

International Conference on Sustainability in Energy and Buildings

Invited Sessions

Title of Session: Microgrids with Hybrid Energy Systems and Control Systems

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Description:

The generalized use of locally-generated renewable energies is hindered by the inherent variations in production and the lack of affordable energy storage, especially in remote areas.

Requiring power-on-demand from a single energy system powered by intermittent sources may necessitate huge energy storage—an expensive proposition using conventional storage technologies. If multiple energy sources with complementary performance characteristics are used together, the resulting 'hybrid system' can reduce the cost of the energy system, and improved the reliability, when compared with single-source systems. For this, an important component is the control system, which determines how the various components are used. Since the control system has an effect on component sizes and thus system and operating costs, the control algorithm must be carefully considered for any system with hybrid sources.

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