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New oil refineries needed

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Holiday travel season is now upon us, and as if just on cue, gas prices spike and hit the headlines. Consumers complain about the prices at the pump, while politicians complain about the increasing U.S. dependence on foreign sources of oil.

Obviously, there is a lot of pressure to do something. So what can and will Congress do? Apparently, faced with calls to reduce dependence on foreign oil and cut pump prices, Congress will do the opposite.

A recent report shows the energy bill being negotiated between the House and the Senate would dramatically increase energy (including gasoline) prices. Economic research firm CRA International found that congressional proposals would more than double the cost of petroleum products — if you don't like oil at \$100 per barrel you will really hate it at \$200 per barrel.

It should come as no surprise that Congress would make matters worse. After all, they are partly to blame for our current situation. Building new oil refineries or

expanding existing ones is among the most affordable, effective and reliable ways to increase supplies and lower prices. Yet emissions controls and mandates for specific gasoline blends have forced many refineries to close and made building new oil refineries very difficult. In fact, no new ones have been built in the U.S. for nearly 30 years.

For example throughout the 1990s, the oil industry spent nearly 25 percent of capital investment — more than \$100 billion — to comply with environmental regulations. For some plants, compliance with ever-increasing standards was simply too costly. For instance, oil refiner Premcor shut two Illinois oil refineries because it could not afford required upgrades. Modifications in one refinery alone would have cost \$70 million.

Clean air regulations have also discouraged building new facilities. For example, construction of a new refinery in Arizona has been delayed since 1997 over concerns of its impact on air quality and the proposed site, even

though the plant received the required air permits. Now, even under the best circumstances, the plant will not be operational until 2011.

Gas prices are also affected by the government's blender — in order to fulfill various air pollution reduction plans, gasoline sold in the U.S. has been fractionated into about 17 different boutique fuels. With three grades of gasoline, refiners produce more than 50 separate blends. This is expensive, as each blend must be transported separately, which limits pipeline and storage capacity. Moreover, it is difficult to replace supplies when there are disruptions and when refining capacity is taken off-line to clean tanks and pipelines when switching between winter and summer blends. Gas prices spike as a result.

Some argue that industry could increase capacity at existing plants, and that is being done. To help meet growing demand, the industry expanded capacity and improved operating efficiency at the remaining refineries. For example, refineries that operated at 78 percent of maximum capacity

in the 1980s produce more than 90 percent of their potential output now. Yet demand still outpaces domestic supply.

To fill the gap, the United States has increased imports of refined gasoline. From 1992 to 2004, the U.S. annual average of weekly gasoline imports more than doubled from 4.7 percent to 9.7 percent of gasoline used.

In an effort to curb demand for gasoline, Congress is also considering mandating annual use of 36 billion gallons of ethanol by 2025. Refiners have responded to existing and proposed ethanol mandates by canceling 40

percent of planned expansions, reducing potential new output from 1.6 million barrels per day to less than 1 million barrels daily.

Yet since ethanol produces less energy per volume than gasoline, the new mandate would replace less than 16 percent of current gasoline demand — much less than the one third-increase in gasoline use estimated over the next 20 years.

The Energy Information Agency estimates energy use will rise 19.2 percent to 24.8 million barrels per day by 2020 while refinery capacity will rise only 9.4 percent. This means refining capacity will only be 100,000 barrels a

day more in 2020 than it was in 1981.

The economic impacts of higher energy prices would be profound: a loss of \$1 trillion in economic output and up to 5 million workers unemployed. Absent government intervention in the market, refinery capacity would be expected to expand, reducing consumer prices. More economical and secure energy supplies are available if government gets out of the way.

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