Hubbert’s Peak – A Physicist’s View

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Oil, as used in agriculture and transportation, is the lifeblood of modern society. It is finite in quantity and will someday be exhausted. In 1956, Hubbert proposed a theory of resource production and applied it successfully to predict peak U.S. oil production in 1970. Bartlett extended this work in publications and lectures on the finite nature of oil and its production peak and depletion. Both Hubbert and Bartlett place peak world oil production at a similar time, essentially now. Central to these analyses are estimates of total “oil in place” obtained from engineering studies of oil reservoirs as this quantity determines the area under the Hubbert’s Peak. Knowing the production history and the total oil in place allows us to make estimates of reserves, and therefore future oil availability. We will then examine reserves data for various countries, in particular OPEC countries, and see if these data tell us anything about the future availability of oil. Finally, we will comment on synthetic oil and the possibility of carbon-neutral synthetic oil for a sustainable future.