Facing the End of Oil

By Cheryl Woodard
Executive Editor, AskQuestions.org
February 16, 2005

Are We There Yet?

The world's oil supplies could last 40 years or more, according to some projections. But serious trouble starts when ready supplies begin to decline, long before we get to the last drop. And many experts believe that we're already there.

Best Case Scenario: The 2004 British Petroleum Statistical Review of World Energy http://www.bp.com/subsection.do?categoryId=95&contentId=2006480 gave the most optimistic projection we could find, predicting that global oil reserves will be gone in 2045, based on known reserves and current rates of consumption, called the R/P ratio. By the same measure, US reserves will be exhausted in 2015. (download the BP spreadsheet, which shows a geographical breakdown, from our website at http://www.askquestions.org/articles/oil/BPRPRatios.xls)

Optimists sometimes extend the 41 years by including 'unconventional' oil supplies, like the oil tar sands in Canada, even though getting at that oil sometimes causes more trouble than it's worth. The US Department of Energy http://www.eia.doe.gov/cabs/canenv.html offers a fairly pessimistic assessment of Canadian oil supplies for instance, noting the Canadian political will to protect the environment, the inefficiency of extraction methods, and the hazards of extraction, "Oil sands projects are large, use considerable amounts of energy, particularly natural gas, and release both gaseous and particulate emissions into the atmosphere. Although the oil sands processes have become more efficient and have reduced greenhouse gas (GHG) emissions per unit of production, an increase in output could lead to an increase in total emissions. Other environmental challenges associated with oil sands processing are disposing of tailings, wastewater management, and land reclamation." We dare not count on Canadian oil sands to replace dwindling supplies in other parts of the world.

Forty-one years doesn't seem like a very long time before the world's oil completely runs out. And yet, outside of the oil industry, many believe the end will come much sooner.

The Peak Oil Case: The Oil Depletion Analysis Center, www.odac-info.org a British non-profit group independently studies the activities of oil producers and their reserves. Their November 2004 study reports that all of the major new oil-recovery projects scheduled to come on stream over the next six years are unlikely to boost supplies enough to meet the world's growing needs. The report says, "Even with relatively low demand growth, we see an unbridgeable supply/demand gap opening up after 2007." (download the report at http://www.askquestions.org/articles/oil/ODACReport.pdf).

Geologist Colin Campbell agrees that the peak will occur in 2007, according to data he published in February 2005 at www.peakoil.net. Working with other European scientists,

Campbell founded the Association for the Study of Peak Oil and Gas (ASPO) and the group is proposing that the world community should develop an equitable 'soft landing' strategy to avoid conflicts as the oil runs out. Read their proposed international agreement here: http://www.peakoil.net/uhdsg/UppsalaProtocol.html.

Government Projections: The US Energy Department's Energy Information Administration data shows no foreseeable gap between supply and demand. www.eia.doe.gov. But the most recent Oil Market Report from the International Energy Agency www.iea.org (an international government group) reveals that world oil demand reached 85.6 million barrels per day (mb/d) in the fourth quarter of 2004, and global supplies averaged 84.4 mb/d that quarter. Technically, demand already outstripped supply last year, according to this IEA data.

What Now?

Some argue that the Oil Peak will lead to a new market equilibrium: prices will rise and consumers will cut back or switch to alternative energy sources. New technologies and investment for extraction will guarantee adequate oil supplies during that transition. See for example, one piece written for the Society of Petroleum Engineers last summer called, "Doomsday Rhetoric Ignores Signs of Growth in Global Production Capacity." http://www.spe.org/spe/jpt/jsp/jptmonthlysection/0,2440,1104_11038_2557364_2575696,00.html

The other side paints a different story. Caltech physics professor David Goodstein writes, "As we learned in 1973, the effects of an oil shortage can be immediate and drastic, and it may take years, perhaps decades, to replace the vast infrastructure that supports the manufacture, distribution, and consumption of the 20 million barrels of oil we Americans gobble up each day." In his book, *Out of Gas: The End of the Age of Oil*, Goodstein urges that we undertake a massive national commitment to developing alternative energy sources – comparable to the 1960's race to the moon – because "civilization as we know it will not survive unless we can find a way to live without fossil fuels."

