

6.3 Alternative Energy

Session Abstract

Organizers: Anne Dillon, National Renewable Energy Laboratory, and Haruo Kawamoto, Kyoto University

Annual worldwide energy consumption is ~15 terra-watts, with over 80% of the energy derived from fossil fuel. The combination of rapidly increasing energy demands, environmental impacts and need for military presence to defend oil sources has made the implementation of alternative energy of vital importance. Approximately 4% of the world energy consumption is derived from biomass, and 3% is obtained from hydroelectric sources. A mere 1% of the energy consumed is obtained from other renewable resources including both solar and wind power. Energy conversion efficiency and storage must be maximized for renewable resources. The development of pivotal technologies towards these goals will be described.