

The tragic consequences of climate change caused by global warming are already with us - from melting ice caps to extreme weather conditions, leading to the death of people, animals, and plants. The spread of disease, the mass extinction of species, and the inundation of coastal states and island nations are predicted.

A Hummer on a Plate

Animal agriculture is responsible for more greenhouse gas (18%) than all of transportation (13%) according to a 2006 report of the Food and Agricultural Organization of the U.N. called "Livestock's Long Shadow: Environmental Issues and Options."⁽¹⁾ The report also names animal agriculture as a strong factor in:

- land degradation
- air and water pollution
- water shortage
- loss of biodiversity

Methane is a potent greenhouse gas produced by ruminant animals, such as dairy cows. On Al Gore's website www.climatecrisis.org, under "Actions You Can Take At Home," he notes: "Eat less meat. Methane is the second most significant greenhouse gas, and cows are one of the greatest methane emitters. Their grassy diet and multiple stomachs cause them to produce methane, which they exhale with every breath."

A study by Gidon Eshel and Pamela Martin published in the April, 2006 issue of the journal **Earth Interactions**, indicates that the average U.S. diet requires the production per year of an extra 1.5 tons of CO₂ equivalent, in the form of actual CO₂ as well as methane and other greenhouse gasses, compared to a vegan diet.⁽²⁾

A vegan diet eliminates animal flesh (whether mammal, bird, or fish) and animal products (dairy and eggs), and depends on vegetables, fruits, grains, beans, legumes, nuts, and seeds, and the many products made from them.

Using Less Land to Feed More People

The greenhouse gas CO₂ can be reduced, in part, by reducing animal agriculture and increasing plant agriculture. When forest is cleared for pasture, the service which those trees provided as "carbon sinks" is gone. In addition, it takes less arable land and energy inputs to feed a vegan than to feed a non-vegan because food energy (as calories), such as grain, eaten directly by a person is more efficient than cycling that energy through an animal by feeding grain to a "food" animal. Thus, even though both animal and plant agriculture depend on fossil fuel inputs, less is needed for plant agriculture.

This is stated succinctly by Lester Brown, President of the Earth Policy Institute. In a Feb. 2008 letter to potential members, he says: "A plant-based diet requires roughly one-fourth as much energy as a diet rich in red meat. Shifting from a diet rich in red meat to a plant-based diet cuts greenhouse gas emissions as much as shifting from a Suburban SUV to a Prius."

And Rajendra Pachauri, Chair of the Intergovernmental Panel on Climate Change, told the BBC: "I want to highlight the fact that among options for mitigating climate change, changing diets is something one should consider."⁽³⁾

What If I Eat Grass-fed Beef Instead of Grain-fed Beef?

According to Nathan Pelletier, doctoral student at Dalhousie University, Halifax, Nova Scotia, cattle raised solely on grass actually contribute more to greenhouse gases than cattle who are "finished" on grain. Why? "It's related to the much higher volumes of feed throughput and

associated methane and nitrous oxide emissions.” Further, with grass-fed cattle “There is also a higher (grass) trampling rate. So the overall land area that you need to maintain magnifies that (greenhouse gas) difference.”(4)

If I Buy Locally Produced Food, Isn't that Sufficient Action to Take?

Buying food locally produced is very important to support local farmers and reduce CO2 emissions from transporting food long distances. However, it shouldn't be the only strategy for reducing the carbon footprint from the food industry. According to Chris Weber, Professor of civil and environmental engineering at Carnegie Mellon University, Pittsburgh, Pennsylvania, buying locally produced food doesn't have as much impact as reducing beef and dairy. He says that only 5% of the emissions related to food comes from transporting food to market. “You can have a much bigger impact by shifting just one day a week from meat and dairy to anything else than going local every day of the year.”(5)

Recommendations and Resources

1. You can choose to reduce or eliminate animal flesh and animal products from your diet. Request a free vegetarian starter kit from Physicians Committee for Responsible Medicine, 202-686-2210 x306, or literature@pcrm.org or download from pcrm.org. Also available in SPANISH as “Guía de Iniciación una Dieta Vegetariana”.
2. Weekly free recipes online from F.A.R.M. are among many internet resources. Sign up at info@meatoutmondays.org
3. Environmental organizations should advocate for plant-based diet as part of their educational work on global warming.
4. Government policy should stop subsidizing animal agriculture and instead encourage plant agriculture. For example, school lunch programs should no longer be used as a dumping ground for unhealthy surplus animal products but should provide healthy plant-based foods.
5. You can download columns and recipes plus this paper and other resources from the website of the Biodiversity/Vegetarian Outreach Committee of the Atlantic Chapter of the Sierra Club at newyork.sierraclub.org/conservation/biodiversity/biodiversity.html (yes, “biodiversity” is repeated). Some items available in SPANISH. Or you can get free hard copies of this and other resources by contacting the Chair of the committee, Linda A. DeStefano at 315-488-2140 between 9 a.m. and 11 p.m., or ldestefano3@twcny.rr.com

Footnotes

1. **Livestock's Long Shadow: Environmental Issues and Options** by H. Steinfeld, et al in a 2006 report done for the Food and Agricultural Organization of the U.N.
2. www-news.uchicago.edu/releases/06/060413.diet.shtml
3. “Shun Meat, says U.N. Climate Chief,” Richard Black, Environmental correspondent, BBC News website, Sept. 7, 2008: news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/7600005.stm
4. Janet Raloff, **Science News**, Feb. 15, 2009: www.sciencenews.org/view/generic/id/40934/title/AAAS_Climate-friendly_dining_%E2%80%A6meats
5. “Hamburgers are the Hummer of Food in Global Warming: Scientists” by Agence France Presse, Feb. 16, 2009, posted on CommonDreams website at: www.commondreams.org/headline/2009/02/16-1

March, 2009; also available as <http://www.newyork.sierraclub.org/conservation/biodiversity/GlobalWarming.html>