

Student Perspectives on Climate Change and Actions We Can Take

Varun Bansal
*Chairman of the Global
Warming/Energy Committee*

*The Thomas Jefferson High
School for Science
and Technology*

Background

- I am a junior at TJHSST
 - Have been actively involved with environmental issues for the past three years
 - Currently Chairman of the *Global Warming/Energy Committee* at TJHSST
 - Some of the actions I have been involved in include:
 - Initiating and spearheading a campaign to turn TJHSST into a “green” school
 - Petitioning the TJHSST SGA
 - Meeting with Chairman Connelly
 - TJ Solar Panel Initiative
 - Steps have been taken in the right direction, but we need to focus on schools more (e.g. stricter green building standards)
-
-

About the Environmental Impact Club

- TJHSST's biggest environmental club
 - Three committees
 - Recycling
 - Ecocrisis
 - Global Warming/Energy
 - Solar panels at TJHSST
 - Letter-writing to Congress; meeting with representatives
 - Climate Crisis Action Day in D.C.
 - Campaigning for pro-environmental action
 - e.g. Cool County
-
-

Why should the county deal with climate change – Student Perspectives

- Climate change is an accepted fact and not just a fashion statement
 - Climate change and its consequences are now largely accepted facts across the world
 - The world has started to take action, but unless we do something soon the consequences will not be good
 - Consequences of climate change don't affect current leaders as much as they affect the next generation
-
-

Why should the county deal with climate change - Student Perspectives (cont...)

Quote from Sarah Applegate, President of the Environmental Impact Club:

“As students, we're the ones who have to live with a world that is deteriorating at a faster and faster rate. We can't wait for the system to catch up with the grass-roots demand that action be taken to save the world; we have to take responsibility and make the change happen ourselves. Forgive me for sounding alarmist, but the fact is, we're running out of time to save the planet from dire consequences. Since legislation passes so slowly through the federal government, local governments must be the ones to make policy changes for now - both to make a difference and to inspire other towns, cities, counties, and states to follow suit. Students have more power than they realize. If we speak, people will listen. We must speak.”

Why should the county deal with climate change - Overall Reasoning

- Most serious consequences of climate change occur at the grassroots, personal level
 - e.g. effects of particulate matter on health
 - Change begins at the lowest levels, with the citizens
 - Citizen shift of opinion
 - Personal acts: e.g. CFLs, energy efficient appliances, tree planting drives, etc.
 - Next it moves up to the local governments
 - Once state governments see the change with local governments, they will legislate statewide bills
-
-

Why should the county deal with climate change - Overall Reasoning (cont...)

- After change at the state level, the federal government will act
 - Unless local governments act, change will never happen
 - Decision making process in the federal government is slower than local government processes
 - Efficiency mandates that local leaders take action and make policy changes in order to make a difference and to inspire other towns, cities, counties, and states to follow suit
-
-

Why should the county deal with climate change - Overall Reasoning (cont...)

- Planning for climate change now is less costly than cleaning up its consequences in the future
 - Foresight and preparedness are characteristics of good government
 - Current actions will have a profound impact on future generations
 - James MacGregor: Most decisions made locally could be politically advantageous rather than hurtful through strong local political leadership
-
-

What have we done - Cool County Initiative

- Promoted at high school level
 - Student support sheets throughout school
- Inter-school effort to support it
- Presented to Student Government Association
- Met with Chairman Connelly
 - Student representative for FCPS high schools

What have we done - TJ Solar Panel Initiative

- Current project
 - Goal: solar panels and base system in place by end of 2007-2008 academic school year
 - \$20,000 for solar panels at TJHSST
 - Partnership with Standard Solar Inc.
 - Donation drives
 - Mass mailing, newspaper articles, emails, grants, etc.
 - Saves school money, reduces carbon footprint, frees money for other areas, provides a model for the area, provides a case study

 - More information -- <http://tjsp.i.110mb.com>
-
-

What have we done – Increasing Awareness

- Climate Crisis Action Day
 - Presentations and guest speakers at TJ
 - Letter-writing
 - Meeting with Congressman
 - NCSSSMST Conference 2007
 - 100 institutional members representing more than 35,000 students and 1,400 educators.
 - 2007 conference held at TJHSST
 - “Green” theme
-
-

