U.S. Department of Energy
Federal Energy Management Program

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Agenda

- Federal Energy Management Program
- DER and Federal Energy Management
- Federal DER Market
- FEMP Services

FEMP Mission—Lead by Example

FEMP works to increase energy security and reduce the cost and environmental impact of government by

- advancing energy efficiency and water conservation,
- promoting the use of renewable and distributed energy, and
- improving utility management decisions at Federal sites.

Federal Energy Snapshot

- $9.6 billion Federal annual energy bill
  - 500,000 facilities
    - Buildings: $3.9 billion
    - Energy Intensive Operations: $0.6 billion
    - Exempt Buildings: $0.4 billion
  - Vehicles & Equipment: $4.6 billion

- Spends $200 billion annually on products and services.

FEMP Model

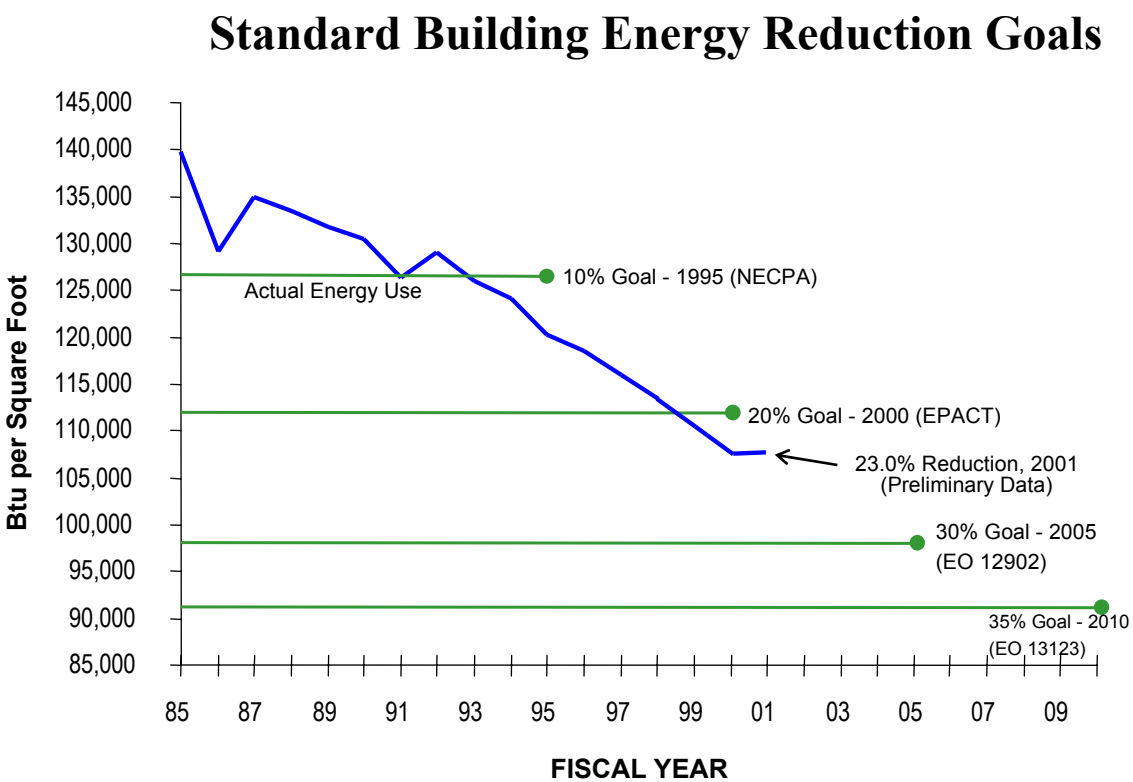
- Set goals
- Plan and implement projects
- Measure performance
- Report progress
- Reward Federal leadership

Federal Energy Management Goals

- Reduce energy consumption
  - Facility energy per square foot to be reduced by 30 percent in 2005 and 35 percent in 2010 relative to 1985
  - Industrial/laboratory energy to be reduced by 20 percent in 2005 and 25 percent in 2010 relative to 1990
- Expand use of renewable energy
  - 2.5% of Federal facility electricity consumption by 2005
  - 2,000 solar energy systems by 2000; 20,000 by 2010
- Implement best management practices for water conservation in 80% of Federal facilities by 2010
- Reduce greenhouse gas emissions 30 percent by 2010 compared to 1990

