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From Gushers to Trickle: Aging of Oil Fields Could Spell Disaster

By Milton R. Copulos

America is rushing headlong toward a disaster of its own making. More than three decades ago, the Arab oil embargo demonstrated the dangers inherent in an undue dependence on foreign oil. Despite this, we've done little to address the problem.

Instead, Congress, the energy industry, and various special-interest groups have put politics and ideology ahead of the national interest. Result: We're far worse off today than we were in 1973.

Indeed, if nothing is done soon, our nation could soon face a Hobson's choice between economic collapse and a global resource war. If you think this scenario sounds alarmist, consider the following: Today, 75 percent of all global oil production comes from just 370 oil fields classified in the trade as "Giant" and "Super Giant."

Moreover, 14 of the "Super Giant" fields representing 20 percent of global production have an average age of 50 years. Another 70 percent of global oil output comes from "Giant" and "Large" fields with an average age of 30 years.

But the flow from these once-prolific fields is slowing. Saudi Arabia is a case in point. Its four largest oil fields --

Ghawar, Abqaiq, Berri, and Safaniyah -- were discovered between 1948 and 1964. At their peak, they produced 9.4 million barrels a day; now their output is 6 million barrels a day, a decline of more than 36 percent.

Similarly, the three large fields accounting for most of the rest of Saudi production -- Zuluf, Shaybah, and Marjan -- were discovered between 1965 and 1967 and have seen their output drop by a quarter.

Nor is Saudi Arabia the only country whose oil output has declined. Indonesia, Iran, Iraq, Kuwait, Libya, and Venezuela are all also past their prime, with output declines ranging from 57.6 percent for Libya to 24.2 percent for Venezuela.

Some argue that the concerns over peaking production are overstated because many countries have registered significant increases in their proven reserves. While that's true, the increases are not the result of new discoveries but a byproduct of adjustments in estimation techniques that restated the size of existing fields -- on paper. It remains uncertain whether these revisions will bear out in actual production. Even if they do, however, it

would mean only that current levels of oil output will be sustained.

Merely maintaining current production won't avert the crisis, however. The emerging economies of China, India, and the former Soviet satellites in Eastern Europe are creating new demand for oil – demand unlikely to diminish.

As a result, according to the U.S. Department of Energy, by 2025 the world will require 119 million barrels of oil daily. That's 35 million barrels a day more than we're producing now. So even if the existing fields could keep their output at current levels, we'd still need to find another 35 million barrels a day to meet the growing demand.

Yet because the world's aging oil fields *will not* be able to keep producing at their current levels, the necessary increase will more likely be in the range of 80 million to 100 million barrels a day rather than a mere 35 million.

Despite these stark facts, there is a potential solution to our energy dilemma: Use what we have. The fact is that we do not suffer from a lack of energy resources. According to the U.S. Geological Survey, we have 125 *billion* barrels of oil – much of it readily accessible in our offshore regions and in Alaska.

We are also “the Saudi Arabia of coal,” with 275 billion tons of demonstrated reserves. We have between 500 billion and 1.1 trillion barrels of oil in

the form of oil shale. We generate 1.366 billion tons of biomass each year. We also have new technologies that can conserve energy by dramatically improving efficiency.

In short, it is not a lack of resources but a lack of political will that created our incipient energy crisis. All we need do to prevent it from becoming an insurmountable problem is set aside the partisan and ideological barriers that have stymied attempts to establish a rational energy policy and use what we have. If we don't, we'll have no one but ourselves to blame for what follows.

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