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The Carbon Shuffle and the Energy Challenge

Moving carbon out of the Earth's crust is the world's largest industry. Indeed, extracting and burning fossil fuels--releasing some 22 million tons of carbon each day--may be what humans do best. Developing ever-more ingenious ways of finding and exploiting hydrocarbons has long been a focus of applied geoscience. Now scientists at Lamont and elsewhere are examining the sobering impact of this carbon redistribution on the earth, atmosphere, oceans and cryosphere. If half the fuel we humans have used in our entire history has gone up in smoke since 1980, what might it take to stop us from so vigorously rearranging the biosphere? The scale of action required to even dent the problem is daunting. Is Al Gore's proposal to repower America on renewable energy delusional? If not, what types of "small miracles," in Rick Smalley's words, would be needed to run the human show on renewable energy flows rather than carbonaceous fuels?