

# The Oil in Your Oatmeal

A lot of fossil fuel goes into producing, packaging and shipping our breakfast - Chad Heeter

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Please join me for breakfast. It's time to fuel up again.

On the table in my small Berkeley apartment this morning is a healthy-looking little meal -- a bowl of imported McCann's Irish oatmeal topped with Cascadian Farms organic frozen raspberries, and a cup of Peet's Fair Trade Blend coffee. Like most of us, I prepare my breakfast at home, and the ingredients for this one probably cost me about \$1.25. (If I went to a cafe in downtown Berkeley, I'd probably have to add \$6 more, plus tip, for the same.)

My breakfast fuels me up with about 400 calories, and it satisfies me. So for just over a buck and half and an hour spent reading the morning paper in my own kitchen, I'm energized for the next few hours. But before I put spoon to cereal, what if I consider this bowl of oatmeal porridge (to which I've just added a little butter, milk and a shake of salt) from a different perspective. Say, a Saudi Arabian one.

Then what you'd be likely to see -- what's really there, just hidden from our view (not to say our taste buds) -- is about 4 ounces of crude oil. Throw in those luscious red raspberries and that cup of java (an additional 3 ounces of crude), and don't forget those modest additions of butter, milk and salt (1 more ounce), and you've got a tiny bit of the Middle East right here in my kitchen.

Now, let's drill a little deeper into this breakfast. Just where does this tiny gusher of oil actually come from? (We'll let this oil represent all fossil fuels in my breakfast, including natural gas and coal.)

Nearly 20 percent of this oil went into growing my raspberries on Chilean farms many thousands of miles away, those oats in the fields of County Kildare, Ireland, and that specially raised coffee in Guatemala -- think tractors as well as petroleum-based fertilizers and pesticides.

The next 40 percent of my breakfast fossil-fuel equation is burned up between the fields and the grocery store in processing, packaging and shipping.

Take that box of McCann's oatmeal. On it is an inviting image of pure, healthy goodness: a bowl of porridge, topped by two peach slices. Scattered around the bowl are a handful of raw oats, what look to be four acorns and three fresh raspberries. Those raw oats are actually a reminder that the flakes require a few steps 'twixt field and box. In fact, a visit to McCann's Web site illustrates each step of cleaning, steaming, hulling, cutting and rolling that turns the raw oats into edible flakes. Those five essential steps require significant energy.

Next, my oat flakes go into a plastic bag (made from oil), which in turn is inserted into an energy-intensive, pressed wood-pulp, printed paper box. Only then does my breakfast leave Ireland and travel 5,000 fuel-gorging, carbon-dioxide-emitting miles by ship and truck to my grocery store in California.

Coming from another hemisphere, my raspberries take an even longer fossil-fueled journey to my neighborhood. Though packaged in a plastic bag labeled Cascadian Farms (which perhaps suggests birthplace in the good old Cascade mountains of northwest Washington), the small print on the back, stamped "A Product of Chile," tells all -- and what it speaks of is a 5,800-mile journey to Northern California.

If you've been adding up percentages along the way, perhaps you've noticed that a few tablespoons of crude oil in my bowl have not been accounted for. That final 40 percent of the fossil fuel in my breakfast is used up by the simple acts of keeping food fresh and then preparing it. In home kitchens and restaurants, chilling in refrigerators and cooking on stoves using electricity or natural gas gobbles up more energy than you might imagine.

For decades, scientists have calculated how much fossil fuel goes into our food by measuring the amount of energy consumed in growing, packing, shipping, consuming and finally disposing of it. The caloric input of fossil fuel is then compared with the energy available in the edible product, the caloric output.

What they've discovered is astonishing. According to researchers at the University of Michigan's Center for Sustainable Agriculture, an average of more than 7 calories of fossil fuel is burned up for every calorie of energy we get from our food. This means that in eating my 400-calorie breakfast, I will, in effect, have consumed 2,800 calories of fossil fuel energy. (Some researchers claim the ratio is as high as 10 to 1.)

