"No one UNDER THIRTY thinks..."

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In the current climate of economic uncertainty, unprecedented federal spending, worsening state budgets, and a near religious zeal for a "new green economy," perhaps the most striking comment I have heard is "I don't know anyone under thirty who thinks we'll be using coal in thirty years." This statement was made during the evening panel discussion at the Coal Forum hosted by the Center for Visualization and Virtual Environments at the University of Kentucky as part of its work to produce a documentary on the current and historical impact of coal on Kentucky. This was uttered by a popular author, an author who has written on the coal industry and claims to have developed this opinion by talking to a vast number of the up-and-comers on both coasts.

That statement, made very matter of factly, fascinated me. Perhaps more than anything, I thought it was the perfect example of what I've come to think of as the "green superiority" that seems to be directing our energy policy. At a time in our history when we are spending more than ever on energy development and infrastructure, we seem to have accepted, without any accompanying technical argument, that green is good and everything else is bad. Worse, this is being done in a climate in which any dissent about what is "green," or for that matter, what is logical and what is efficient, is trivialized as reactionary or simple bloody-minded obstinacy. More than once I have encountered the shocked silence for stating that a particular renewable energy option might not be best here in Kentucky, or that perhaps current spending could be most effective if used to improve the efficiency of our existing fossil systems. But, if it's not green, it obviously is not important, and anyone who disagrees is clearly out of touch with the new reality.

In deciding what to write about this year, I spent a lot of time contemplating the truth or untruth inherent in that statement. It bothered me, perhaps as a matter of perspective. After all, I tend to interact with energy technologists, engineers and scientist i.e., people who do math for a living. I should have offered to introduce the author to 40 or 50 people under thirty who would have given him a different opinion on the future of coal. They are:

- Students who are investing their time (and money) to prepare for careers in mining, electric power or fuel processing. They are very bright, very dedicated young people who are now concerned that their chosen careers are being taken away on what seems a national whim. These same students may be working on solar cars, or off grid high performance houses[1], but realize it will be coal that fuels their careers for the next couple of decades. Students who may be all for electric vehicles and developing better energy storage systems, but understand the electricity to power these greener vehicles has to come from somewhere.

- Researchers, in and out of graduate school, who work well beyond 9:00 am to 5:00 pm to push projects on carbon capture forward as quickly as possible, knowing "we only have a few years." They are enthusiastic, talented, dedicated to fixing the problems with coal, rather than writing it off with a glib "we'll just use solar."[2] These are smart, creative thinkers, who are combining ideas from fields like biotechnology, petroleum engineering and nanomaterials to address the real problem – how do we make coal work the way we want without breaking the bank.

- Under-thirty entrepreneurs who are finding innovative ways to use coal ash to create improved materials, new jobs, and a better environment. They are researching materials that are lighter, safer and consume less petroleum than existing choices, materials that may eventually be used to improve energy efficiency in low-income housing, or make vehicles lighter to save fuel, or make our buildings and transportation systems more resilient and secure.

- Designers and architects finishing their professional degrees who are working with coal by-products to make new, less-energy intensive products that have artistic form and real function. These students are looking for real and meaningful sustainability, not the band-aid version from television. The design students are turning this same creativity toward developing more efficient and affordable housing for those least able to bear higher energy prices.

Perhaps the most heartening thing I've begun to understand about these 'twenty-somethings' is that they do realize what is at stake, that the decisions we make as a nation today will be something they will have to live with well beyond the lifetimes of those

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No One Under Thirty Thinks... (cont.)

making the decisions. And they are beginning to speak up, basing arguments on common sense, system efficiency, and a fundamental understanding of how our electric power system works. I'm (nominally[3]) teaching the CME 599 Energy Systems class again this spring semester. This is a class that has been offered twice. Both times it has been offered has required the enrollment to be expanded from the 20 originally assigned to 34 last year and 36 this year. Students understand that their electricity does not simply come out of the wall, and want to understand more as they contemplate a carbon-constrained future.

The companion argument given by our coastal speaker about coal's future fate was one of climate change and global environmental impact: it's a moral imperative that we stop using such old fashioned fuels. I was asked by an 'under-thirty' if it wasn't also a moral imperative that the poorest members of our society have equal access to heat, light, healthy food, clean water, and education. Things we can provide with affordable and reliable electricity. My title was tongue in cheek, but I am encouraged that I know many people under thirty who DO think.

[1] *UK competed in the U.S. Department of Energy's Solar Decathlon this year. The student team designed and built a state-of-the-art high performance house, coming in 9th out of 20 for our first time in the contest!*

[2] *I do not hate solar, it's just the most obnoxious way I can think to make this point. Solar is, eventually, the answer – but not tomorrow, and not cheaply. More on my views on solar in a future editorial.*

[3] *Real credit has to go to CAER researchers Jack Groppo and Jim Neathery who allow me, hyperkinetic travel schedule and all, to take credit for teaching this class while they cover about ¾ of the lectures.*