

How should the City of Charlottesville and Albemarle County approach their climate action planning process?

I'd suggest a few guiding principles:

1. Adopt ambitious goals - making the City government carbon neutral by 2030, making the City and the region carbon neutral by 2040.
2. Get data that is specific to Charlottesville and Albemarle and that is measurable in some way so that we can come up with benchmarks to be able to assess progress. I am tired of "dashboards" on websites that consist of self-reporting whether the agency has met its goals - a real dashboard has quantified outputs, so that we can assess progress for ourselves.
3. We should be acting jointly with the County and University. Our environmental programs - sewer and water, recycling, etc. - either are or should be joint programs anyway. In many ways, Albemarle County has been more environmentally conscious than the City has, and we could benefit from that energy and expertise. And the University will always be pushing us onward, because young people are really driving this movement.
4. Organize teams by functional groups - civic infrastructure, transportation, residential conservation, residential power generation, commercial conservation, and commercial power generation. Let each group brainstorm ways to reduce the carbon footprint within their own designated areas.
5. Within City government, designate someone - probably in the City Manager's office - to be the point person for this effort.
6. The largest impacts on carbon footprint will come from Public Works. Make sure that the Public Works Director is fully on board with this new way of approaching his job.

Do you have specific strategies that you would like to see implemented?

Yes, though they are frankly random accumulations of ideas from newspaper articles and websites that I have read in the past 6 months. Here are just a few that have grabbed me:

- LED street lights have saved Ann Arbor, MI, \$250,000 a year in energy and maintenance costs. They are about 2 ½ times bigger than Charlottesville, so maybe we should expect savings of \$100,000 a year.
- More buses, smaller buses, electric buses running more frequently from apartments housing UVA students away from the center of the Grounds and the City.
- Urban planning that rewards housing density instead of sprawl, and that uses park-and-ride lots to reduce traffic congestion, parking demands, and energy consumption.
- Solar panels on most flat roofs.
- Solar shingles on most pitched roofs.

- The General Assembly has not authorized the City to do much to regulate private energy consumption, but the Dillon Rule is NOT an obstacle to how the City utilities (gas and water) can give incentives to homeowners to do things that reduce energy consumption – installing tankless water heaters comes immediately to mind, and I am sure that there are plenty of good suggestions waiting for the chance to surface. LEAP is doing this; their program should be expanded.

Should cities contribute to climate solutions, and, if so, how?

See above for some specific thoughts. But cities can also lead by example, they can make sure that their school children understand the issues and their solutions; and they can direct their citizens' attention to ambitious goals.

If elected, would you promote strategies to reduce our climate emissions, and, if so, where do the greatest opportunities exist for reducing them?

Yes. Among the opportunities for reducing greenhouse gas emissions, City Council should first look to initiatives where we are permitted by state law to act, or where we are spending City money. Those top priorities would be:

- Regional affordable housing and transportation planning, with concomitant land use planning changes (long-range, but we have to get started)
- LED street lights (short-range, with highly visible immediate impacts)
- As we redevelop public housing, let's incorporate LEAP-style changes (medium-term, with quick improvements for poor residents)

How would you approach sustainable materials management solutions like composting and recycling in this region?

Composting is a fascinating strategy, for a number of reasons. First, of course, food and products that are composted instead of thrown into the garbage means less waste deposited in the landfill, and landfills are a large source of greenhouse gases (particularly methane). Second, new research has shown that composting applied to lawns and gardens not only keeps the carbon from the compost itself in the soil, but it seems to “fix” additional carbon dioxide in the soil, such that applying compost to a lawn can triple the amount of carbon in the soil, increasing fertility as well as acting as a carbon sink. I hope that we can find a scalable, sustainable model for compost collection and redistribution.

As I understand the recycling problem, the recycling industry has relied for many years on the ability to ship our garbage to China so that Chinese workers could separate the different recyclables; now, with the collapse of the Chinese connection, municipalities are being forced to throw “recycled” materials right in the landfill.