Progress To Date

- Preliminary FY 2001 data indicates the Federal Government exceeded the FY 2000 goal by 3.0%

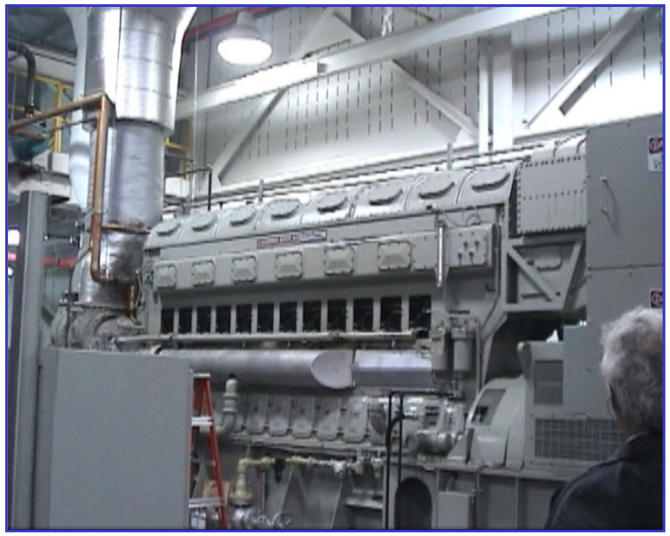


- In real dollars, the Government spent $1.4 billion less for energy in its buildings in FY 2001 compared to FY 1985.
- Approximately half of these savings are from energy improvements.
- 23.0% reduction is based on Btu per square foot

Why DER? It Supports Multiple Goals

Distributed generation and combined heat and power systems

- increase efficiency and reliability
- reduce costs & emissions
- lay foundation for physical infrastructure for clean technologies of tomorrow (hydrogen, fuel cells)



Why DER? -- Energy Security and Reliability

Mandates:

- Executive Order (E.O.) 13231 on Critical Infrastructure Protection (10/2001)
- E.O. 12656 Emergency Preparedness Responsibilities (11/1988)

Bottom Line:

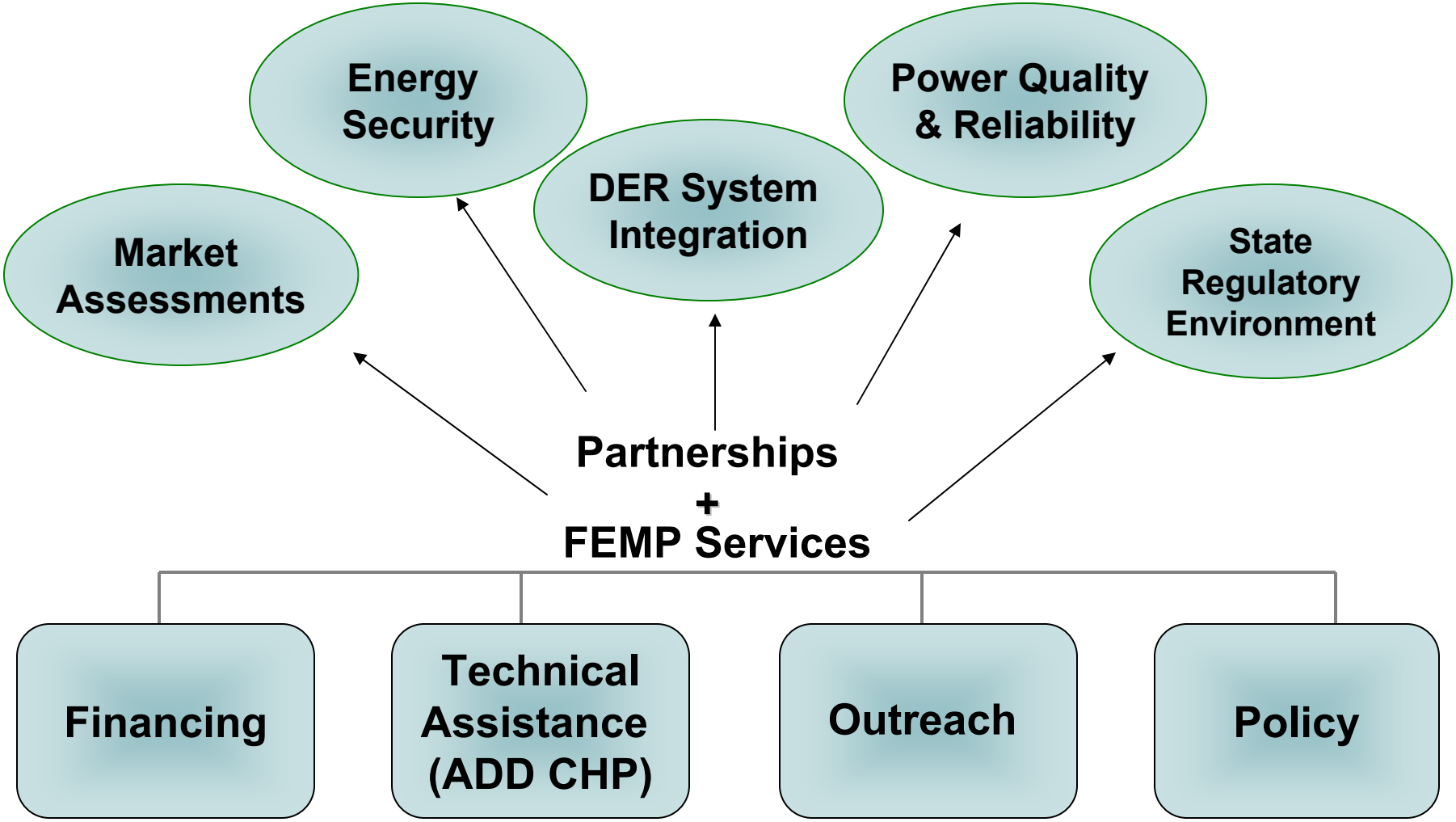
- *Installations* must ensure energy is available for all critical mission operations

