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# Heads Up Old King Coal

Jesse Bogan 06.26.08, 6:00 PM ET  
 Forbes Magazine dated July 21, 2008

Donald P. Hodel



"It could be a landmark event; if it's just a disaster, it could be my epitaph," laughs Donald P. Hodel. He's referring to his \$2.8 billion dream to develop the first large-scale coal-gasification power plant that captures the bulk of the carbon dioxide it produces. Selling both the juice and the CO<sub>2</sub>, supposedly he won't need any government handouts to make this business work.

Hodel was once the scourge of environmentalists as Reagan's Secretary of Energy and, after that, of the Interior. Later he enraged moderates as head of the Christian Coalition and Focus on the Family. Now, as chairman of Summit Power Group, a small energy consultancy, he's kicking dirt in the face of ... economics. Converting coal to gas before burning it is plausible, but finding an economical way to dispose of the carbon dioxide besides venting it is, to put it mildly, an ambitious goal.

"It's hard to see a payoff--a financial payoff--on this project in my lifetime," concedes Hodel, 73, from his Lakewood, Colo. living room, near a stack of ski magazines and a book about global energy. "But this really would be an exciting legacy: It allows us to use one of our most plentiful resources in an environmentally acceptable way."



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Carbon-spewing coal plants are a tough sell these days. The buyout of TXU Corp.

last year took place after KKR and Texas Pacific dropped plans for eight such plants. Presumably a carbon-sequestering plant would get a free pass from the environmentalists. It would also get an economic boost from any legislation taxing or capping carbon emissions coming from competing power plants that don't sequester. Cap-and-trade just died in Congress, but the debate will resume next year.

Summit has so far spent \$2 million on its 600-megawatt quixotic quest. Hodel has some pretty hefty support--**Siemens** (nyse: [SI](#) - [news](#) - [people](#) ), with which he has developed gas-fired plants in ten states, and the Linde Group, the industrial gases and engineering company in Munich. The amounts of their investments have not been disclosed. "We think it's interesting enough to continue our efforts," says Ronald D. Key, who heads Linde's North America technology and sales division.

At a high temperature and pressure, gasification converts coal, or other carbon fuels, into synthesis gas that is either burned in a turbine to produce electricity, as in Summit's case, or turned into other products, like diesel oil, fertilizer and pipeline-quality natural gas. In most cases pollutants such as sulfur and mercury are stripped out after the fuel gas has been synthesized.

Summit aims to trap as much as 60% of the CO<sub>2</sub> produced. It would most likely sell the gas to oil companies in the Permian Basin, where for three decades CO<sub>2</sub> has been injected into old oilfields to push out an additional 15% of crude. The basin has some veteran oilfields, which in the last century have given up 27 billion barrels of high-quality crude and still produce 740,000 barrels a day.

Permian well owners already buy 80,000 tons of carbon dioxide a day, paying \$25 a ton from pipeline operators like Kinder Morgan **Energy Partners** (nyse: [EPL](#) - [news](#) - [people](#) ). The piped gas comes from naturally occurring domes in Colorado and New Mexico rather than from smokestacks in Texas. There's lots of pent-up demand. "We could use two of those plants tomorrow if they can bring them on line," says Steven Melzer, a Midland, Tex. oilfield consultant. A plant like Summit's would produce 11,500 tons of carbon dioxide a day, 7,000 or so for market.

R. Tim Bradley, president of the carbon dioxide business of Kinder Morgan, estimates Permian Basin demand will climb to 110,000 tons a day over the next five years and then decline. But he says the Gulf Coast region, where there are few existing CO<sub>2</sub> pipelines, has enough old oilfields to generate at least 250,000 tons a day of all-new demand. "Now that oil prices have rocketed, there is a lot more interest," says Bradley. "Couple that with climate-change issues and carbon capture, and people are beginning to connect the dots and say, 'Maybe [enhanced oil recovery] is a solution to make the CO<sub>2</sub> go away.'" In May **General Electric** (nyse: [GE](#) - [news](#) - [people](#) ) and oilfield services giant **Schlumberger** (nyse: [SLB](#) - [news](#) - [people](#) ) agreed to research the best ways to sequester carbon dioxide. One unanswered question: Does carbon dioxide stay underground or leak out over time?

