

Climate-Friendly Eating Global Warming & Food

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The Future of Food:
Transatlantic Perspectives



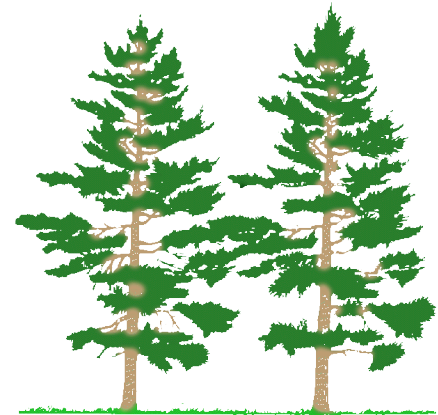
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Addressing Climate Change

Most common recommendations:

- Save energy, home and work:
lower heat, A/C, use power strips
- Buy energy-efficient appliances; change
light bulbs
- If possible, switch to green energy
- Drive less, take public transit
- Plant a tree



Where's the Food?

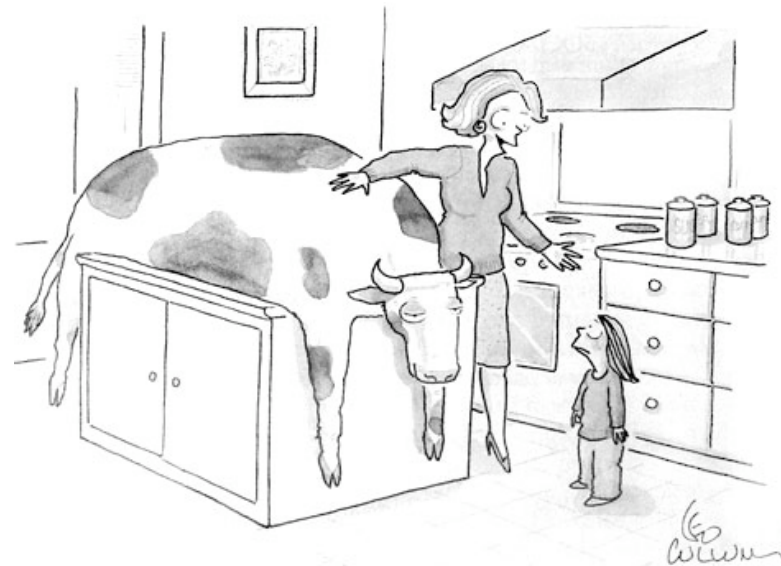


- **Consumers:** Occasional mention of local or organic, but climate impacts of food choices mostly overlooked
- **Policy:** Little on food and agriculture in national plans on global warming; less in U.S.; more in EU, but not a lot – same for international climate negotiations (Copenhagen)
- **Media:** Study—2.4% of newspaper articles on climate change discuss food; only 0.5% had substantial mention

Does Food Matter?

To climate change and if so, why?

- At policy levels...
- At individual level...
- At a cultural level?



"Mommy wants you to know where your food comes from."

Yes... a Lot

- Estimated **ONE-THIRD** of all human-caused greenhouse gases (GHGs) are the result of agriculture and changes in land-use related to the production of crops *and* farmed animals





Food and Fossil Fuels

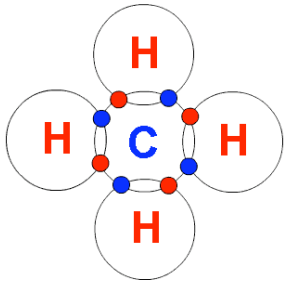
- Industrial agriculture is deeply reliant on fossil fuels: chemical fertilizers, operations, processing, transport
- U.S. food system uses approximately 18% of U.S. total energy supply—contributing significant levels of GHGs to atmosphere each day



The Meat (and Dairy) of the Matter

- Livestock operations (meat, dairy, eggs) emit 18% of human-caused GHGs: nearly **ONE-FIFTH** of global total
- More GHGs than from world's **transportation systems combined (14%)**
- Almost equal to GHGs from **forest loss and degradation (20%)**



