

SKILLS

- Extensive technical and management contributions in semiconductor manufacturing, energy efficiency, resource efficiency, renewable energy, and sustainability
- Broad background in building and facility design, construction, management, and resource optimization from residential to industrial scale
- Author ([The Joy of Efficiency](#)) and speaker on topics of energy, water, sustainability and climate

RECENT

President

April 2016 – Present

RE:source Design – <https://resourcedesign.org>

- Worked with the Rocky Mountain Institute (RMI) to develop best practice guides for industrial systems.
- Developed an existing facility energy efficiency program for Trinity Industries in Dallas.
- Participated in a workshop in Toronto, Canada to develop a net zero energy grocery store.
- Led a 3 day energy efficiency design session for a large new semiconductor factory planned for Taiwan. Identified over 250 million kWh in annual savings possible with short payback. Developed system metrics targets and best practice guides for this >\$40B company.
- Consulted on energy, water, and sustainability issues for a new manufacturing facility in TX.
- Worked with a national manufacturing firm to address energy, water, and sustainability issues at a TX location. Provided best practices guides for that, and other, facilities.
- Taught online courses in passive house design, solar PV, net zero homes, and mechanical systems.

EXPERIENCE

Sustainable Development Manager

January 2002 – March 2016

Texas Instruments International Facilities, Dallas, TX

- Led the effort to incorporate resource-efficient design and LEED (Leadership in Energy and Environmental Design) certification into TI's new \$3 billion, 1.1-million square-foot wafer fabrication facility, which became the first LEED Gold certified semiconductor facility in the world. Sold the idea to management, wrote the white papers, organized the design charrette with RMI, calculated the ROI, and managed the "green" design and construction. Facility is 40% more efficient than the next best. <https://resourcedesign.org/docs/RFABfactsheet.pdf>
- Led design and certification efforts for the first LEED project completed in the Philippines, a new 178,000 square-foot LEED Silver-certified manufacturing facility in Baguio, then for an 832,000 square-foot manufacturing facility in Clark that certified as LEED Gold. Completed a LEED Gold certified 168,000 square-foot TI office building/development lab for TI in Sugar Land, TX in 2015.
- Managed energy and sustainability activities around the world with a \$5-10 million annual budget. Doubled TI's global energy efficiency in 9 years and water efficiency in 11 years.

Various Roles

January 1983 – January 2002

Texas Instruments, Dallas, TX

- Managed the engineering, plant operations, and maintenance teams for a wafer fab.
- Managed the design and construction of a major upgrade to facilities systems for an aging 150-mm wafer fab conversion to 200-mm – while it was operating.
- Facilities Manager for three different semiconductor manufacturing facilities during a 10-year period; responsibilities included all facilities, safety, and environmental issues.
- Project manager for several clean-room design and construction projects.

EDUCATION

B.S. in Mechanical Engineering

- Louisiana State University, Baton Rouge, LA 1982

OTHER

- Senior Fellow with the U.S. Department of State's Energy & Climate Partnership of the Americas (ECPA) program, 2012-2013. Worked on efficiency and renewable programs in Honduras, Bolivia, Colombia, and Peru. ECPA profile - https://resourcedesign.org/docs/ECPA_bio_Westbrook.pdf
- Fellow for the Hunt Institute for Engineering and Humanity at SMU - [LINK](#)
- Designed my award-winning passive/active solar house. <https://enerjazz.com/house>
- Named the North Texas Municipal Water District's Water Genius award winner in 2009 for water conservation practices and outreach activities.
- Member and Chairman of the Fairview Parks and Recreation Board for nine years (2001-2010). Chairman of Fairview's environmental committee from 2011-2018; assisted with development of the town's green building standards. Helped strengthen dark sky ordinance. Named Fairview Citizen of the Year in 2008.
- President and lead alto saxophone player for the 18-piece Texas Instruments Jazz Band (now Texins Jazz Band) since 1986.