

The logo features a stylized sun with orange and yellow rays on the left. A blue and green wave-like shape is positioned in front of the sun. To the right of the sun, the year '2006' is written in a large, bold, orange font. Below '2006', the word 'Energy' is written in a large, bold, green font.

2006
Energy

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Body Shop:
Building
Strategies

- Term is widely used seldom defined
- Multiple generators serving a collection of loads over a small geographic area
 - Electric utilities???
 - Size of generators and load dispersion
 - Control, ownership
 - Etc., etc., etc.....

Definition - Microgrids



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- CERTS: Presented a thorough definition of a *practical* microgrid in 2002
- Paper titled: *Integration of Distributed Energy Resources: The CERTS MicroGrid Concept*
- <http://certs.lbl.gov/pdf/50829.pdf>

Definition - Microgrids



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- CERTS definition has four key aspects:
 - Aggregation of loads and (micro) resources
 - Operates as a single system providing heat and power
 - Micro sources are electronics based

Definition - Microgrids



- Allows itself to be presented as a single controlled unit to the electric grid

Why A Microgrid



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- Limits to growth of central infrastructure
 - Continued improvement of economies of scale
 - Infinite growth and reliability of grid
 - Customer expectations and sensitive load requirements
 - Growing need for secure, reliable power
- Can we afford to waste and pollute with 2/3??

Two Microgrid Projects



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- CERTS/Sandia Labs Microgrid Test bed
 - Initial testing starting this month – AEP test bed

- US Army CERL/Sandia Labs Energy Surety Project
 - Microgrid design, optimization of resources and military base mission impact of infrastructure reliability