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## Getting Juiced

Coal is still by far the most plentiful resource for electricity. Don Hodel's plan to recapture up to 60% of the CO<sub>2</sub> is still a long way off.

GENERATION SOURCE	SHARE OF U.S. ELECTRICITY OUTPUT	COST (CENTS PER KWH) <sup>1</sup>
COAL	50%	6.2
NATURAL GAS	20	6.8
NUCLEAR	20	6.3 <sup>2</sup>
HYDROELECTRIC	6	NA
BIOMASS	1	8.1
WIND	1	6.2 <sup>2</sup>
GEOTHERMAL	< 1	7.4 <sup>2</sup>
SOLAR	< 1	28.9 <sup>2,3</sup>

<sup>1</sup>Levelized cost to generate electricity at a plant built by 2016, including capital and fuel costs. <sup>2</sup>After government subsidies. <sup>3</sup>Nationwide average. NA: Not applicable. Sources: U.S. Energy Information Administration; Forbes estimates.


Then there is the matter of financial viability. Carolyn Preston, director of the Petroleum Technology Research Centre in Regina, Sask., dreams of an affordable, clean coal power plant and admires what she calls "philanthropists" trying to build one. Still, she says, "the economics are simple. It's a bust. That is why it is not happening."

Summit won't break out what rates it would have to charge to make a buck, arguing that its contracts are still under negotiation. But the Energy Department estimates that electricity from a carbon-capturing plant with sequestration will cost 8 cents to generate one KWH in today's money by 2016. That figure does not take into account any benefit from selling carbon credits or any revenue from selling carbon dioxide. The same study projects a cost of 6 cents per KWH for a conventional coal plant, 7 cents for one fueled by natural gas, 6 cents for nuclear reactions and for wind, and 29 cents for solar (after subsidies). The feds estimate that a plant like Summit's, capturing 60% of carbon, would have to sell its CO<sub>2</sub> for \$42 or more per ton to be competitive with 6-cent electricity from a conventional coal plant.

How will the antianthracite crowd react to a plant that spares the atmosphere only three-fifths of its waste gas? While 600 conventional coal plants currently generate half the nation's electricity, new projects are in peril: Of the 114 proposed plants, 67 still await permits. Protests come with price tags. **Peabody Energy** (nyse: [BTU - news - people](#))'s 1,600mw Prairie State Energy Campus in Illinois was projected to cost \$2 billion and take four years to build. Battles with the Sierra Club dragged on for six years before the plant was cleared for construction--but at a cost of \$3.5 billion.

Earlier this year, perhaps to preempt the opposition, Summit hired Laura Miller, the liberal former mayor of Dallas, to help promote the plant. Miller is perhaps better known for journeying across small-town Texas to rally ranchers in opposition to TXU's plans for more coal-fired plants, an effort that catapulted her to the central role in a recent Robert Redford-narrated documentary, *Fighting Goliath: Texas Coal Wars*. "Wind and solar are easier on the environment, but unfortunately they can't provide all the power," says Miller.

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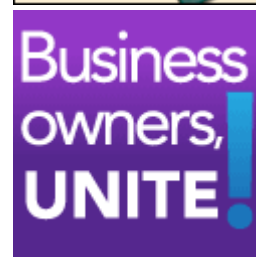
BOOK REVIEW

**The Waiter Reveals All**

Krystle M. Davis

Yes, waiters will sometimes spit in your food.

Hodel would like to flick the switch in 2013, even though Summit hasn't yet applied for an air permit or settled on a site. Key, as in most things, is getting costs way down. China, which builds two conventional coal plants or so a week, is pushing to complete the so-called GreenGen project, touted as the world's first zero-emissions coal gasification power plant, by 2015 for \$1 billion. No hindrance there from enviros or bureaucrats.



Your Rating ☆☆☆☆☆

Overall Rating ★★★★★

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Posted by CarolOverland | 07/04/08 10:30 AM EDT

Yes, coal gasification would certainly be kicking dirt in the face of economics. The DOE says it's too risky for private investment, and Wall Street agrees. Investment is such a bad idea that Harvar [More]

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