

Don't the people we trust to run our country have some plan for this?

In fact, the people in charge have known about petroleum depletion for years, and it's clear that foreign policy is based around oil (see Iraq). But our democratic system elects people who tell us what we want to hear—and few of us want to hear about how our way of life will change. It also puts into power people who are thinking of acquiring power for four or eight-year terms—they're not thinking about your children. (In truth, most of them aren't even thinking about you, unless you're suitable to recruit to fight their wars.) We're still living this way because we have a massive case of denial, and nobody wants to be the one that spoils the party. It makes an insane sort of sense, once you accept the premise that the people we expect to care about us really don't. On the sunny side, as peak oil comes to public awareness our leaders will be pressured to do something—and there are many scientists and companies working to bring the issue to light. BP (now known as Beyond Petroleum) has a cutesy new slogan: "Time to go on a low-carbon diet." Will our leaders get their act together before things fall apart?

In the future, you can't count on a "they" to tell you anything, or look out for your interests. There is no *they*. There is, however, your own critical intellect and intuition, and the families that make up your community, and you will learn to rely on them. Now is the time to educate yourself on the subject, and then determine how you want to adjust your life. You could learn a skill and move to someplace where you can grow food, or you could dismiss the issue. You could become an apocalyptic survivalist, or fall into a mood of never-ending gloom, or learn from the immigrants and people of the "third world" how to make merry music in times of desperate hardship.

So what's going to happen?

It's a chaotic system we're dealing with, but people have made a few guesses. It won't be a smooth ride downhill; something will happen to stabilize the situation for a little while, and then there will be another price shock. After the economic roller-coaster, we'll move into a decline—a Great Depression without an obvious way out. Food, energy, transport, and pretty much everything will cost more; we will face collapsing investments, and unemployment from general recession. The energy crunch will put a strain on electricity—anticipate blackouts. Geopolitical tensions will rise; meanwhile, global domination will be harder to maintain since it will cost more to mobilize and run a military force. Psychologically, the impact upon Westerners may be high, since we have been brought up to expect a certain sort of future and a certain level of comfort. Things will shift to locally grown and produced goods, the suburbs will either be crowded or vacated, and there will be a lot less plastic used. It may be a rough, messy transition to the post-petroleum era: it's hard to say. In any case, we can all love and enjoy what we have while we have it, and be ready to gracefully adapt to something else when something else arises. "Crisis is opportunity."

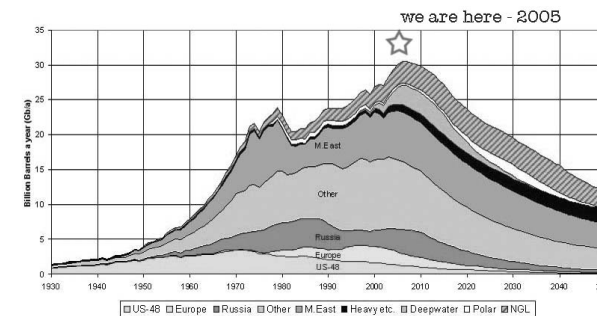
1. Porter, Adam. "Peak Oil Enters Mainstream Debate," 10 June 2005, from the BBC: <http://news.bbc.co.uk/1/hi/business/4077802.stm> 2. qtd. by Naparstek, Aaron. "The Coming Global Energy Crunch." *New York Press*, 1 June 2004. 3. Ibid. 4. Manning, Richard. "The Oil We Eat." *Harper's*, Feb 2003, archived at [www.energybulletin.net](http://www.energybulletin.net). 5. Parfit, Michael. "Future Power: Where Will the World Get Its Next Energy Fix?" *National Geographic*, Aug. 2005. 6. Heinberg, Richard. "The End of the Oil Age." *Earth Island Journal*, 18.3: Fall 2003. See also Heinberg's book, *The Party's Over: Oil, War, and the Fate of Industrial Societies*. 7. Parfit, Michael, see citation above. 8. Roberts, Paul. "Over a Barrel." *Mother Jones*, Nov/Dec 2004, also on the web at [http://www.motherjones.com/news/feature/2004/110/10\\_401.html](http://www.motherjones.com/news/feature/2004/110/10_401.html). See also Roberts's book, *The End of Oil*. **Web:** visit [www.energybulletin.net](http://www.energybulletin.net) \* [www.oilendgame.com](http://www.oilendgame.com) **DVD:** see *The End of Suburbia* [www.endofsuburbia.com](http://www.endofsuburbia.com) this brochure & more links can be found at [www.createdestroyenjoy.net/peakoil](http://www.createdestroyenjoy.net/peakoil)

# peak oil:

it's more than  
just gas prices  
*a guide to the coming oil crisis*

Perhaps you have heard the phrase "peak oil" before—or perhaps not. Either way, you'll be hearing it often in the near future, because the realization that we have hit peak oil is going to change the way we live.