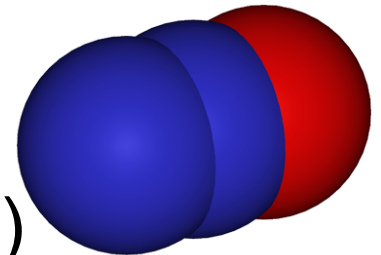


More Meat of the Matter

GHGs from Farmed Animals, Global %



- **Carbon Dioxide** (CO₂): 9%, from land changes: deforestation, expansion of feed crops, crop production (fertilizer)
- **Methane**: 37%, from digestive processes - mostly belching; some from manure (**23 x CO₂'s global warming potential**)
- **Nitrous Oxide**: 65%, mostly manure (**296 x CO₂'s global warming potential**)



By the Numbers

- 10 billion farmed animals raised and slaughtered in U.S. per year (9 billion+ = poultry)
- 56 billion globally per year
- By 2050, 100 billion?
- Average American consumes 200 lbs. of meat per year
- Rest of world: 70 lbs. per year . . . but rising



Global Warming: Matters of Scale

- Each adult cow emits 176 to 242 lbs. of methane/yr.
- Dairy cows emit *more* than those raised for beef
- . . . Multiply by approx. 1.5 billion cows alive today = significant global warming impact (264 to 363 billion lbs. of methane/yr.)



Western Diet, Production Methods Going Global (1)

- Agribusiness, factory farming part of globalization
- Search for new markets and profits; rising affluence, urbanization
- Pig and poultry operations growing fastest: Asia, Latin America, some Africa (rapid transformation, e.g. Poland)



Western Diet, Production Methods Going Global (2)

- Global South: meat production tripled over past 25 years
- Gender impacts of intensification
- Food cultures/cuisines marginalized or transformed



Fast Food Nation?: China

- 1,200 KFCs, nearly 1,000 McDonald's
- Tyson, Smithfield, others active
- Manure major source of water pollution
- Land, grain issues
- Obesity, diabetes



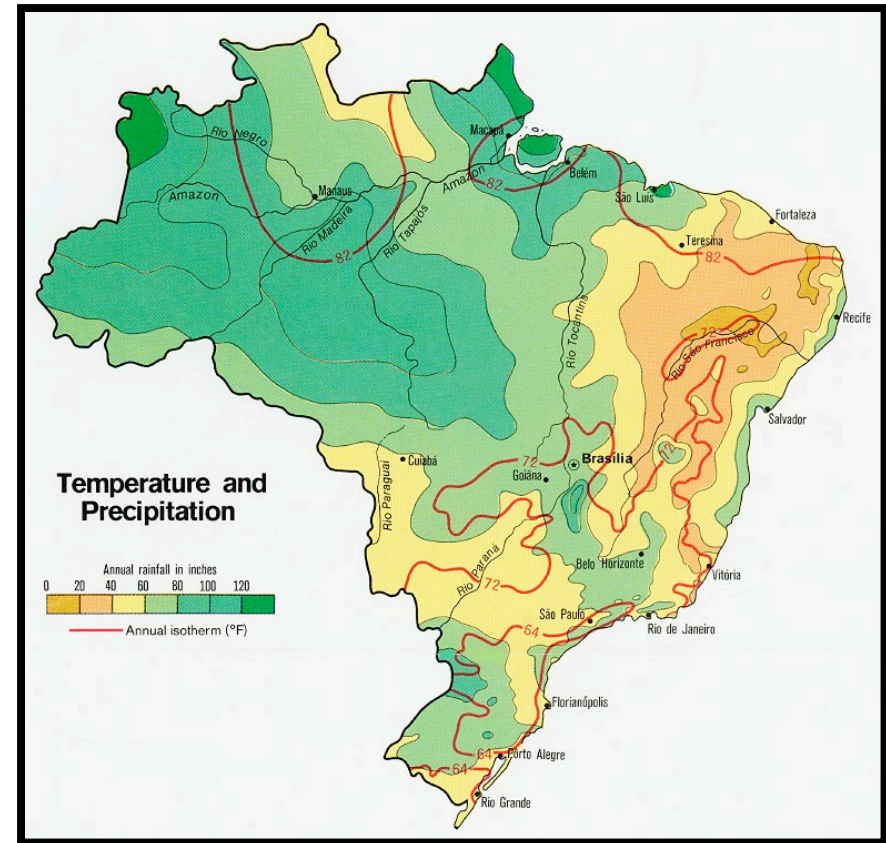
Fast Food Nation?: India

- Top 5 producer of “meat” chickens – 2 billion+/year
- More non-veg than veg
- 300 million cows: world’s largest share of methane from livestock
- Water, grain?
- Resistance, too



