

*Title: Options for the Energy Transition*

**Abstract:**

Environmental concerns and the urgent need for decarbonization are driving the transformation of the global energy system. Research in the Division 'Energy and Environment' of the Paul Scherrer Institute focuses on Energy System Integration as a key concept for achieving the goals. Energy harvesting from renewables, centralized and decentralized storage options as well as flexible interconversion between electrical, chemical and thermal energy carriers are required: these technologies must be combined with efficiency measures and load management in the residential, transportation, industrial, and service sectors. Examples from technical research will be illustrated and embedded into the framework of scenarios from Energy Systems Analysis.

**Bio:**

Alexander Wokaun is heading the Energy and Environment Research Department of the Paul Scherrer Institut, and teaches in the Chemistry and Applied Biosciences Department of the Swiss Federal Institute of Technology in Zurich since 1994. Development of a sustainable energy system is at the focus of the research program, which comprises technologies for the use of renewable energies, energy storage, clean and efficient energy converters, and assessment of the environmental consequences of energy use. Since 2006, Alexander Wokaun is chairing the Steering Committee of the Competence Center Energy and Mobility (CCEM) which facilitates large-scale collaborative projects of ETH domain institutions. In July 2007, he was appointed Vice Director of the Paul Scherrer Institute for the area of Energy Research.

Alexander Wokaun studied chemistry at the Swiss Federal Institute of Technology (ETH) in Zurich. In 1978, he received his Ph.D. in the area of magnetic resonance with Richard R. Ernst. During a subsequent three years stay at IBM and Bell Laboratories he focused on surface studies by laser spectroscopic techniques. From 1982 to 1985, he directed a program on surface energy transfer processes at ETH Zurich. In 1986, he became full professor of Physical Chemistry at the University of Bayreuth.