

DANA BRANDT

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*Solar Energy Projects,
Solar Site Assessment,
Photovoltaics, Electrical
Production, Cost
Modeling, Net Zero
Energy, Microgrids,
Distributed Generation*

Education

MS with Honors
Renewable Energy
Loughborough University
2003

- Suma cum Laude
- Thesis: "Energy and Water Supply for a Rural Ugandan Boarding School - PV/Diesel Hybrid System in Bulyansungwe"
- Specialization in hybrid systems technology at University of Kassel, Germany

BS, Electrical Engineering
Seattle Pacific University
1999

Publications and Presentations

"Microgrids for Rural Electrification"
Montréal 2006 Symposium on Microgrids, June 2006

"Mini-Grids: The Future of Community-Scale Renewable Energy"
Home Power Magazine,
October 2005

"Photovoltaics – Technical Overview and Incentives"
Western Washington University, February 2007
Bellingham Green Building Conference, October 2005

Profile

Dana Brandt has a breadth of knowledge and experience in solar energy projects. Mr. Brandt's consulting expertise includes solar site assessment, photovoltaic system development and installation, approach to net zero energy, system design, application of financial incentives as well as electrical production and cost modeling. With renewable energy experience from eight countries on five continents, he holds a Master of Science with Honors in Renewable Energy from Loughborough University, England as well as a BS in Electrical Engineering from Seattle Pacific University. Mr. Brandt is also active in the emerging field of microgrids and distributed generation.

Experience

Ecotech Energy Systems, LLC Washington | 2004 – present

Founded business to provide consulting, design and installation services for renewable energy projects. Consulting services have included assessment of over 150 sites for solar access, energy consulting and guidance on several net zero energy projects and design of numerous off-grid and grid-tied photovoltaic and wind energy systems. Installed over twenty individual photovoltaic and small wind energy systems.

Lopez Community Land Trust Washington | 2006 – present

Created comprehensive plan for attaining the goal of net zero energy for a thirteen home development. Addressed aggressive conservation in all aspects of energy consumption. Worked with the utility on the concept of a virtual net metering arrangement for the community. Designed solar electric system to meet the community's energy needs.

Confidential Client New Zealand | 2005 – present

Consulted on the construction of a medium-scale AC-coupled microgrid incorporating wind, solar and hydro power, battery storage and diesel generator.

Shirey Construction Washington | 2007

Consulted with design team on approach to net zero energy. Coordinated with architect to create space for sufficient solar to meet the home's energy requirements integrated into the home's architecture.

WSDOT Washington | 2006

Designed and installed PV system that works in conjunction with hydrogen fuel cell to power remote radio station for the Washington State Department of Transportation.

Sun First! Solar Energy Systems California | 2006

Consulted on the incorporation of existing two grid-tied photovoltaic systems into a grid-interactive AC-coupled battery backup system. Researched market availability of equipment capable of accomplishing this. Coordinated with Outback Power Systems' president on new system configuration and firmware to enable their inverters to be used in this arrangement.

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Publications and Presentations

“Renewable Energy – Survey of Technologies”

Western Washington University, November 2006
Bellingham Solar Washington, February 2008

“Solar for Washington”
Solar Energy International, October 2007
Bellingham Green Building Conference, October 2007

“Solar for Bellingham”
Washington State University, March and April 2008
Bellingham Solar Washington, April 2008
Western Washington University, November 2007
City of Bellingham, November 2007

“Renewable Energy Systems Design”
Seattle Pacific University, November 2004

University of Washington *Argentina* | 2006

Designed off-grid PV system to power University of Washington penguin research facility in Punta Tombo, Argentina.

Northwest Mechanical *Washington* | 2005

Created modeling tool to predict energy output and financial viability of solar domestic hot water installations.

Together – *Hilfe für Uganda Uganda* | 2003

Designed and installed PV/Diesel AC-coupled microgrid hybrid system in Bulyansungwe, Uganda. The system supplies the rural off-grid boarding school with electricity and clean drinking water. Novel aspects of the project include the AC-coupling of all energy producers and loads as well as a battery-conserving water pump control system.

AquaEnergy Group *Washington* | 2002

Performed global wave power market analysis. Assessed national electricity markets and infrastructure, wave power potential and renewable energy policy to identify potential sites and create a prioritized list of locations for wave power development.

Halus Power Systems *Washington* | 2002

Researched government and utility incentives and regulations for wind and solar installations. Drafted preliminary designs of electrical systems for 25kW to 200kW wind turbine installations .

Seattle Pacific University *Washington* | 2002

Researched, compiled and synthesized international design efforts on Savonius wind turbines.