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# EATING FOSSIL FUELS

## (GLOBAL WARMING AND OUR FOOD SYSTEM)

BY MARTY S. FUJITA

Every day we eat fossil fuels. From our breakfast cornflakes to our lunchtime hamburger and our dinner rolls and salads, fossil fuel has become human fuel. Ever since the 1950s, industrial food production has come to depend increasingly on great quantities of fossil fuels to run farm machinery, irrigate fields, raise livestock, dry crops and produce pesticides and inorganic fertilizer.

Our food system (which includes food production by agriculture, aquaculture, fishing and ranching, and distribution of those foods to consumers) now accounts for an estimated 17 percent or more of all fossil fuels used in the United States.

The burning of these fossil fuels releases the greenhouse gas carbon dioxide, which is accumulating in the earth's atmosphere and driving human-induced global warming. Ominous headlines—melting glaciers; aberrant weather patterns; a record number of hurricanes, droughts and floods; and even a slowing of the Gulf Stream—reflect the effects of accelerating climate change.

Considering that the US is responsible for a quarter of the world's CO<sub>2</sub> emissions, the scant media attention to the implications for agriculture is remarkable. As Alice Waters pointed out in a recent issue of *The Nation* dedicated to our food system, even Al Gore's well-informed film *An Inconvenient Truth* had “disappointingly little to say about how industrial food contributes to climate change.”

Global warming will undoubtedly have a profound impact on our food and agriculture system at the local, regional and international levels, as growing patterns, trade and markets shift to accommodate changes in available water, length of the growing season, weather and temperature. The current discussion of potential consequences is complex, lacking in consensus among experts, laden with scientific jargon, and often poorly focused because of a web of associated issues.

It is also difficult to understand because our food system is both affected by as well as impacted by global warming in both negative and positive ways (cause and effect—can it get any more convoluted and complicated than that?). Our food system emits greenhouse gases and serves as a huge carbon sink as our food plants convert carbon dioxide, sunlight and water into usable fuel for our bodies.

Even though the discussion can seem overwhelmingly complex, the consequences will impact every single one of us. We need to get informed and make the right choices to ensure our survival. We need to start asking ourselves how the onslaught of weird weather, from drought to deluge, will impact our food systems.

Will there be shifts in the geographical location of important growing zones? How will drought and flooding impact water availability and costs for irrigation? How do

abrupt and volatile weather patterns affect our food plants and their productivity? What are the economic repercussions of crop production and failures? How will rising ocean temperatures and sea levels impact our fisheries? How will loss of genetic diversity of our food plants affect agriculture's ability to respond to increasingly volatile weather patterns?

We also need to start asking ourselves how we can change our behemoth food and agriculture system for the better. How do we mitigate production of greenhouse gases (especially nitrogen, methane and carbon dioxide) associated with agriculture, aquaculture, fishing and ranching? Can we change our eating habits and purchasing preferences (for example, by buying local produce or eating lower on the food chain) to have positive impact? How can we change our centralized food distribution system to minimize “food miles” and fossil fuel use?

Farming is the single most important and widespread of human endeavors and has been central to human history. It is responsible for success of humans, in evolutionary terms, as the most dominant species in the world. Changing agriculture by planting cover crops, diversifying crops, implementing no-till farming methods and developing regional food production and delivery systems (to make farming carbon neutral or even act as a carbon sink) could have global ramifications.

Asking the right questions and strategizing solutions about agriculture and our current food system is not a trivial intellectual exercise.

It is important for all of us—consumers, producers and policy-makers—to understand the role each might play in changing our current unsustainable industrial food system to one that is environmentally and economically viable.

It has never been more important to communicate the issues, consequences and alternatives as widely as possible. Without broad understanding, it will be difficult to demonstrate how the way we produce and obtain our food disrupts global systems, or to envision a viable food system for the future. The window for transformative and adaptive change, according to many climate change scientists, has narrowed to only a few decades. The way we obtain our food must become part of the solution to global warming, or it may become part of our demise.

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