I am also interested in two slightly off-the-wall answers on recycling plastics (both a byproduct of a long-standing interest in environmental engineering):

1. Plastic pyrolysis. The price is coming down on these units, which digest plastics and turn them into diesel fuel and gasoline. My guess is that by the time various climate costs (think about the energy consumed to send our garbage halfway around the world) are included in the full cost of “recycling,” pyrolytic fuel production may turn out to be a better answer.
2. Incorporating plastics into asphalt for road construction. The University of California at San Diego is mixing plastic pellets into the hot bitumen that holds roads together, and the new road has an additional benefit - an improved ability to absorb thermal stress from high summer temperatures.

What role do you see for renewable energy in our community? How would you approach implementing its use, if at all, or increasing it?

Wind and solar energy are now cost-competitive with traditional energy sources. The City has a lot of flat roofs waiting for solar panels, and a lot of pitched roofs waiting for solar shingles. And we can give homeowners incentives using utility pricing to switch to electric power that might be produced through wind and solar generation.

How would you describe the relationship between climate action, poverty, and justice in Charlottesville and Albemarle County?

We don't have a Union Hill pumping station in Charlottesville to catalyze opinion on this, but we know that poor people pay a disproportionately large amount of their income in energy costs. I served for 10 years on the Board of Directors of the now-defunct Community Energy Conservation Program, a non-profit that used federal funds to weatherize the homes of poor people. Most of the energy wasted by poor families is a function of deteriorating housing stock - poor insulation, leaky windows, etc. Now the function of weatherizing homes falls to LEAP. When LEAP was started in 2010, they posed three questions -

- Can the nonprofit alliance model work to engage the community?
- Can it provide property owners with the tools and support to make cost effective improvements?
- Can it work with local government and utilities to further mutual goals?

The past 8 years have provided answers - yes to all three. If the City takes on the goal of reducing climate impacts, it becomes logical for the City to help LEAP reach out to poor communities.

Finally, though, we cannot ignore some collateral benefits that will come from the projected rehabilitation and redevelopment of public housing. Our public housing projects are old and inefficiently designed, with woefully outmoded HVAC systems (Crescent Halls' system has basically stopped working), imposing serious energy costs for occupants. It seems likely that the rehabilitation of public housing projects would reduce their energy consumption by half, while dramatically improving the residents' comfort.

Transportation makes up a significant portion of local climate emissions. What strategies would you suggest to address transportation needs in Charlottesville and Albemarle County?

Charlottesville has a lot of problems right now – affordable housing, an inadequate road network, and insufficient parking near the University and Downtown – for which there is a common set of solutions. I have drawn a lot of heat for suggesting that a significant part of our response to affordable housing has to be to recognize that this is a regional problem, and will require a regional solution. That regional solution will involve apartments away from the immediate University or Downtown neighborhoods, and satellite parking lots, with vastly improved bus service. And we will need to make a long-term commitment to that bus service, so that developers can rely on the existence of that bus service to build, and market, apartment complexes that are not on University Avenue or on Main Street. We need to get to the point that Northern Virginia has – where an important point in the attractiveness of a particular apartment building or housing development is whether there is a Metro stop handy. When we get to this point, we will also have done something to combat urban sprawl into Albemarle County.

How would you propose to overcome barriers to energy efficiency upgrades and renewable energy in the residential sector?

Some of what we need to do here is to create a legislative agenda for our representatives to take to Richmond to give us some additional tools. For example, in some states, localities can consider the carbon footprint of a proposal at the building permit level, or (for apartment buildings) the site plan approval process. Virginia does not give localities that power.

With the tools that we have now, we can use the carrot of LEAP and the stick of higher utility costs to create incentives to save energy through the City's utility functions.

Tell us what inspires you personally to act on climate, or why action is unnecessary.

For most of us, it takes a personal experience to bring the issue home. For me, it was to go snorkeling in the Bahamas on reefs that were supposed to be spectacular – and they were bleached out, and dying or dead. I felt personally cheated. We raised our children to be environmentalists – the standard parental lesson to turn out a light when you leave the room was not a lesson in personal economy as much as environmental responsibility. They feel acutely the importance of collective responsibility and collective action, and they inspire me with their willingness to have different expectations and to undertake new obligations.