Green Energy Summit

Topical Session 2-2

Date: **Thursday, March 25, 2010**

Time: **3:10 p.m. – 3:30 p.m.**

Presenter:

Christopher Kuhl
Sales Applications Engineer, ZBB Energy Corp

ZBB Energy's new ZESS POWR(TM) PECC platform offers a optimization solution to electrically integrate onsite renewable generation sources such as PV, wind and fuel cells connected on a managed bus with with various types of energy storage devices, including ZBB's own ZESS Zn-Br flow batteries, into a single, firm output supply for power delivery over multi-function, bidirectional inverters that operate both in 'normal mode' as grid-tied devices, but also sense and operate grid-independently acting as an emergency reserve capacity during planned and unplanned grid outages. This new power distribution and control architecture for multi-source power conversion eliminates renewable energy variability, minimizes conventional generation, can segregate delivery by load type, plan for time-of-day load shifting and operate following pricing data. Systems can be built for sites as small as 25kW to as large as 2MW and support multiple generation devices of either AC or DC voltage. Integrated into the system is a flexible monitoring and management platform using an open architecture and communications protocol. By optimizing onsite renewable energy sources, not only will end-users enjoy lower overall energy costs, eliminate GHG's, increase islanded operational reliability, alleviate grid congestion, particularly at peak times and reduce overall electrical generation and distribution system losses which can be as high as 50% of end-user consumption. ZBB will demonstrate to interested end-users (commercial, institutional, governmental) that a commercially ready solution, built from modular, can make cost-effective sense and be straight-forward to deploy and operate today.

Presenter Biography:

Christopher Kuhl

Christopher joined the ZBB sales department in March of 2009 and has been a key member of the team developing relationships with sales channel partners in the US and Internationally, working with key end-users and integrators and assisting with the roll-out of the new ZESS POWRTM PECC (power & energy control center). Prior to joining ZBB, he worked for the Engineering Services division of Eaton Electrical (E-ESS) as a sales engineer, developing modernization and automation solutions for large-scale data center, institutional campus and utility power plant end-customers. Before operating high-tech business incubators with hosting facilities in Milwaukee from 2002 to 2005, he spent nearly 5 years designing and managing the build-out of collocation and telecom network facilities in both the US and in Europe. In the early to mid-1990's, he assisted telecom, data center and cable TV customers configure lead-acid and DC power requirements for their network infrastructure needs. Christopher has earned his BA & MBA from the University of Wisconsin at Milwaukee.