But this is only an average. My cup of coffee gives me just a few calories of energy, but to process 1 pound of coffee requires more than 8,000 calories of fossil-fuel energy -- the equivalent energy found in nearly a quart of crude oil, 30 cubic feet of natural gas or about 2 1/2 pounds of coal.

So how do you gauge how much oil went into your food?

First check out how far it traveled. The farther it went, the more oil it required. Next, gauge how much processing went into the food. A fresh apple is not processed, but Kellogg's Apple Jacks cereal requires enormous amounts of energy to process. The more processed the food, the more oil it requires. Then consider how much packaging is wrapped around your food. Buy fresh vegetables instead of canned, and buy bulk beans, grains, and flour if you want to reduce that packaging.

You may think you're in the clear because you eat strictly organically grown foods. When it comes to fossil-fuel calculations though, that isn't relevant. However it is grown, a raspberry is shipped, packed and chilled the same way.

There is some energy savings in growing organically, but it's probably slight. According to a study by David Pimentel at Cornell University, 30 percent of fossil-fuel expenditure on farms growing conventional (non-organic) crops is found in chemical fertilizer.

This 30 percent is not consumed on organic farms, but only if the manure used as fertilizer is produced very close to the farm. Manure is a heavy, bulky product.

If farms have to truck bulk manure more than a few miles, the savings is eaten up in diesel-fuel consumption, according to Pimentel.

One source of manure for organic farmers in California is chicken producer Foster Farms. Organic farmers in Monterey County, for example, will truck tons of Foster's manure from their main plant in Livingston (Merced County) to fields more than 100 miles away.

So the next time we're at the grocer, do we now have to ask not only where and how a product was grown, but how far its manure was shipped?

Well, if you're in New York City picking out a California-grown tomato that was fertilized with organic compost made from kelp shipped from Nova Scotia, maybe it's not such a bad question.

But should we give up on organic? If you're buying organic raspberries from Chile each week, then yes. The fuel cost is too great, as is the resulting production of the greenhouse gases.

But if there was truth in packaging, where my oatmeal box now tells me how many calories I get from each serving, it would also tell me how many calories of fossil fuels went into the product.

On a scale from one to five -- with one being nonprocessed, locally grown products and five being processed, packaged imports -- we could quickly average the numbers in our shopping cart to get a sense of the ecological footprint of our diet.

What appeared to be my simple, healthy meal of oatmeal, berries and coffee looks different now. I thought I was essentially driving a Toyota Prius hybrid by having a very fuel-efficient breakfast, but by the end of the week, I've eaten the equivalent of more than two quarts of Valvoline

From the perspective of fossil-fuel consumption, I now look at my breakfast as a waste of precious resources. What I eat for breakfast connects me to the planet, deep into its past with the fossilized remains of plants and animals which are now fuel, and into the future, when these nonrenewable resources will probably be in scant supply.

Maybe these thoughts are too grand to be having over breakfast, but I'm not the only one on the planet eating this morning. My meal traveled thousands of miles to reach my plate.

Then there's the rise of perhaps 600 million middle-class Indians and Chinese, already demanding the convenience of packaged meals and foreign flavors.

What happens when middle-class families in India or China decide they want their Irish oats for breakfast and topped by organic raspberries from Chile? They'll dip more and more into the planet's communal oil well. And someday soon, we'll all suck it dry

A crude menu

A lot of fossil-fuel energy goes into the production of food:

- Bowl of oatmeal porridge: 4 ounces of crude oil.
- Serving of red raspberries: 1 ounce of crude oil
- Butter, milk and salt: 1 ounce of crude oil.
- That cup of java: 2 ounces of crude oil.
- Energy required to produce 1 pound of coffee: a quart of crude oil, 30 cubic feet of natural gas, or about 2 1/2 pounds of coal
- Energy required to produce one week's worth of breakfast for one person: More than 2 quarts of crude oil.

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Page F-1

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