

# THE DURANGO HERALD

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## Preventing blackout

**Dwindling fossil fuels require strong focus on local resources**

by Richard E. White

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On July 25, La Plata County kicked off the visioning process for the update of its Comprehensive Plan with an all-day meeting, in which about 50 residents shared views about the past and present and devised story lines for the La Plata County of 2030.

One of the ideas that emerged was using local resources to become self-sufficient in energy. The importance of this concept is underscored in Richard Heinberg's new book, *Blackout*. Heinberg's earlier books include *The Party's Over* and *Peak Everything*, which document the impending occurrence of "peak oil" and its consequences for modern society. In *Blackout*, he extends his analysis to coal, the most abundant fossil fuel.

Contrary to statements such as, "The United States has enough coal for 200 years, at present rates of consumption," Heinberg's review of actual coal reserves in the United States and elsewhere suggests that "peak coal" is less than a generation away, a conclusion with profound implications for La Plata County, for the United States and for the world.

In contrast to geologically mapped resources, coal reserves lie in accessible veins sufficiently large to mine economically with existing technology. Reserves, therefore, decrease owing to production, but they may increase as technology improves or prices rise. Upon close analysis, reserves are much smaller than resources. Heinberg suggests that U.S. reserves are about half of official estimates and that peak domestic coal production could come by 2025. Even if all the official reserves could be brought to market, peak production would come only one generation later. Half the accessible coal would still be available then, but in decreasing volumes, mostly of lower quality and produced at ever greater cost, as now occurs for domestic oil.

Estimates for other countries are similar, although the U.S. situation is better than most. Notably, China's rapidly increasing consumption may collide with its finite resource within the next decade, with profound economic and social consequences. In China and elsewhere, even in the United States, a critical issue is the infrastructure investment (e.g., in mines, railroads and power plants) required to extract and use the full volume of official reserves. As a consequence, many countries have downgraded their reserve estimates, even as technology has improved accessibility.

The silver lining in this smoky cloud is that there simply isn't enough accessible fossil fuel to realize the most pessimistic projections of climate change. Unfortunately, even the much lower emissions projected by Heinberg would take the world beyond the threshold of climate consequences.

Carbon capture and storage and other "clean coal" technologies promise to mitigate the climate impact of coal burning, but will require at least a decade of technology research and development, and a huge investment in implementation. Unfortunately, the energy investment in "cleaning" coal would degrade its already low carbon efficiency, requiring even more coal to meet the same energy demand, thereby accelerating depletion.

To draw out the implications of his analysis, Heinberg sketches three scenarios for the future energy economy: "maximum burn rate," "the 'clean' solution" and "post-carbon transition." In the first scenario, without carbon sequestration, and in the second scenario, with it, society invests massively in burning

fossil fuels to preserve existing consumption patterns. It fails to invest enough of the still relatively abundant fossil energy to build the renewable energy infrastructure needed for long-term sustainability. Later, it becomes energetically impossible to do so, leading to Blackout.

In the third scenario, society begins immediately to invest existing energy resources primarily in energy efficiency - reducing consumption to the level that can be sustained with renewable resources - and in accelerating the development of solar, wind, geothermal, and biomass energy. Further, it begins the transition to a steady-state economy, stabilizing and ultimately reducing global population, and seeking economic progress through technology-assisted improvements in quality of life, not by increased consumption. Only in this way can global energy demand be reconciled with sustainable energy resources.

The post-carbon transition envisioned by Heinberg will require a profound shift in our economic model and in policies at every level of government. If we are lucky, coal energy resources will exceed his estimates, or expanded reserves of shale gas will provide an energy cushion for the transition to renewables. In any case, energy limitations will drastically alter society within the lifetime of today's young people.

Given the inertia of national and international institutions, it is difficult to imagine the necessary paradigm shift occurring quickly enough. Locally, however, we are blessed with abundant solar energy and a still-vital agricultural sector. Although complete self-sufficiency would likely be impossible, energy sufficiency is not. Determination to meet local energy needs with our own resources should become a central element in the La Plata County Comprehensive Plan.

And Blackout should be required reading for every policymaker, for every planner and for the decisionmakers at La Plata Electric Association and Tri-State.

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