you will surprise them.
3. *Pay Attention to New Construction:* Is your state authorizing new power plants? What kind? What about buildings in your town—are they net zero?
4. *Look for the Labels:* Most companies are now truly working hard to decrease their carbon footprint; pay attention when you buy, and if it isn't obvious, ask!

5. *Pay Attention to Your Investments (and to your parent's investments).*

6. *Write to Companies:* Ask companies and financial institutions about their policies; they pay attention to public demand and concerns when they make choices.

7. *Fight Misconceptions Wherever They Occur:* You may not change one person's mind, but you may affect others.

8. *Buy a Sweater:* Americans often cool to 68 degrees in the summer and heat to 72+ degrees in the winter. Complain if it is too cold (in summer) or too hot (in winter).

9. *Pay Attention to Your Own Footprint:* Try to follow some of the ideas for lowering your own carbon footprint. Start a contest in your class or your school to see how low you can go. And—if you are not using something, TURN IT OFF!

10. *Get involved with Organizations in Your Area* -- see our partner organizations and resource partners for possibilities.

Of all the actions one can take, the most cost effective [is] … letting your congressperson know that you really care about stopping climate change."

Bill McKibbon, Environmental Author

To obtain information on your state representatives, go to the Massachusetts government site, www.mass.gov/legis.

The League of Women Voters of Massachusetts has

- Information on your government and federal officials,
- Information on voter registration,
- And background on legislation under discussion.

Website: www.lwvma.org/government.shtml.

About Genzyme Center:

Genzyme Center, the corporate headquarters for Genzyme Corporation, received the highest rating issued by the U.S. Green Building Council, a Platinum certification under the Council's LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™.

Genzyme Center combines innovative design and cutting-edge technology to achieve two goals: creating an exciting new workplace for more than 900 Genzyme employees, and setting a new standard in environmentally responsible architecture. .

Designed by the award-winning German architectural firm Behnisch, Behnisch and Partner, the new building stands as a reflection of Genzyme's commitment to innovation, transparency, collaboration, and the entrepreneurial spirit.

A virtual tour of the Genzyme Center is available at http://www.genzyme.com/genzctr/genzctr_home.asp.

Environmental Construction

A New Paradigm

Genzyme Center is designed to be one of the most environmentally responsible office buildings ever built in the United States. Genzyme has a proud history of environmental responsibility and values its relationship with the local community. Genzyme worked with Behnisch from the earliest stages of the design process to ensure that the building reflected these commitments.

It is Genzyme's hope that Genzyme Center will stand as an example that it is possible to construct an exciting, beautiful, and employee-friendly building that makes both economic and environmental sense.

Examples of its environmental benefits include:

- 34 percent water savings
- 42 percent electricity cost savings
- Over half of all materials used in construction contain recycled content
- More than 90 percent of construction waste was recycled
- Less than two blocks from public transportation
- Built on a remediated "brownfield" site

About Us

The Northeast Sustainable Energy Association **(NESEA),** www.nsea.org, is the Northeast's leading organization of professionals and concerned citizens working in sustainable energy and whole systems thinking. NESEA facilitates the widespread adoption and use of sustainable energy by providing support to industry professionals and by educating and motivating consumers to learn about, ask for, and adopt sustainable energy and green building practices.

NESEA accomplishes this through its Building Energy conference and trade show, K-12 resources, an advocacy network, high profile public events such as the Tour de Sol and the Green Building Open House, its chapters and members, and its Sustainable Green Pages.

The Foresight Project, www.theforesightprojct.org was formed to develop and implement educational initiatives that connect students in a meaningful way with the critical issues of their own future world.

Our initial program, *IMAGINING TOMORROW: ALTERNATE ENERGY FUTURES*™, was piloted in the spring of 2006 in partnership with the Northeast Sustainable Energy Association, and continued in 2007, again in partnership with NESEA in Massachusetts, and nationally as an independent program.

> *"In this way the first men were made, and soon they filled the far reaches of the earth. But for a long time they did not know what to do with their noble limbs or the divine spirit which had been breathed into them. They saw, yet they did not see; they heard, yet they did not hear. . . . Then Prometheus [Forethought] came to their aid."*
>
> *Gustav Schawab, Die Sagen des Klassischen Altertums, translated by Marx and Morwitz; Pantheon Books*

Thank you to our many sponsors and supporters:

Sponsors:

Barbara Brady and Tolga Erdogus

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Andy Perkins-High

SunEthanol, www.sunethanol.com, a cellulosic ethanol company in Amherst, MA

Mary Valladeres

Dori and Jeff Wolfe,

As well as an Anonymous Gift

Supporters: A Thank You goes as well to the many people who have helped this year, including:

Jonathon Williams, Jackie Normand, Keith Turner, Susan Tarrant, Bess Haire, Meg Bagdonas and Sandy Leffkovits;

Our Directors: Professor Renee Hobbs, and Marion Kelly Greenup.

Also thank you to the many people who have helped with the BASEA programs this year:

Professor Bill Moomaw, Dr. Linda Plano, Hilary Flynn, Karina Funk, Paul Angelico of Twin Rivers Technologies in Quincy, Quincy Vale of PowerHouse in Lawrence, Mark Buckley of Staples, Steven Strong of Solar Design Associates in Harvard, and John Rogers of The Union of Concerned Scientists.

As well, of course, to all of the teachers, students and parents who participated in the program.

The video portion of the *IMAGINING TOMORROW: ALTERNATE ENERGY FUTURES* program was supported by a grant from the Massachusetts Technology Collaborative (MTC).

The awards reception is made possible in part by a grant from the Genzyme Corporation.

Funding for the creative writing program is from The Foresight Project, a 501c3 corporation based in Massachusetts, which in turn is supported by donations from individuals and corporate sponsorships.

For more information on supporting *IMAGINING TOMORROW,* contact info@theforesightproject.org.