

# What Will It Take To Get The U.S. Off Oil?

**In the aftermath of the BP oil spill, there has been a great deal of talk about reducing U.S. demand for oil, to eliminate the need for risky drilling that could lead to future spills. How saavy are you about energy and about what it would take to significantly reduce our dependence on oil? Find your energy IQ by taking the test below:**

**Q1.** On an average day, the U.S. uses roughly 19 million barrels of oil;

- a. What percentage of that oil comes from drilling in the Gulf of Mexico, and
- b. How does that percentage compare to the amount of oil we get from foreign imports?

**Q2.** Last year's Economic Stimulus Package provided \$5 billion to encourage home weatherization. This year the discussion of climate change legislation has emphasized a cap on utility carbon emissions. To figure out how much bang for the buck we can get from these two measures for reducing oil consumption (one already in place, and the other proposed) we need to first understand the baseline from which any oil reductions could possibly occur. Tell us:

- a. What percentage of U.S. oil consumption is used for producing electricity?
- b. For residential heating and cooling?

**Q3.** It turns out that there is another use for oil that dwarfs these two uses. What is the largest single use for petroleum and petroleum products, and what percentage of U.S. petroleum consumption does it represent?

**Q4.** To get a better sense of the gasoline reduction the U.S. could achieve by innovative auto technologies and how long the introduction of such new technology takes, we can look at Hybrid technology, first introduced in the U.S. in 1998, for comparison. Twelve years after Hybrids were introduced, what percentage of the U.S. private auto fleet do they represent today?

**Q5.** Beyond traditional Hybrids, several manufacturers are about to introduce so-called "plug-in hybrid electric vehicles" (PHEVs) and fully-electric vehicles (EVs)—the GM "Volt," the Nissan "Leaf" and cars from entirely new manufacturers (e.g. Tesla Motors). According to a projection by the Department of Energy, what percentage of the cars on U.S. roads

in the year 2030 will be EVs and PHEVs and to what degree will their impact on oil consumption be felt at that time?

**Q6.** One quick "tweak," has been proposed for auto design: requiring that new cars built to run on gasoline also be equipped to run on alcohol fuels – ethanol and methanol. This measure, called the **Open Fuel Standard** is included in S 835, introduced by Senator Brownback (R-KS) and HR 1476 introduced by Congressman Engel (D-NY). The **"flexible fuel" vehicles** (FFVs) which this measure would require would be nearly identical to ordinary cars, and could be built for an added cost of around \$100 per vehicle. Just this past year China made a policy commitment to use methanol in cars (China has become the world's largest methanol producer – manufacturing 70% of its methanol from

coal). And all cars in Brazil are already required to have the capability of running on alcohol fuels. **How many such flexible fuel vehicles (FFVs) did GM and Ford each sell in Brazil last year and how does this compare to their plans for manufacturing electric vehicles?**

**Q7.** During the Presidential campaign, the Obama-Biden team issued an energy plan with a similar proposal that all future cars in the U.S. be built as FFVs. EPA analyzed this proposal and predicted that it would put 177 million FFVs on the road by 2022, running largely on biofuels. How much oil would this save?

**Q8.** Will it be possible to supply the billions of gallons of alcohol fuels that would be needed for these FFVs, without raising food prices or destroying the environment?

