



The Ethanol Questions I Didn't Ask

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I have been asked to submit a video question on ethanol policy that will be potentially answered in a video blog by someone who is very well-known in the energy business. I will keep the details quiet for now, including the question I did submit.

I really had to brainstorm on exactly which question I would ask. I made a short list, and finally honed it down to one that I think is fair, but tough. But I had a number that I decided not to ask, either because I already knew how it would be answered (even if I disagreed with the expected answer) or the questions/answer to the question was so complex that it couldn't be answered in a short video clip.

Here I discuss what I didn't ask, but it really gets to the heart of the issues I have with U.S. ethanol policy. First, a bit of framework. I believe that I am, and have always been objective, and a realist. I don't believe that we are ever going to have a moment where government leaders say "Let's abandon this ethanol pathway." We had an example of that with [MTBE](#), but there was clear evidence that MTBE was getting into groundwater and lingering.

The issues around ethanol are more complex. Corn ethanol has been U.S. policy for the past 30 years, and it will be policy for the next 30 years. It is too embedded in agriculture policy, and I think it would be devastating for Midwestern economies if we changed direction on corn ethanol. Thus, I think we continue down that path, for better or worse.

I am not pro-ethanol nor am I anti-ethanol. In one of my earliest essays on my blog, over 3.5 years ago, [I talked about some of the things](#) I would like to see happen in the grain ethanol industry, mostly aimed at improving the energy balance. [I came out in favor of the approach of E3 Biofuels](#), who were trying to build a highly integrated ethanol complex that minimized fossil fuel inputs. [I have endorsed such approaches](#) on multiple occasions.

My concerns are, and have always been: What are the long-term consequences? I don't limit this to ethanol; this is a question that I ask of all energy options. Dependence on oil has some significant long-term consequences. The most serious of which, for me, is the potential for building a world that is only sustainable as long as oil production continues to expand. I see significant risk there, so it has always been my position that we need to reduce our dependence on fossil fuels in general.

With respect to ethanol, consider this [thought experiment that I posed](#) following one of my previous essays: Would you consume 2 BTUs of natural gas to produce 1 BTU of ethanol? I think most people would conclude that this would be foolish; that your natural gas supplies would stretch much further if instead you simply use the natural gas in [CNG](#) vehicles (acknowledging of course that there are lots of things you have to evaluate in that scenario). For those who would

answer "Yes" to that question, I would argue that your view of ethanol is entirely one-dimensional. You probably only care that it is homegrown, and you don't worry much about the long-term consequences. (The person I asked responded to the question *"Of course. The goal is to get off imported oil."*)

Of course the truth is more complicated than the example above. It doesn't take 2 BTUs of natural gas to produce 1 BTU of ethanol. Estimates vary, but it is still safe to say that most ethanol operations in the U.S. continue to have substantial fossil fuel inputs. That is the way they were built, and that is the way they will continue to operate. Over the long-term, there is potential to change that equation by using biomass boilers, but those are more expensive to operate than a standard natural gas boiler.

So on average the ethanol industry does still have a heavy fossil fuel dependence, albeit largely domestic coal (for electricity) and domestic natural gas - with some petroleum inputs for trucks, tractors, etc. (One thing to note is that [more than 50% of our fertilizer supplies](#) - derived from natural gas - are in fact imported). So what if the question was "Would you spend 1 BTU of natural gas to make 2 BTUs of ethanol?" If you are doing a holistic analysis, the answer should be "It depends. What are the other impacts?"

There are those who wrap U.S. ethanol policy in patriotism and the American flag, and who would rather not get into those questions. These questions are hand-waved away with clichés like "I would rather support American farmers than Saudi sheiks." I try to look at it from the perspective of an engineer, a scientist, and an environmentalist. I want to stack the columns up and figure out what is really happening as a result of our ethanol policy and subsequent rapid expansion of corn production. I want to look at it from the perspective of "What is going to be the impact on the world my children will inherit?"

Just a few of the key questions for me are the following:

- Are we depleting fossil aquifers as a result of the expansion of corn in areas requiring irrigation - putting future food supplies at risk?
- Are we at risk of contaminating water supplies with herbicides, pesticides, and fertilizer run-off?
- What has been the measurable impact on our oil imports - the generally stated reason for our ethanol policy?
- What is the long-term impact on soil as a result of erosion and pesticide usage?
- What is the risk of major weather events impacting the corn crop, and subsequently causing a shortage of corn for ethanol and driving food prices much higher?
- What are the other risks of closely linking together food supplies with fuel supplies?

In a nutshell, I want to know if we are compromising the future relative to other options, and/or relative to the status quo. These sorts of issues are generally ignored by most advocates. They believe our ethanol policy is the right thing to do, and then nothing else matters. I have debated people like this before, and they are simply not interested in the holistic picture. Often, it is because they are vested interests.

[Chief ethanol lobbyist Bob Dineen](#) isn't going to be at the forefront, trying to determine the answers to these questions. His job is to promote ethanol, period. He will get involved when one of these questions becomes persistent enough and loud enough, and his position will typically be that of defense attorney: Deflect the question if you can, and try to raise doubts that the question even matters.

But I am not a vested interest dug into a bunker. If our ethanol policy is better than the status quo, then I am all for it. But you can't know that unless you take a really comprehensive look. I would like to see an independent analysis of all of these issues, now that we are some 11 billion gallons per year into this experiment.

The problem is finding an independent agency to do such an analysis. The ethanol lobby hires [their consultants](#), who conclude, "It's all good." Big surprise there. (By the way that is the same guy who [wrote a paper stating](#) that ethanol with the energy value of 64 million barrels of oil displaced 206 million barrels of oil).

Energy policy in general is a complicated issue, and it is wrapped up deeply in politics. I doubt we will ever get the independent review I would like to see - and even if we did the lobbyists would immediately go to work trying to discredit the study. But I hope you can see why I decided not to get into that with the question I submitted. It might take 10 minutes to ask it, and then an hour to answer it - and I don't think the answer would really get into the fine details that I am interested in.

You will have to stay tuned to see the question I did ask.



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