Energy Security and Reliability *(cont.)*

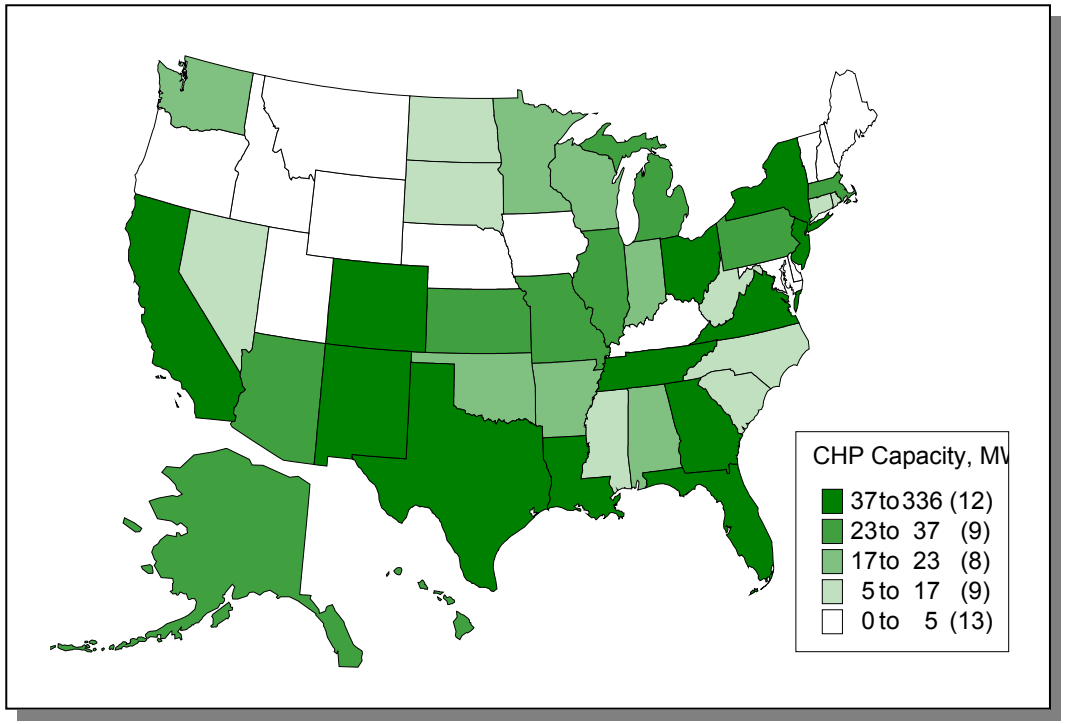
- Distribution systems (grid, pipelines) are vulnerable
- Command, communications and data centers are critical and sensitive
- Solutions include Distributed Generation and "adaptive islanding"
  - *Minimize damages*
  - *Enable faster recovery*

