**CEE691/EE699 Seminar in Renewable Energy and Island Sustainability (REIS)**

# Wind Energy in Hawaii


## Art Seki

Director of Renewable Technology, Hawaiian Electric Co.


**Location: Holmes Hall 244, Date: Thursday, September 24, 2009, Time: 4:30 – 5:30 pm**

**About the speaker:** Mr. Seki has over 33 years of experience in the renewable energy field. Mr. Seki spent 14 years at the University of Hawaii's Hawaii Natural Energy Institute (HNEI) and 19 years at HECO conducting renewable energy research, development and demonstration projects related to biomass, geothermal, solar, wind, hydroelectric, ocean energy, hydrogen, fuel cell, and others. As the Director of Renewable Technology at HECO, Mr. Seki continues to monitor renewable energy projects; evaluate and assess or participate in various studies related to renewable resources and technologies; and develop and install a number of renewable demonstration projects. Mr. Seki holds a BS in Chemical Engineering from Arizona State University and an MS in Civil Engineering from the University of Hawaii.

## Abstract


In general, Hawaii has a strong wind resource due to the predominate trade winds. This makes Hawaii an excellent place to develop wind energy. In fact, wind energy development in Hawaii started as early as in the 1970s. In this seminar, the basic physical principles of wind turbines will be introduced. Then wind prediction and site selection will be explained by using case studies in Hawaii. Technical challenges will also be discussed including corrosion problems, maintenance, and integration issues as well as the environmental impact of wind farms in Hawaii. This will be followed by a discussion of new technological development in wind energy that might help us overcome the potential challenges that we may face in this field. Through this seminar, the audience will gain a good knowledge of how wind turbines work and of the history of wind energy development, past to present, in Hawaii.


Wind farm on Big Island, from NYT article "Hawaii Tries Green Tools in Remaking Power Grids", 09/14/09.