Fast Food Nation?: Brazil

- More cattle (200 mill.) than people
- Beef and soy = deforestation/ devegetation Amazon, Cerrado
- Loss, degradation of forest = major source of GHGs

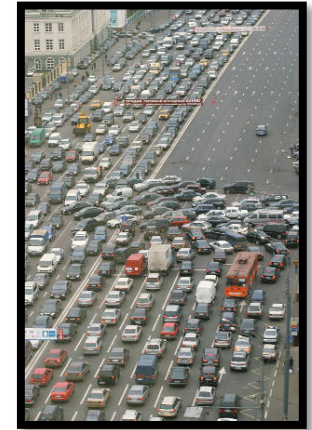


Signs of Stress

- Meat and dairy use 30% of Earth's land surface, 70% of agricultural land
- Degradation, desertification
- Industrial ag.= water intense (facilities, grain crops); scarcity, drought growing... and livestock industry is biggest global water polluter
- Food security – demand for grain driving up prices – hunger risk/reality



Climate Miles and Meals



Organic, local, whole foods important . . .

- If everyone converted 10% of diet to organic, could capture additional 6.5 billion pounds of carbon in soil —like removing 2 million cars from U.S. roads/yr.
- In U.S., food items packaged and transported an average of 1,500 miles (using oil, gas)
- Food processing and packaging: top 5 U.S. sectors for energy users; $\frac{1}{4}$ of energy required for food

Reducing Climate “Food Prints” (1)

But meat and dairy are the real GHG “hotspots”

- Study: “food miles” (transportation from producer to market) = “drop in carbon bucket”: only 4% of GHGs from food (all transport = 11%—feed, fertilizer, pesticides)
- ***All*** local omnivore’s diet, GHGs saved = **1,000 miles of driving/yr.**



Reducing Climate “Food Prints” (2)

- Vegetarian ***one day a week***, GHGs saved = more: **1,163 miles of driving/yr.**
- Vegan diet = 1.5 tons fewer GHG emissions a year, per person, than standard American diet



So, What to Eat?

- Whole foods: less processed, less packaged
- Organic (or “off label” organic, “bio”)
- Local, yes: know your farmer, support restoration of regional food sheds, but . . . poverty, trade, resource use/climate are factors, too (e.g., rice from California or Bangladesh?)
- Vegetarian, vegan or largely so—powerful climate act at individual level
- Explore/renew plant-based food cultures

Why it Matters

- “Climate space” and resources for development: who gets to eat “high on the hog?”
- Equity, sustainability: areas hardest hit by climate change have least ability to adapt
- Example we set
- Projections aren’t destiny
- Eat, yes, but *talk* about food, too (policy)

One Bite

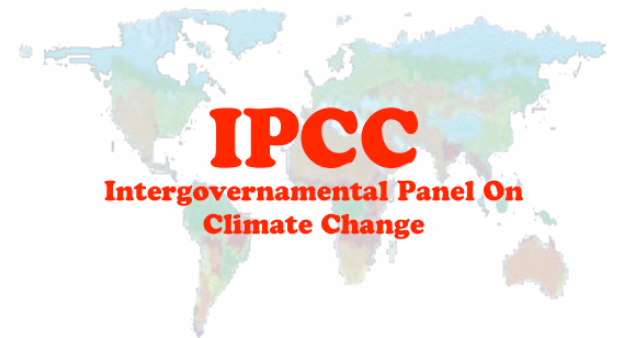
“It’s going to be almost impossible to feed future generations the kind of diet we have now in western Europe and North America.”

Stockholm World Water Institute, 2004

One More: the IPCC Speaks

“Please eat less meat—
meat is a very carbon
intensive commodity.”

Dr. Rajendra Pachauri, Chair,
Intergovernmental Panel on
Climate Change, 2008



Resources

- Brighter Green: Resources on Globalization of Intensive Animal Agriculture (www.brightergreen.org)
- Take a Bite out of Climate Change (www.takeabite.cc)
- Cool Foods Campaign; Cool Foods Pledge (www.coolfoodscampaign.org)
- Sustainable Table (www.sustainabletable.org)



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