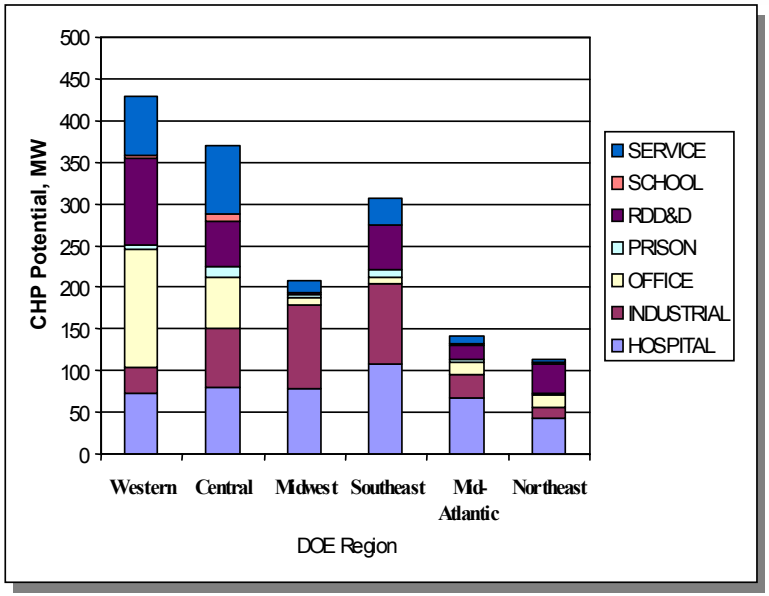
Source: National Academy of Science, *Making the Nation Safer*

