Ferguson: Energy Matters

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The Global Warming Elephant

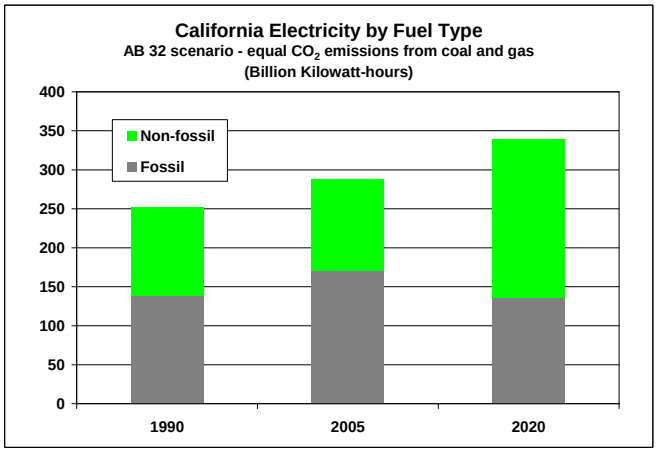
A host of state agencies responsible for implementing California's global warming legislation, AB 32, are approaching the task from their particular point of view. What is sorely missing is a coherent vision of how California's energy system must change to accomplish the greenhouse gas reduction goals.

The California Air Resources Board, which has overall responsibility for AB 32 implementation, is focused on making carbon reductions from various sources much as they have reduced pollution that causes smog. The Public Utilities Commission is considering what it should tell the investor-owned utilities to do. The Energy Commission is looking at the state's electric transmission system and other crucial pieces of the puzzle.

These are all important tasks, however, the current process reminds me of blind men trying to describe an elephant. Each man describes important elephant features, but the concept of an elephant escapes them.

The global warming elephant is our dependence on fossil fuels. If we are to limit global warming, we need to know what our future energy system should be, how it differs from today's system, and what changes must be made. Piecemeal strategies formulated in the absence of a coherent vision of our energy future—the next generations of energy elephants, so to speak—are doomed to frustration.

The chart illustrates what must happen with electric energy to meet the AB 32 goals, assuming half the required reductions come from coal and half from gas, and that demand increases as it has previously. By 2020, a majority of our electricity must come from non-fossil energy resources.



This isn't rocket science—commercially available technologies are available to accomplish this change. But unless we determine *immediately* that this

is the energy future we want, there simply will not be enough time left before the year 2020 to build the facilities needed.

To be honest, how the state can significantly reduce greenhouse gas emissions from the transportation sector in the next few years baffles me. I am skeptical that biofuels, such as ethanol, will make much of a dent in carbon emissions from transportation if emissions associated with the production of biofuels are properly accounted for.

The future of electric energy is straightforward by comparison. California is unlikely to have more hydroelectricity or nuclear power in 2020 than it has today. However, to meet growing loads and displace coal and gas, the state is endowed with ample wind, geothermal and especially solar energy resources more than adequate to keep the lights on and meet the AB 32 goals.

Everyone I have talked to believes California is serious about the need to limit global warming. The first step is to acknowledge that by 2020 approximately 200 billion kilowatt-hours will have to be generated from non-fossil energy resources, as shown in the chart above. We can accomplish this, but not until we understand that's what the new energy elephant looks like.

Interested readers can find several electric energy scenarios CEERT's website.

——*Dr. Rich Ferguson, Research Director, CEERT,* rich@ceert.org.