

Hubbert's Peak, the Coal Question and Climate Change

Professor David Rutledge
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12:00–1:00 pm, Wednesday, 13 April 2011
Room 110a (Civil Eng Staff Room), Building 60, Clayton Campus

All welcome. No RSVPs necessary.

Summary

An accurate estimate of the long-term production of oil, gas, and coal would be helpful for the ongoing policy discussion of alternatives to fossil fuels and climate change. It takes a long time to develop energy infrastructure, and this means that it matters whether we have burned 20% of our oil, gas, and coal, or 40%. In modeling future temperature and sea-level rise, the carbon dioxide from burning fossil fuels is the most important factor. The time frame for the climate response is longer than the time frame for burning fossil fuels, and this means that the total amount burned is more important than the burn rate. Long-term oil, gas, and coal production are traditionally estimated by government geological surveys from measurements of oil and gas reservoirs and coal seams, together with an allowance for future discoveries of oil and gas. We will see that where these estimates can be tested, they tend to be too high, and that more accurate estimates can be made by curve fits to the production history. In addition, these curve fits imply that the IPCC projections for future temperature rise are likely to be too high.



Bio

Professor Rutledge is the Tomiyasu Professor of Electrical Engineering at Caltech, and a former Chair of the Division of Engineering and Applied Science there. He is the author of the textbook *Electronics of Radio*, published by Cambridge University Press. He is a Fellow of the IEEE, a winner of the IEEE Microwave Prize, and a winner of the Teaching Award of the Associated Students at Caltech. He served as the editor for the *Transactions on Microwave Theory and Techniques*, and is a founder of the Wavestream Corporation, the leading manufacturer of high-power millimeter-wave transmitters for satellite uplinks.