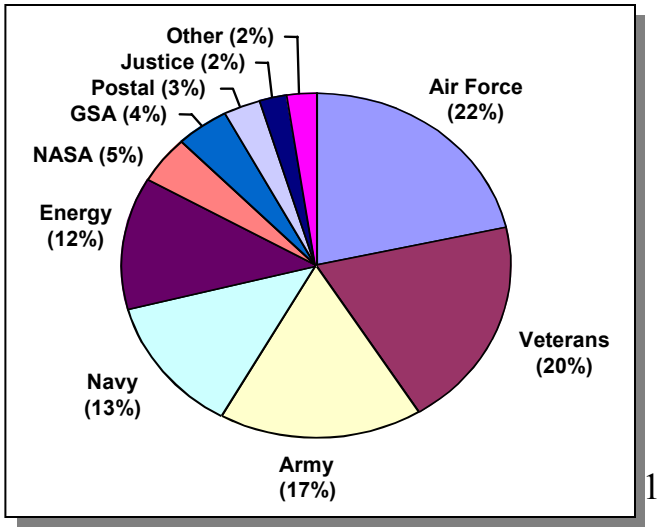
FEMP Assistance



CHP Market Assessment: Where DER is Advantageous

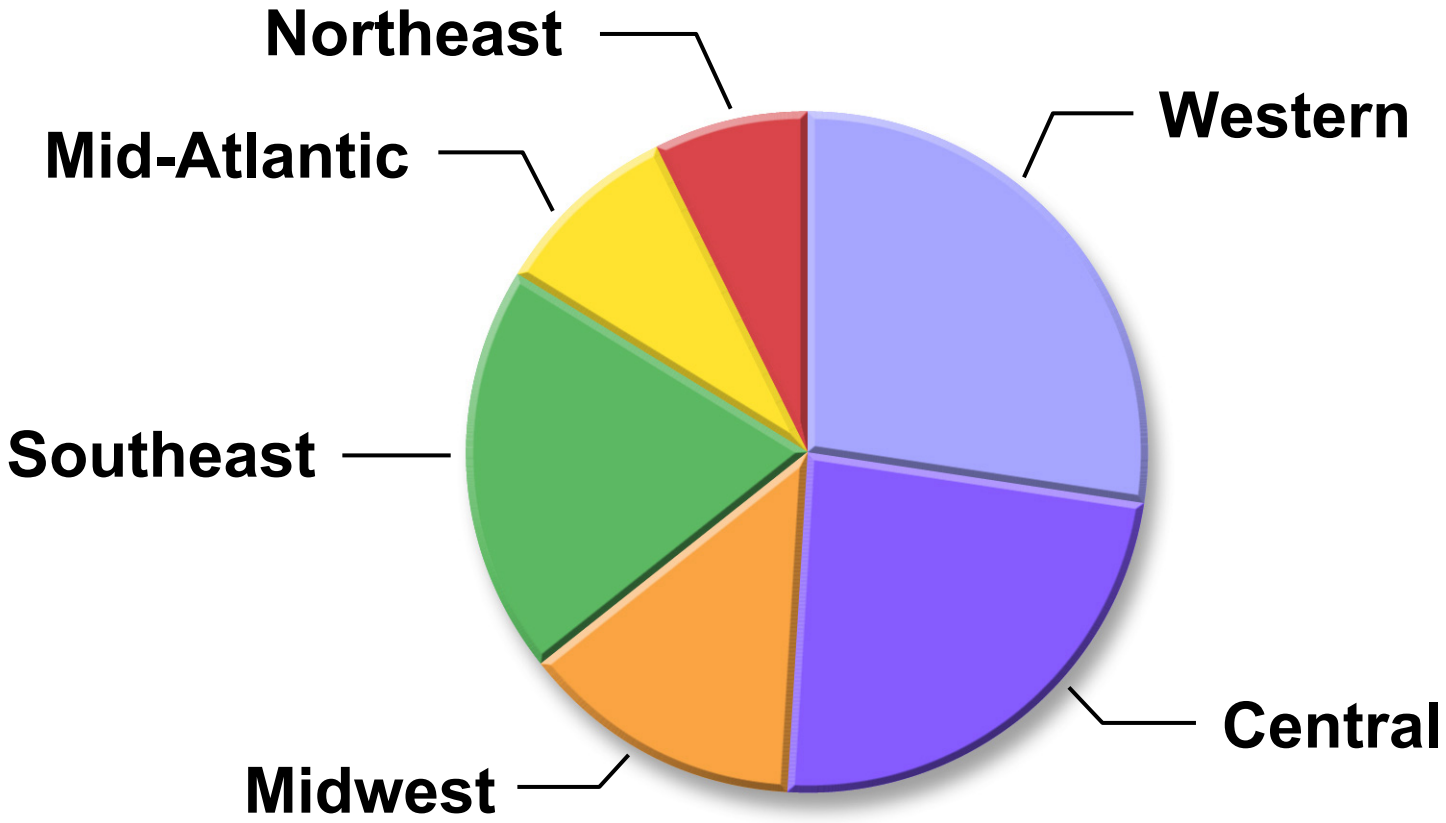






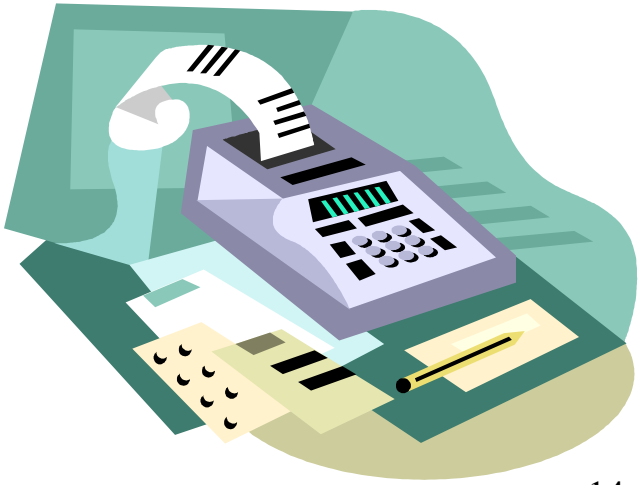
Federal CHP Potential by Region

More than Half in West



Financing

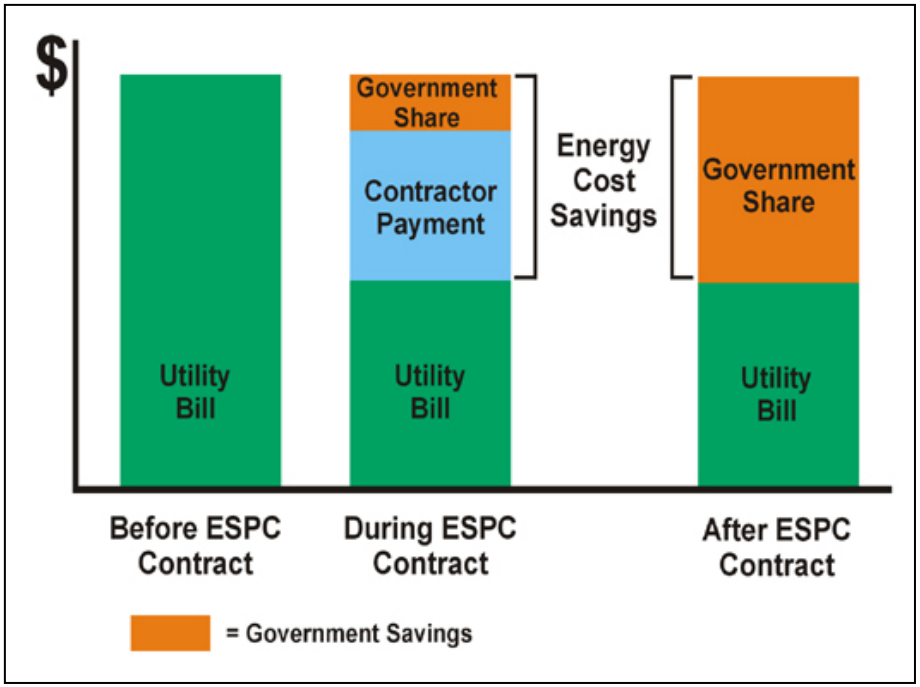
- Energy Savings Performance Contracts (ESPCs)
- Utility Energy Service Contracts (UESCs)
- Enhanced Use Lease (EUL)
- Appropriations



Energy Savings Performance Contracts

ESPCs reallocate the government's utility bill

- Pay a lower utility bill
