Dietary Impacts

Reducing emissions from diet in Carrboro will rely on a coordinated effort involving outreach and engagement to affect dietary choices, and participation broadly with partners and across the community to encourage Carrboro residents to adopt a climate-friendly diet, which reduces or eliminates meat, dairy, and eggs.

The livestock sector is one of the most significant contributors to the most serious environmental problems, at every scale from local to global, and must become a major policy focus.[1] Livestock and their byproducts account for at least 32,000 million tons of carbon dioxide (CO_2) per year, or 51% of all worldwide greenhouse gas emissions.[2]

Former Sierra Club director, Greenpeace cofounder, and Sea Shepherd founder Paul Watson wrote that "a vegan driving down the highway in a Hummer is contributing less to creating greenhouse gases than a meat-eater riding a bicycle."[3]

According to a recent British study, the mean GHG emissions in pounds of CO_2 equivalents per day (lbs. CO_2e/day) are 15.85 for high meat-eaters, 12.41 for medium meat-eaters, 10.30 for low meat-eaters, 8.62 for fish-eaters, 8.40 for vegetarians, and 6.39 for vegans. Dietary GHG emissions in meat-eaters are approximately twice as high as those in vegans. Changing from a high-meat diet to a vegan diet saves 9.46 pounds of carbon dioxide equivalents per day or 3,452.9 pounds per year (1.73 tons),[4] or the equivalent of 178 gallons of gasoline per year. That's enough to drive a Prius 26 miles per day (or a Hummer 4.5 miles per day) for an entire year. In other words, a vegan who drives a Prius less than 26 miles per day (or a Hummer less than 4.5 miles per day) has a smaller carbon footprint than a high meat eater who commutes by bicycle.

Also note that in the aforementioned British study, "high meat eaters" were defined as anyone who consumed 100 grams of meat or more per day. Considering that the average American consumes 265.69 grams of meat per day[5], the average American's diet likely has a carbon footprint 2.66 times higher than the high meat eaters in this study.

In fact, animal agriculture is a driving force behind virtually every major category of environmental damage: deforestation, erosion, fresh water scarcity, air and water pollution, climate change, biodiversity loss, social injustice, the destabilization of communities, and the spread of disease.[6]

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[1] Steinfeld H, Gerber P, Wassenaar T, Castel V, Rosales M, de Haan C. *Livestock's long shadow: environmental issues and options*. Rome, Italy: FAO; 2006. (ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e00.pdf)

[2] Goodland, R Anhang, J. Livestock and Climate Change: What if the key actors in climate change were pigs, chickens and cows? *World Watch*, November/December 2009. Worldwatch Institute, Washington, DC, USA. Pp. 10–19. (http://www.worldwatch.org/files/pdf/Livestock%20and%20Climate%20Change.pdf)

[3] Watson P. "V" The Sea Shepherd Society, 2014. (http://www.seashepherd.org/commentary-and-editorials/2014/05/06/v-648)

[4] Scarborough P, Appleby PN, Mizdrak A, et al. Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. *Climatic Change*. 2014;125(2):179-192. doi:10.1007/s10584-014-1169-1., (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4372775/)

[5] National Chicken Council. 2016. (http://www.nationalchickencouncil.org/about-the-industry/statistics/per-capita-consumption-of-poultry-and-livestock-1965-to-estimated-2012-in-pounds/

[6] Worldwatch Institute: Is Meat Sustainable? 2004. (http://www.worldwatch.org/node/549)

Since 1970, animal agriculture is responsible for up to 91% of Amazon rainforest destruction.[7] Globally, an area of rainforest the size of a two football fields is razed every second.[8] By some estimates, a single meat-centered meal levels 55 square feet of rain forest. By all estimates, forests are being cut down at alarming rate in order to provide the fodder to produce meat, dairy, and eggs.

Meat is a very inefficient way of turning land into calories, and we simply don't have resources for it. It takes 2,500 gallons of water, 12 pounds of grain, 35 pounds of topsoil and the energy equivalent of one gallon of gasoline to produce one pound of feedlot beef.[9]. We're using our limited land to feed animals instead of people: 56 million acres of U.S. land produce hay for livestock, but only 4 million produce vegetables for human consumption. The world's cattle alone consume enough calories to feed 8.7 billion people – more than the global population[10]. You would save more water by eating just one pound of beef less than if you didn't shower for an entire year.[11]

The additional benefits to human health of plant-based diets include reducing cardiovascular diseases, hypertension, many cancers, diverticulitis, diabetes, obesity, osteoporosis, arthritis, appendicitis, gall stones, kidney stones, other chronic diseases, food allergies, and food poisoning. The associated economic benefits are massive. The social justice benefits include greater food security and environmental justice for poor communities of color living near factory farms.