Richard Heinberg, another Peak Oil writer notes that more than 60% of the world's remaining oil supplies are located in the Middle East - Iraq alone has 11% of the proved reserves – and predicts devastating 'resource wars' if the United States cannot immediately reduce our dependence on imported oil.

Can We Live Without It?

A recent National Geographic article, "The End of Cheap Oil" http://magma.nationalgeographic.com/ngm/0406/feature5/ warned that when oil prices rise, every transported product also becomes more expensive. Food, for example, travels an average of 1,300 miles from farm to plate. The article noted that it takes almost a gallon of oil to make one pound of beef, and nearly 7 gallons to make one tire. Oil is also used to make medical implants, computers, and fertilizers. And 90% of all organic chemicals come from oil (including cosmetics, pharmaceuticals and plastics). The 20 million barrels of oil per day consumed in the US goes for: transportation 68%,

agriculture and industry 24%, Residential heat 4%, Commercial heat 2%, and Generating electricity 2%.

Who's Driving This Train?

Campbell, Goodstein, Heinberg and others warn that governments will not address the coming oil crisis until the energy train actually crashes. Their Peak Oil books, websites, and conferences aim to spark a public outcry that forces policy makers into timely action. And indeed, the media is beginning to pick up their story. You can google 'peak oil' and get dozens of contemporary articles. You can also find a handful of very good books. We list our favorites below.

Confronting the oil problems in the 1970's, President Jimmy Carter said, "We must face the prospect of changing our basic ways of living. This change will either be made on our own initiative in a planned way, or forced on us with chaos and suffering by the inexorable laws of nature."

Looking back, we can wonder if Carter's energy programs might have averted the present crisis had they not been aborted in the 1980s. But even with time running out, we can still make the right choices – better now than later. In the private realm, we can prepare to live comfortably with fewer resources, reduce our personal debts, shop locally, and conserve. On the national level we can urge our leaders to do all of the above, while also rebuilding or replacing our food systems, energy networks, and foreign policies.

Articles, Books and Websites

"The Oil We Eat" Harpers Magazine February 2004
http://www.findarticles.com/p/articles/mi_m1111/is_1845_308/ai_112796599
"The End of Cheap Oil" National Geographic Magazine, June 2004
http://magma.nationalgeographic.com/ngm/0406/feature5/
"Over a Barrel" by Paul Roberts, Mother Jones magazine, November/December 2004
http://www.motherjones.com/news/feature/2004/11/10_401.html

The Party's Over: Oil, War and the Fate of Industrial Societies, by Richard Heinberg
The author has a website at http://www.museletter.com/
Out of Gas: The End of the Age of Oil, by David Goodstein.
The End of Oil: On the Edge of a Perilous New World, by Paul Roberts

Peak Oil websites: ASPO's website www.peakoil.net has links to other Peak Oil sites as well as news articles and the proceedings of their annual conferences. Another good site is www.hubbertpeak.com, named after the scientist who first conceived and predicted the problem.

Non-government websites: Oil Depletion Analysis Center www.odac-info.org and the Post Carbon Institute www.postcarbon.org

Oil Industry sites: www.bp.com and American Petroleum Institute www.api-ec.api.org

Government websites: www.eia.doe.gov and www.iea.org

AskQuestions.org is a public interest news site raising awareness about urgent popular issues that the media is not adequately addressing. The non-profit site is supported entirely through public donations, and we invite you to make a contribution if you find this article useful. We also invite you to visit the site, pose questions, see what others are asking, and use the process to bring important issues into the public agenda.