- Pay the contractor
- Achieve cost savings for government



Benefits of ESPC

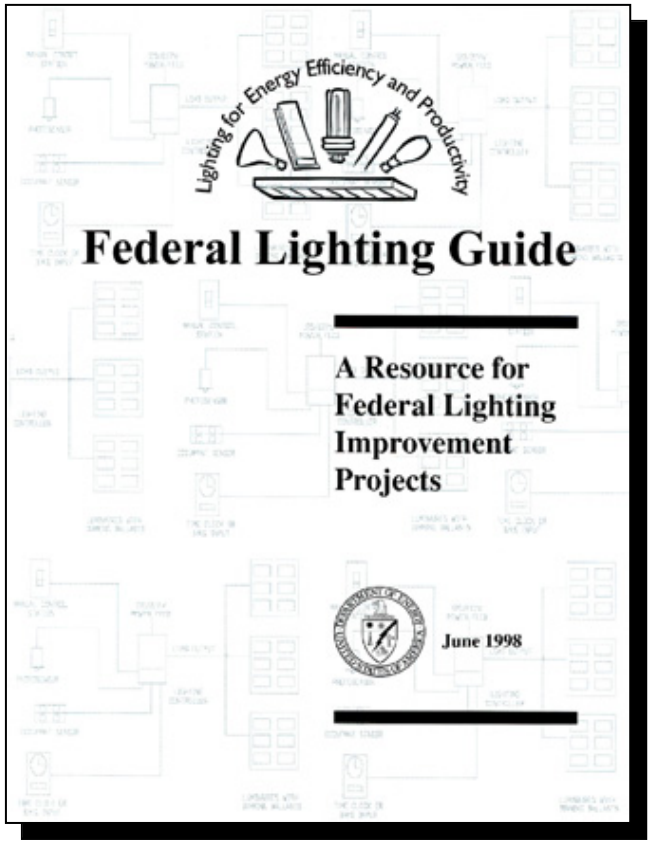
- Sites reduce energy use/$
- Improves environment
- Saves taxpayer dollars
- Stimulates growth and research in energy efficiency industry, and generates local job growth
- Obtains mission-critical retrofits and improvements

Utility Energy Service Contracts

- Regulated utility is the preferred provider
- Utility pays up-front costs
- Utility warrantees equipment performance
- Utility is paid from the savings

