

Is The World Running Out Of Oil?

“Within the next two to five years the oil fields of this country will reach their maximum production, and from that time on we will face and ever-increasing decline.”

—US Government Report, 1919

In its most recent assessment of world energy supply and demand (*World Energy Outlook 2004*), the International Energy Agency (IEA) concluded:

“The Earth contains more than enough energy resources to meet demand for many decades to come.”

Even with energy demand expected to increase over the next 20 years, the United States Geological Survey (USGS), the U.S. Energy Information Administration (EIA), and industry and academic experts all agree with the IEA's assessment: **The world won't run out of oil.**

Let's crunch the numbers: Some 1,000 billion barrels of oil and 5,500 trillion cubic feet of natural gas have already been identified, but not yet produced. At current consumption rates that translates to 40 years of oil supply and 60 years of natural gas supply. In addition, USGS estimates that nearly equal amounts of oil and gas are yet to be discovered, ensuring even more decades of supplies.

Serious Challenges

This is no time to be complacent. There are plenty of difficult energy challenges ahead. Over the next twenty years, global energy demand is expected to increase by 40% driven largely by rapid economic and population growth in China, India and other parts of the developing world.

Technological and geopolitical challenges:

Increasingly, future oil supplies will be found in very deep water and other remote locations requiring large investments to find it and new technologies to extract it.

There are geopolitical challenges too. According to IEA, more and more oil will come from fewer countries, primarily the Middle East members of OPEC. At the same time, government restrictions severely limit access to domestic oil and gas reserves.

Inadequate Fuels Infrastructure:

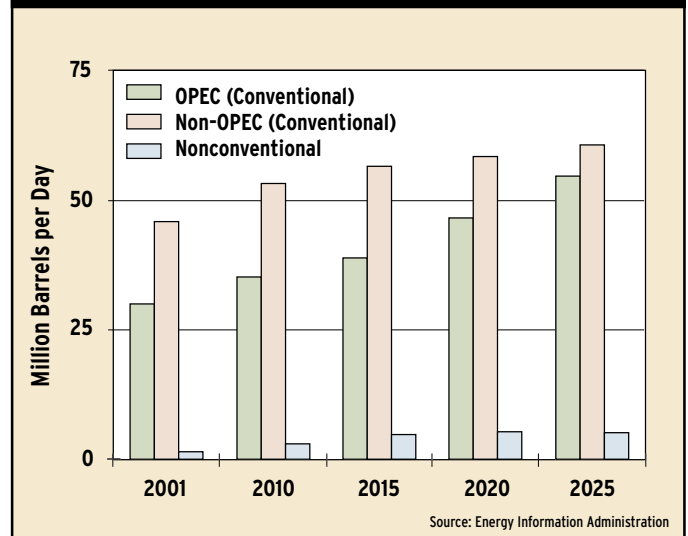
Obtaining raw materials isn't the only problem. U.S. refineries are running at virtually full capacity yet not one new refinery has been built in our country since the 1970s. Why? Reams of regulatory and environmental restrictions make it difficult, time-consuming and very expensive even to try. Furthermore, vital infrastructure needed

to import gasoline to California is being eliminated, making it even more difficult to provide transportation fuels.

Environmental Protection:

Today's citizens demand reliable energy supplies and environmental protection.

OPEC, Non-OPEC, & Nonconventional Oil Production, 2001 & 2010-2025



That means meeting the challenge of providing energy while continuing progress in reducing emissions from transportation fuels and other energy supplies.

Meeting The Energy Challenge

Reliable Energy

Reliable energy supplies are a strategic need for every country in the world and are as important to quality of life as health care, education and housing. Failure to provide adequate energy results in severe economic consequences to businesses and to the daily lives of every citizen. During the summer of 2000, we tasted energy insecurity in California when electricity supplies failed to meet demand. Even those small shocks created long-lasting economic problems that we are still paying for today.

The fact is, we will need all the energy we can get over the next few decades from many different sources. We can't afford to put all our eggs in one basket be it oil, natural gas, renewables, coal or alternative fuels. As we contemplate future energy choices, we need to make responsible policy decisions based on the principle of sustaining economic growth with reliable energy supplies, while protecting the environment.

Energy Conservation

Conservation, using energy more efficiently, is perhaps the most cost-effective and reliable new energy source available today. And we have the track record and know-how to produce energy from conservation. For example, today's cars are twice as fuel efficient and home appliances are twice as energy efficient as those made in the 1970's. Hybrid automobiles are rapidly becoming more popular because of their fuel efficiency, and conservation is becoming more attractive as petroleum costs have risen.



Renewable Energy

Renewables, such as fuel cells, solar, hydroelectric and wind will be important sources of energy. Continued investment, research and development of these is vital. Some of these, such as wind and solar, are growing rapidly. Nevertheless, renewables are expected to provide only about 3% of total demand in 2015 according to the IEA. Moreover, most experts agree fuel cells and other renewables have many technological hurdles to overcome and realistically may be years, if not decades, away from supplying significant amounts of energy.

Natural Gas

Natural Gas is an environmentally friendly and globally plentiful fuel. The challenge for California is ensuring we have the means of obtaining adequate natural gas supplies to meet growing demand. Only 15% of our natural gas supplies come from California and domestic supplies are dwindling. There's plenty of natural gas in other parts of the world, but we'll need to build the facilities that will allow it to be shipped here in liquid form.

Oil In The Future

Oil will remain a clean, vibrant component of a diverse energy menu. It now provides about 60% of the world's energy needs and is expected to provide the same percentage in the decades ahead – which means increasing production from proven sources as well as discovering new ones. This will require focused attention by private companies and governments to meet the financial, technological and geopolitical challenges that exist. Also, we need to continue progress in reducing emissions from petroleum based fuels such as cleaner-burning gasoline and clean diesel.

Other Energy Sources

World coal consumption has recently increased faster than any other energy source, particularly in China and Europe. Because of public opposition, nuclear power generation has decreased. However, some countries such as France rely on nuclear power for more than 75% of their energy needs.