

Cool Cities Proposal to Blacksburg Virginia Town Council

12 September 2006

[slide 1: Cool Cities]

My name is David Roper. I live at 1001 Auburn Drive in Blacksburg.

I was a physics professor at Virginia Tech for 31 years. I have been retired for the last 10 years, which gave me time to volunteer in the community and to study climate change and global warming.

I am here tonight on behalf of many Blacksburg citizens to urge you to join Blacksburg with more than 200 other cities and towns in the United States in a coalition called "Cool Cities". You have a packet that includes these slides and other documents about Cool Cities, and a CD-ROM in the back of the packet with those documents and other documents about global warming on it.

[slide 2: Cool Cities Items]

There are four items for you to consider in joining the Cool Cities coalition:

1. Join the U.S. Mayors' Climate Protection Agreement to reduce global warming pollution.
2. Purchase hybrid and other clean vehicles and fuels for Blacksburg's fleets.
3. Modernize town buildings with money-saving energy-efficient technology.
4. Invest in clean and safe renewable energy.

[slide 3: Cool Cities in Our Area]

There are many cities and towns in our geographical area that have already joined the Cool Cities coalition. If Blacksburg joins Cool Cities, it will be in the company in Virginia of Alexandria, Charlottesville, Richmond, Virginia Beach and Williamsburg. I heard this week that Harrisonburg is considering joining Cool Cities.

[slide 4: Cool Cities in the U.S.]

This map is meant to just give you a feeling for the number and locations of cities that have joined Cool Cities. You can look at the details in the packet I gave to you.

1. [slide 5: 1. Join U.S. Mayors' Climate Protection Agreement]

The first of the four items for joining Cool Cities is joining the U.S. Mayors' Climate Protection Agreement. You have in your packet a copy of the resolution and the agreement to be signed by the Mayor to join. Signing the agreement indicates that Blacksburg will make every effort to reduce emissions of global-warming gases in specific steps to at least 7% below 1990 levels by 2012. It involves a detailed inventory of the town's greenhouse gases emissions, which is to be updated regularly.

2. [\[slide 6: 2. Add Energy-Efficient Vehicles to Blacksburg's Vehicle Fleets\]](#)
The second of the four items for joining Cool Cities is committing to adding energy-efficient low-emissions vehicles to Blacksburg's fleets. Many examples of cities that have done that are given in the documents in your packet. We know that Blacksburg has made a start at this and we support you and urge you to increase that effort. I would emphasize that Blacksburg needs E10 and E85 fuel pumps as soon as possible. (The nearest E85 pump to Blacksburg is in Durham NC, 166 miles away!) All vehicles since 1980 can run on E10, which is 10% ethanol. Millions of existing vehicles can run on E85, which is 85% ethanol. We urge you to continue and expand the effort to use B20, 20% biodiesel, for buses, trucks and tractors.
3. [\[slide 7: 3. Modernize Town Buildings with Money-Saving Energy-Efficient Technology\]](#)
The third of the four items for joining Cool Cities is increasing the energy efficiency of the town's properties. I know that you have been working on that for several years, but surely more can be done. We support you in that effort and urge you to increase the effort. Does Blacksburg have a comprehensive inventory of the energy efficiency of all of its town buildings? If so, is it readily available for perusal by citizens?
4. [\[slide 8: 4. Invest in Clean and Safe Renewable Energy\]](#)
The fourth of the four items for joining Cool Cities is committing to investing in clean and safe renewable energy sources. Install solar energy systems for town buildings. Consider ways to encourage citizens to install photovoltaic roofs. Install photovoltaic roofs and solar hot water systems for future entitlement-funds buildings. Encourage growing food locally all year round. Set up a demonstration wind electric generator for some of the town's energy needs. Purchase green power as much as possible.

[\[slide 9: Open Government\]](#)

Finally, we urge you to not only do these four items to join the Cool Cities coalition, but to actively publicize Blacksburg's enthusiastic commitment to reducing greenhouse gases emissions.

[\[slide 10: Antarctica Temperatures Versus Carbon Dioxide in the Upper Atmosphere\]](#)

This final graph is to succinctly illustrate the dire situation our Earth is in because of global warming. The data points in the lower left corner are from Antarctica ice cores and show how the concentration in the upper atmosphere of carbon dioxide, the major greenhouse gas, has increased along with increasing temperature at different times for Antarctica over the last 400 thousand years. If this relationship holds for higher concentrations, which is indicated by the red sloping line with parallel dotted uncertainty lines, the second horizontal blue line from the bottom shows what we could eventually expect for Antarctica temperature changes (an increase of about 13 Celsius degrees or 23 Fahrenheit degrees compared to 1990) due to the carbon dioxide concentration in 2004. The top two horizontal blue lines bracket indicated temperature change from 1990 that Antarctica could eventually expect due to the carbon-dioxide concentration in the year 2100 (an increase of 22 Celsius degrees or 40 Fahrenheit degrees or higher compared to 1990). The bottom of those two top horizontal blue lines is

the lowest possible concentration case and the top one is what “business as usual” might bring, a horrible thing to consider.

To the best of our knowledge the Earth has never experienced such large temperature changes in such a short period of time. The many complex feedback interactions of the climate system may cause even more drastic changes, such as triggering the next Major Ice Age of 100 thousand years duration.

In any case, disaster awaits the Earth unless we **reduce** greenhouse gases in the upper atmosphere.

We urge you at the earliest possible time to join the Cool Cities coalition. We have little time left to mitigate global warming. Thank you for your attention.

Global Warming References:

- ***Global Warming: The Complete Briefing***, Third Edition, John Houghton, Cambridge Univ. Press, 2004 (more technical)
<http://www.ipcc.ch/pub/un/syrenng/spm.pdf>
- ***An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do about It***, Al Gore, Rodale Press, 2006 (less technical) <http://www.climatecrisis.net> (Also, see the movie.)
- ***Climate Change Begins at Home: Life on the Two-Way Street of Global Warming***, Dave Reay, Macmillan, 2005.
- **Relationship of Earth Average Temperature and Atmospheric Carbon Dioxide** http://www.roperId.com/science/CO2_Temp.pdf
- **Triple Threats for the Human Future: Will Civilization Arrive?**
<http://www.roperId.com/science/HumanFuture.pdf>

L. David Roper, 12 September 2006