Finally, elimination of animal products facilitates backyard composting, as most gardeners advise against composting meat. It also helps reduce the frequency of trash pickup, with rotting meat, dairy, and eggs removed from the trash stream.

Programs in the Town could educate residents about the benefits of reducing or eliminating meat, dairy, and eggs, including exploring plant-based options every day. Town functions should eliminate red meat and dairy (the worst climate offenders) and offer prominently labeled plant-based options at all events. The Town web site could host a Climate-Friendly Diet pledge. Educational programs for town employees and the public could involve something as simple as a monthly vegan potluck and movie night at the Century Center.

Privately owned restaurants should be encouraged to offer plant-based menu items and prominently label them. Those that do could be offered a "Climate Friendly Options" window sticker to raise awareness of the issue. In addition, a Carrboro Vegan Challenge modelled after the Bull City Vegan Challenge in Durham could encourage participation by restaurants and residents.

For every plant-based meal that each resident of Carrboro consumes, he or she reduces his or her animal-based dietary CO_2e emissions by 4.76%. Of course, each resident of Carrboro who adopts a fully vegan diet (no animal products) reduces his or her animal-based dietary CO_2e emissions by 100%.

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[7] "Margulis, S. 2004. Causes of Deforestation of the Brazilian Amazon. World Bank Working Paper;No. 22. Washington, DC: (https://openknowledge.worldbank.org/handle/10986/15060 License: CC BY 3.0 IGO.")

[8] Facts About the Rainforest (http://www.savetherainforest.org/savetherainforest_007.htm)

[9] Food Choices and the Planet (http://www.earthsave.org/environment.htm)

[10] Gold and Porritt. 2004. *The Global Benefits of Eating Less Meat*. (https://www.ciwf.org.uk/media/3817742/global-benefits-of-eating-less-meat.pdf)

[11] Earthoria. 2008: Global Hunger: The more meat we eat, the fewer people we can feed. (http://www.earthoria.com/global-hunger-the-more-meat-we-eat-the-fewer-people-we-can-feed.html)

If 50% of Carrboro's 20,984 residents make a 50% reduction in their consumption of meat, dairy, and eggs by 2025, and if an additional 25% of Carrboro residents consume no animal products by 2025, Carrboro could eliminate 18,151 tons of CO_2e per year (50% x 10,492 x 1.73 tons/person/year=9,076 tons of CO_2e + 100% x 5,246 x 1.72 tons/person/year=9,076 tons of CO_2e per year).

Moving to a plant-based diet is a much quicker way to affect climate change than most, as the turnover rate for farm animals (especially factory produced animals) is much greater than that for cars, busses, or buildings. And while CO_2 can remain in the air for more than a century, methane cycles out of the atmosphere in just eight years, producing a further potential for quicker reduction in climate change.

Food for thought – You can change your light bulbs, buy a hybrid car and plant more trees, but nothing is as effective, available, inexpensive, quick, and powerful for the individual in affecting climate change as the choice of where to stick your fork.

Dietary Recommendation #1: 50% Challenge

Reduce Greenhouse Gas Emissions from Diets by 50% by 2025

It is proposed that local leaders announce an emissions reduction challenge to reduce community wide emissions from animal consumption by 50% by 2025. The challenge could include a component focused on emissions from meat, dairy, and eggs in Carrboro.

Implementation Opportunities	• Awareness and demand for plant-based meals continue to improve. • A growing percentage of residents are aware of the financial, health, environmental, and justice aspects of plant-based diets.
Implementation Challenges	• High percentage of residents are unaware of the financial, health, environmental, and justice aspects of plant-based diets. • Constraints such as cultural and social conditioning that eating meat, dairy, and eggs is necessary for human health. • Plant-based options in many restaurants and institutions are limited. • The ability to monitor and track progress towards emissions reduction is currently limited.
Resources Needed (human and material)	There are no resource requirements associated with a recognized community wide goal, although there may be resources needed for implementation of different actions.
Anticipated Cost	There could be costs associated with printing educational materials and web pages. Plant-based menus actually cost less than meat-based menus, so, almost immediately, these programs will save money.
Leadership	Local elected officials and community leaders could endorse this goal
Partners	Triangle Meatless Mondays, Triangle Vegetarian Society, School District
Time Frame	It is recommended that local leaders do this immediately.
Fit with Items	Local living economy, social justice, ecosystem protection, composting
Next Step(s)	Formal adoption/publicity for challenge
Evaluation Criteria	Increase in plant-based options at Town functions, local restaurants, and institutions.