



In their own words: Study authors highlight findings

INL research scientist and study co-author Gerald Sehlke: The goal of the study was to expand our thoughts and our research on the energy-water nexus. Traditionally, people have looked at a number of the parts, but what they've done is looked at them in a somewhat stovepiped manner. Some people are looking at the climate aspect, some people are looking at the water aspect, some people at the fuel aspects. And this was an attempt to start to bring some of those different parts together.

INL research scientist and study co-author Craig Cooper: To me, the most important piece of the findings, the most significant thing, was that there are some things we can do that are win-win-win. There are options — such as conserving energy, such as being more efficient in our energy, such as better fuel economy, more efficient light bulbs, building better homes — that save us money, reduce greenhouse gases which impact our climate, and also protect water resources.

Sehlke: So as we were looking, there is a big push towards green energy and sustainability, and what we traditionally think about is getting away from fossil fuels into biofuels and wind and such. But as we were looking through that, all of those different choices had different impacts on different parts of the environment also. And with respect to water, it may be that our choices in fossil fuels may actually cause less impact on our water resources than going to biofuels.

Cooper: With regards to biofuels and water, there's two things to think about. And the most important part is where does the carbon in the biomass come from? If you're growing a dedicated crop, if you're planting a crop around energy then you're using water to produce that crop and that has a big water impact. But if you're using waste products — things we already make such as corn stover or waste wood products that are already being produced — then that has a much, much lower water impact, maybe even better than gasoline. So you have to think about that.

Sehlke: Here at the INL, we're working hard to develop the science that's necessary for managers, owners of companies, policymakers that are making these kinds of decisions about what types of resources we'll develop, where we'll use them and how we'll use them.