In 1970, oil production in the U.S. peaked. What this means is that production was at its highest; after that peak, the amount we were able to extract started to fall. Today, the U.S. extracts about one-third the amount of oil that we did in 1970.



*it's not sudden, like your car running out of gas...*  
source: Association for the Study of Peak Oil and Gas

Because we pump the easy-to-reach, high-grade "sweet" and "light" oil first, the oil that remains is increasingly hard to get to. Then, there comes a point where it's not even worth reaching, because the amount of energy that oil companies have to expend to drill for it is greater than the energy contained in the oil they're striving for. In slightly more technical terms, the "ERoEI", or Energy Return on Energy Invested, is below 1:1. This is why oil reserves don't suddenly run out—they gradually decline, as the ERoEI decreases. After

the peak, oil is more expensive to produce, and what you can extract is of lesser quality. This bell curve phenomenon was first observed by M. King Hubbard, a geologist working for Shell, in the 1950s. In 1956, he predicted that U.S. oil production would peak sometime between 1966 and 1972.

Globally, oil production is set to peak soon—in fact, it may have done so already. *That means that all the oil we're producing right now is the most we'll ever produce.* The Association for the Study of Peak Oil and Gas predicts a peak in 2005; Matthew Simmons, an energy advisor for Bush, also predicts 2005; a French government report gives us until 2013,<sup>1</sup> and for a variety of reasons<sup>8</sup> it is difficult to know for sure just when the peak will be. But sooner or later, oil production will decline, while demand for oil continues to rise. In order to understand what this gap between supply and demand means for society, and for you and your family, there are a few things we should understand about oil and its role in our economy.

We learned in grade school that oil is a "nonrenewable resource," that it's sunlight turned into plants and animals all compressed and decayed over billions of years, or something like that. It's the concentrated energy of the life that existed on planet Earth, and over half of it has been used by humans in the past century. Oil is what made our rapid industrialization possible: without this concentrated, cheap source of energy, there's no way this globalized society could have been constructed.

Meanwhile, our appetite for oil-energy keeps rising: in the past 50 years, global demand for oil has increased sevenfold.<sup>2</sup> The U.S. already uses a hugely disproportionate

§ The data we have on oil reserves comes from the oil companies themselves. Of course, since the companies can increase their market shares based on the reserves they report, it's hard to say how much oil is left.

share of the world's oil, and as other countries modernize, they too are thirsty for oil. Journalist Aaron Naparstek explains: “*Economic growth, as we have come to know it, is entirely dependent on a vast, continuous flow of remarkably cheap oil. As Simmons says, ‘Peak does not mean oil has run dry; it does mean that growth is over. Who would like to get on the plane and go tell India and China, sorry guys, your spurt is over. We used your energy.’*” Peak oil means an increase in global tensions, as nations compete for a dwindling resource. The oil wars have already begun. Why do we consider oil worth dying for? Why does it have such an important role in our lifestyle?

### *transport, food, and plastics*

Transport means much more than personal transport: it means the shipment of goods, and when you're sitting at a table manufactured in Sweden with dishes from China eating an orange grown in Israel and a salad from Californian vegetables and some soup made from beef raised in Texas on grain grown in Kansas... you start to realize that when the cost of transport goes up, the cost of everything goes up.