Technical Assistance

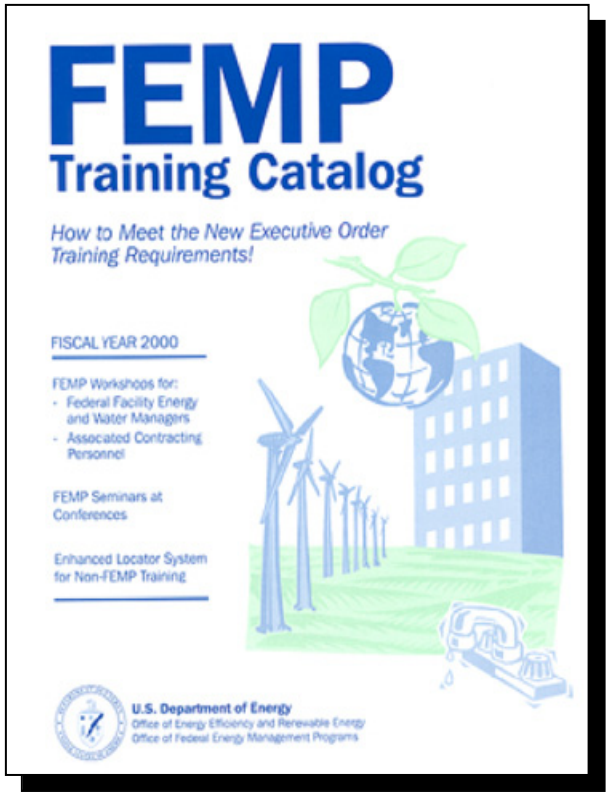
- SAVEnergy Audits
- Design Assistance
- DER/CHP
- Renewable Energy/Green Power
- Labs21
- Industrial Facilities
- ALERT Audits



FEMP
FEDERAL ENERGY MANAGEMENT PROGRAM

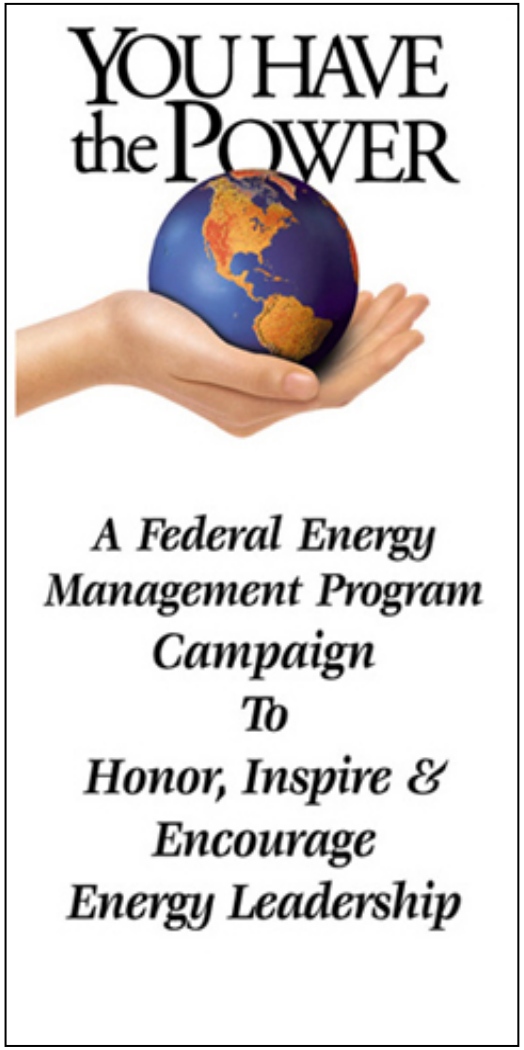
Technical Information Training

- **Software Tools**
- **Buying Energy Efficient Products**
- **New Technology Demonstration Program**
- **Federal Relighting Initiative**



Outreach and Communications

- *You Have The Power* Campaign
- *FEMP Focus*
- Energy 2003, FEMP's Annual Workshop & Exposition, August 17-21, Orlando, FL www.energy2003.ee.doe.gov
- Annual Energy Awards Programs
- www.eren.doe.gov/femp
- FEMP Help Desk: 800-363-3732
- DOE Regional Office FEMP Team
- DOE National Laboratory Liaisons



Major Program Partners

- Federal Agencies/EERE Sectors
- DOE National Laboratories
- Associations
- Utilities
- Equipment Manufacturers
- Industry Partners/Energy Service Companies

Useful FEMP Contacts

- Website:
  http://www.eere.energy.gov/femp.html

- FEMP DER Program Manager:
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  (202) 586-1511