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Catalysis for Energy

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One of the fundamental challenges of this century to us is the energy. Fossil fuels (coal, crude oil, natural gas) provide energies for the civilization of human being, but we are now approaching the end of their reserve. Excessive utilization of natural resources has also caused other serious problems, for instance, environmental pollution and global warming. All these require a new generation catalyst which must have high selectivity, high energy efficiency and be environmental friendly. The presentation gives an overall view on the current challenges to catalysis community and materials scientists in resolving the basic global problems of energy and green house effect, with the focus on the catalysts for hydrogen production and for the conversion of CO₂ to fuel.