Even though transportation is necessary in our globalized society, it isn't as necessary to the human organism as that other source of energy: food. However, our food supply is based upon cheap oil. How many ways did that cereal you ate for breakfast rely on oil? It was transported by truck, and before that, sowed and harvested by machines. Also, the fertilizers and pesticides that enable food production on the level of modern agribusiness are made from natural gas and oil: our soil is literally drenched in petroleum derivatives. Then, there's processing. Consider:

*America's biggest crop, grain corn, is*

*completely unpalatable. It is raw material for an industry that manufactures food substitutes. Likewise, you can't eat unprocessed wheat. You certainly can't eat hay. You can eat unprocessed soybeans, but mostly we don't. These four crops cover 82 percent of American cropland. Agriculture in this country is not about food; it's about commodities that require the outlay of still more energy to become food. ... The grinding, milling, wetting, drying, and baking of a breakfast cereal requires about four calories of energy for every calorie of food energy it produces. A two-pound bag of breakfast cereal burns the energy of a half-gallon of gasoline in its making. All together the food-processing industry in the United States uses about ten calories of fossil-fuel energy for every calorie of food energy it produces.*<sup>4</sup>

Just as we don't often think about the oil that goes into our food, we don't always think about the oil that our food goes into: those grocery store plastic bags, which often collect under our kitchen sink until we muster the energy to go recycle them. Look around you: what in your immediate surroundings is made from plastic? I'm sitting in a café in Grants, New Mexico, eyeing the table, the flooring, the light fixtures, the cheap tablecloth, the flowerpots, even the flowers on the table: all created from oil.

By now, you're probably getting a picture of what a world without cheap oil looks like. It's not just the end of the personal automobile, it's the end of an entire era: agribusiness and cheap, diverse food; plastic and disposable goods; cheap international travel; the suburbs, with their housing developments and big-box stores all spaced out... none of these things will be possible. “Suburban blight” will be a common phrase. I won't cry over the plastic flowers, or the traffic jams... but already I see the airline industry collapsing, and think about how the next generation's children will be incredibly lucky to

look out an airplane window and look down at the cloud-landscape. Et cetera. At this point you're probably asking...

Is this for real? Isn't this controversial?

Yeah, it sounds pretty hard to swallow, but I'm not making it up. It's surprisingly less controversial than you'd think—most of the people trying to bring peak oil to public consciousness are former oil-execs. I strongly urge you to research this topic for yourself. You'll probably come across the work of Colin Campbell, a geologist who is the former executive-VP of Total; and Matthew Simmons, who heads an energy investment firm, and advised Cheney's Energy Task Force in 2001. You'll also come across a lot of articles from the British press—the Guardian and the BBC—which show that the idea of peak oil is pretty well respected among geologists (and that people abroad are more conscious about this than their American counterparts). And you'll come across information from the oil companies themselves, who are urging people to think about this: I refer you to Chevron's surprising website, [www.willyoujoinus.com](http://www.willyoujoinus.com), which explains, “We can wait until a crisis forces us to do something. Or we can commit to working together, and start by asking the tough questions: How do we meet the energy needs of the developing world and those of industrialized nations?” Please see the footnotes for starting points on your research.

Don't we have other technologies we can use to deal with the energy crisis?

Not yet. We have some ideas in the works, but none of them can replace oil. If we implemented them *today*, we could make a more peaceful transition to a lower-energy lifestyle, but the political will to do so is lacking. It is important to understand that none of the technologies available can replace oil. “Fossil fuels have met

the growing demand because they pack millions of years of the sun's energy into a compact form, but we will not find their like again,” explains Michael Parfit in *National Geographic*.<sup>5</sup> So, what do we have to work with?

Fossil fuels: Conservation of what we do have left is crucial, but the best it can do is postpone the inevitable; the same goes for increased efficiency. Natural gas is also peaking, and a return to coal would be tragic. I don't have space here to go into the many flaws of shale oil and oil sands; let's just say that fossil fuels continue to create the third major problem that our planet's facing (along with the energy crisis and the water crisis)—global warming.

Beyond fossil fuels: Biomass includes ethanol, biogas, and biodiesel. Biodiesel would be the easiest fuel to use in our existing transportation infrastructure, but the problem with these is that at our current energy consumption, we'd have to devote all our land to growing biofuels (and while the first-world is farming to run cars, people are starving from lack of grain). Ethanol's a net energy loser made famous by the corn industry. Nuclear power is an option, and 16% of the world's electric power is generated by nuclear plants, but it's not renewable—the readily available uranium will only last about 50 years.<sup>7</sup> We haven't really figured out cold fusion yet, and hydrogen is a carrier of energy, not a source of it. Solar and wind technologies are quite promising, and they are getting cheaper; the main problem with them right now is that we don't have a good system of storing the energy that they generate.

While alternative technologies are promising, and I don't mean to discount the efforts of the many scientists and policy experts that are working on them, it's not likely that we can implement these and build a new infrastructure before the current oil-dependent infrastructure collapses.