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Sommario/riassunto	The penetration of renewable energy into the marketplace has been small, held back principally by their higher cost relative to fossil energy. RAND assessed the potential impacts on U.S. consumer energy expenditures and national CO2 emissions of producing 25 percent of U.S. electric power and motor-vehicle transportation fuels from renewable resources by the year 2025. The baseline for the comparisons was expenditures and CO2 emissions in 2025 as drawn from the reference-case tables of the Energy Information Administration's 2006 Annual Energy Outlook. The report shows that increasing renewables use can reduce CO2 emissions and enhance energy security by lowering the cost of imported petroleum. However, a large, inexpensive, easily converted biomass supply is necessary for significantly increased renewable-energy use to have a relatively low

impact on consumer energy expenditures. Rapid progress also is needed in the technologies converting biomass feedstock into transportation fuels, and producing power at marginal wind sites. Without progress in these areas, the renewable-energy requirement could substantially increase consumer energy expenditures. Technical advances in provision of economically and environmentally sound biomass energy and wind power generation at lower-quality sites should be top priorities for increasing affordable supplies of renewable energy. The report replaces an earlier version withdrawn in 2006 to correct errors in modeling discovered by RAND post-publication.