OIL RESOURCES

A CLOSER LOOK
Part One
Some Background and Perspective

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Introduction

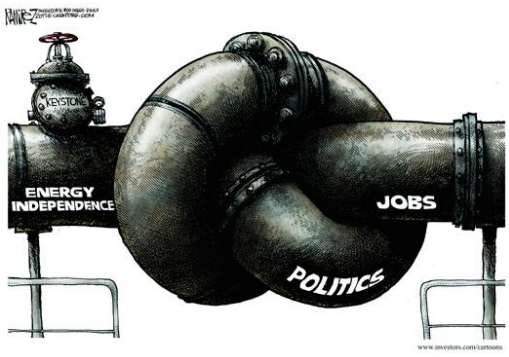
This is Part One of a two part report about oil reserves – primarily those of the United States. First I will present some background information and discussion of some topics related to oil resources. In the next report I will present some more specific and recent information about the location of oil reserves and the implications on the U.S.

I will stay away, for now from the global warming controversy. Those issues are behind much of the emotion and argument dealing with our dependence on oil and will be dealt with separately. Also for now, I will deal with other carbon fuels, only in passing.

What Am I Trying to Do?

You've heard the "babble": depleting worldwide and domestic petroleum supplies; we can't solve our petroleum needs through domestic supplies; invest in wind, solar, etc. or soon suffer the dire consequences. We as a country are castigated for having only 2% of the world-wide oil reserves, and under 5% of the world's population, yet we greedily consume over 20% of the world-wide oil production. Often this is part of a larger conversation about "global warming" and "maintaining pristine wilderness." But is all of this true? I will present here some legitimate information which I believe has a measure of legitimacy. The reader may not "buy off" on it, but should at least be exposed to an alternate set of information.

In this piece I will narrow the focus to discuss primarily petroleum resources in the U.S. Very It is imperative that we truly understand just how short our supply of oil is and how dire our circumstances are. Is there no chance of improving our national security through producing more domestic oil in the long term? Is there no chance of increasing our domestic production of oil so that the price of gas and electricity can be lowered? Is it a pipedream to wish for those things?



First I present some terms used in the oil industry.

Terminology

The topic of "oil reserves" is flush with unique terminology. And in my limited research I have found that there is some inconsistency in how these terms are used – nevertheless, here is a list of terms and their common meaning.

Technologically Recoverable Resource (TRR)– those oil resources that are producible using current technology without reference to economic viability. TRR is a subset of URR (next item) and "proven" reserves comprise a small component of TRR.

Ultimately Recoverable Resource (URR) – an estimate of the total amount of oil that will ever be recovered and produced. This estimate includes the production which has already occurred. It is a subjective estimate based on partial and ever changing information. Estimates of URR can be expected to increase as knowledge grows, technology advances, and economic conditions change. This estimate includes "as yet undiscovered" reserves. "Discovered reserves" in the total include "possible," "probable" and "proven" reserves.

Possible Reserves – include reserves which, at present, cannot be regarded as "probable," but which are estimated to have significant, but less than 50% chance of being technically and economically producible.

Probable Reserves – reserves which are estimated to have a better than 50% chance of being technically and economically producible.

Proven/Recoverable Reserves – the amount of resources indentified in a reserve that geological and engineering data demonstrate is technologically feasible to extract from known reservoirs under existing economic and operating conditions.

Unproven Reserves – an estimate of the amount of reserves that have been discovered by geological or engineering methods, but there would be uncertainties as to whether the reserves could be technically or economically produced.

Peak Oil – refers to the point at which oil production from a particular area, or country, has reached its peak and thereafter production must steadily decline because of depleted oil.

Conventional Recovery Methods – include only traditional methods of extraction – most specifically traditional drilling techniques both on and off shore.

Non-conventional Recovery Methods – include "fracking," horizontal drilling, oil sands extraction, heavy oil extraction and some other techniques. Non-conventional does NOT imply that the technique is not economically and/or technologically feasible.

IMPORTANT NOTE: Non-conventional techniques are in relatively wide use for both oil and natural gas production. These "newer" concepts and techniques should NOT be interpreted to indicate they are methods of "last resort" to wring the last remnants of oil from "mother earth." My research indicates much to the contrary. Based on recent studies and very new reports, URR (see terms above) estimates are growing exponentially (OK – not quite!) and in fact the resources available through "non-conventional" methods appear to OUTSHINE

those available using traditional methods. That's my interpretation, but we shall have to wait and see. Anyway, it appears like there's more good news than bad!

Fracking (also known as hydraulic fracturing or hydro fracking) **–** the process used to extract oil and gas from shale and other rock formations. Fissures in the rock layers are created or expanded by pumping pressurized fluid into a "wellbore" that has been drilled into the rock formation. This process causes previously trapped oil and gas to be released.

A Little Bit About Coal and Gas

For simplicity, I have stayed away from a discussion about our coal and gas resources. Our natural gas reserves are about the best in the world, as are coal resources. One difference, however, is that gas production has gained favor with the Obama administration, while Obama and the EPA are the sworn enemies of the coal industry. Another thing about natural gas is that it is so plentiful and cheap, that it may accelerate the demise of coal. If that's where the market leads us, so be it!

Another potential impact of the abundance and cheap price of natural gas is that it makes it even tougher for the other "green alternatives" to compete and gain a foothold in the U.S. Green alternatives – solar, wind, and others – will find it even more difficult to compete because natural gas is generally considered a "relatively clean" energy alternative. You just can't beat "cheap and clean" in this "day and age"!

Coal and natural gas are two great resources that contribute greatly to our economy and energy independence – and their further potential is huge! Let's wait and see what happens.

Don't Get me Wrong!

I am fully behind wise development of alternate energy sources, but the demands of our economy and national security make it necessary to maximize use of domestic oil and other carbon fuels in the short run. When the market system is permitted to work, not only will we make progress in using our resources in an environmentally responsible way, it will also help guide us to the right kind of alternative energy development. Just let our markets work.

But do we have the resources to get to where we must go?

Part Two of this project will help answer that question. That's coming in a few days!