What more can be done - Green Schools

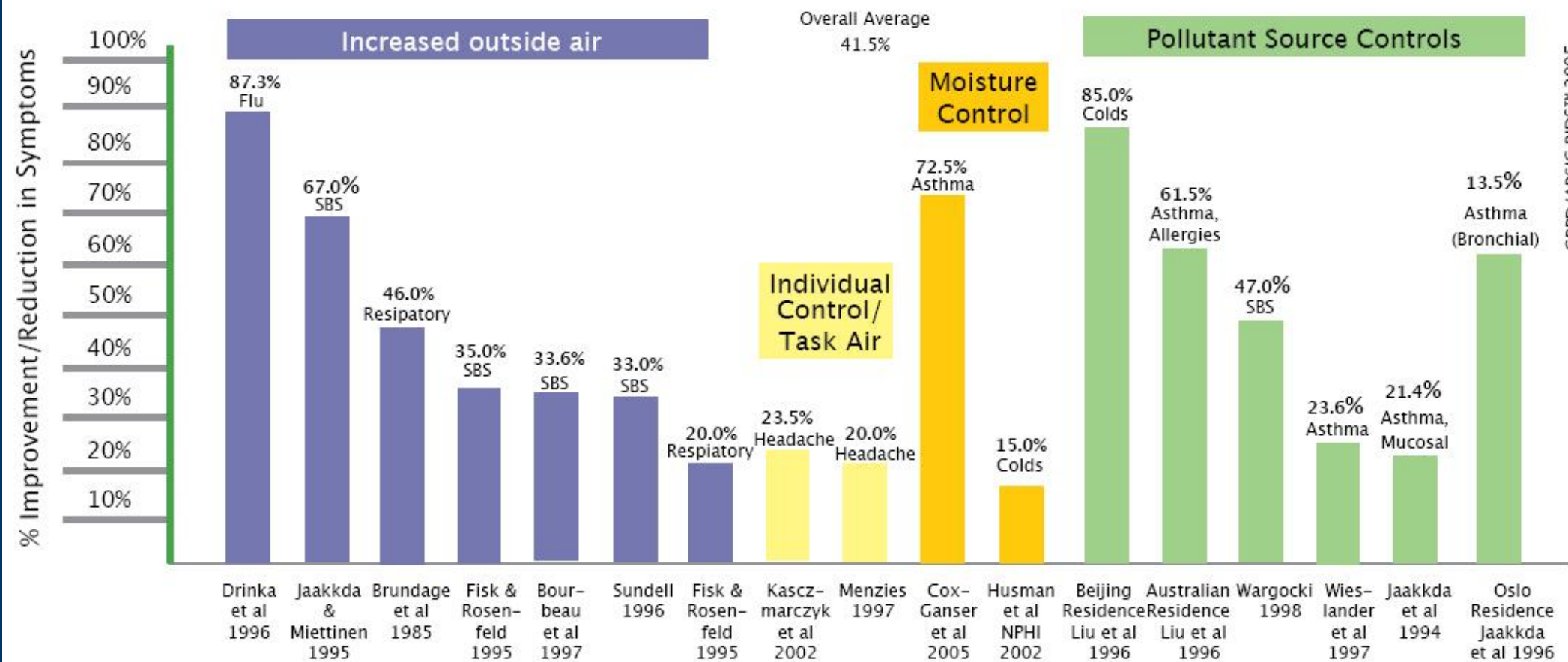
- Students particularly at risk
 - Concentration of pollutants is often 10 to 100 times higher indoors than outdoors
 - Air quality in green schools is higher than in conventional schools, reducing illness and absence
 - More toxins in conventional schools
 - 150 lbs CPM reduced per green school per year
 - CPM is the primary cause of respiratory illness
-
-

What more can be done - Green Schools (cont...)

- Children and faculty spend the majority of their time indoors
 - Indoor air quality needs to be better than outdoor air quality.
- Recent review found an average reduction of 38.5% in asthma in buildings with improved air quality

What more can be done - Green Schools (cont...)

Health Gains from Improved Indoor Air Quality



Source: Carnegie Mellon University Center for Building Performance, 2005

What more can be done - Green Schools (cont...)

- Increase in test scores and attendance
 - Financial benefits
 - Increase in test scores means increased future income
 - Future earnings of students at school
 - Reduction of medical costs
 - Higher teacher retention due to satisfaction with school facilities
 - 75% of senior executives believe that being green improves a school's ability to attract and retain teachers
 - Reduced teacher sick days
-
-

What more can be done? (cont...)

Green Schools (cont...)

- Reduced effects of heat islands
 - Reduced cooling and heating costs
- Lower operations and maintenance costs
- Financial benefits of greening schools are about \$70 per ft²
- 20 times as high as the cost of going green

Financial Benefits of Green Schools (\$/ft ²)	
Energy	\$9
Emissions	\$1
Water and Wastewater	\$1
Increased Earnings	\$49
Asthma Reduction	\$3
Cold and Flu Reduction	\$5
Teacher Retention	\$4
Employment Impact	\$2
TOTAL	\$74
COST OF GREENING	(\$3)
NET FINANCIAL BENEFITS	\$71

What more can be done - Other Actions

- Districts not part of programs (e.g. Cool Counties) should join or develop a program
- For those that have already adopted standards:
 - The question is not what policies and goals to go for, but the implementation of these programs
 - Policies must be enforced and carried out in order to actually make a difference
- Sample actions local governments can take:
 - LEDs in traffic lights
 - Brighter, use 25% as much electricity, last ten times longer

What more can be done - Other Actions *(cont...)*

- Charge residents for the collection of household trash based on the amount they throw away
 - Increased bike trails, paths, and sidewalks
 - VDOT report: the lack of bike lanes or parallel residential streets to major thoroughfares as a major reason for low numbers of bicycle commuters in Northern Virginia
 - Purchase more green power
 - e.g. Fairfax County generating energy from wind power
 - Local incentives for residents to purchase sources of renewable energy for their homes
 - Fuel efficient or alternative fuel vehicles for government fleets
 - Public transportation buses, school buses, passenger vehicles, etc.
-
-

What more can be done - Other Actions *(cont...)*

- Mandate a certain level of reflectiveness for all new building roofs
 - Highly reflective roofs help make areas cooler, reduce the formation of smog, reduce air-conditioning loads, and save money
 - Introduce vehicle tax subsidies for highly fuel-efficient vehicles and increases for gas-guzzling vehicles
 - Local governments cannot feel “off the hook” for adopting environmental policies
 - Must begin moving up the ladder and advocate for environmental reforms at higher levels
 - e.g. advocating clean energy and emissions limits for power plants in the state
-
-