



EERE Electricity Restructuring Program

Larry Mansueti

Acting Director, Electricity Restructuring Program

Office of Power Technologies

Energy Efficiency and Renewable Energy, U.S. Dept. of Energy

Cathy Ghandehari

Assistant Director, Electricity Restructuring Program

Denver Regional Office

Energy Efficiency and Renewable Energy, U.S. Dept. of Energy

1st DOE DER Conference and Peer Review

November 29, 2001

Outline of Today's Presentation



- ▶ Background
- ▶ Program Mission
- ▶ Program Budget & Spend Plan
- ▶ FY2001 Accomplishments
- ▶ FY2002 Strategic Thrusts

Background

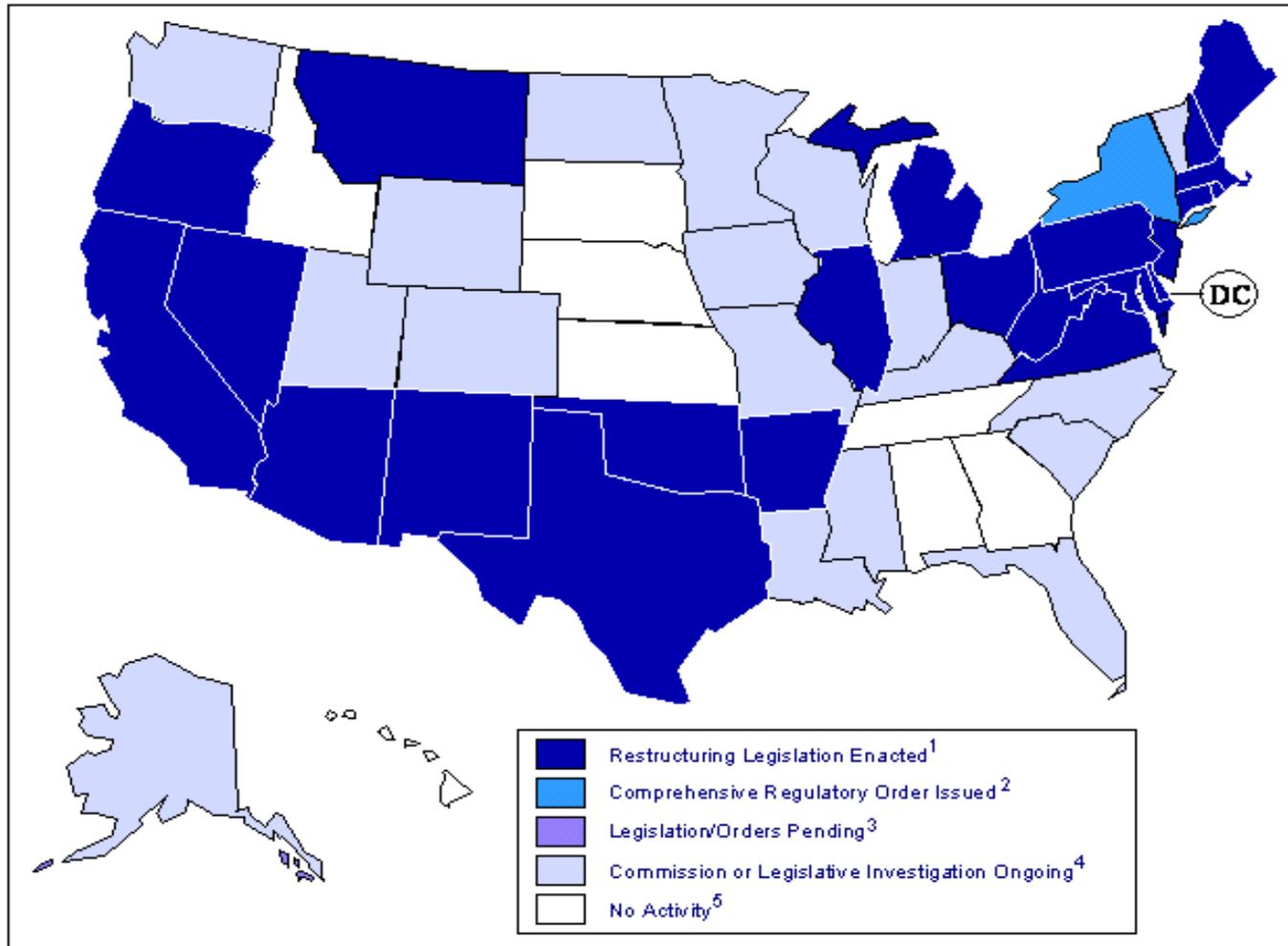
Restructuring Status



- ▶ Restructuring of the U.S. electric industry is occurring on a state-by-state basis
 - Delayed or suspended in 8 states!!
- ▶ Most states that have restructured support public purpose programs for energy efficiency, renewable energy, and/or DER
- ▶ Continued uncertainty in market structure
- ▶ Federal Focus
 - National Energy Plan
 - Security post-Sept. 11
 - Lack of consensus on Federal legislation
 - FERC now acting aggressively to define wholesale market rules – reduce uncertainty

Background

Restructuring Status—February 2001

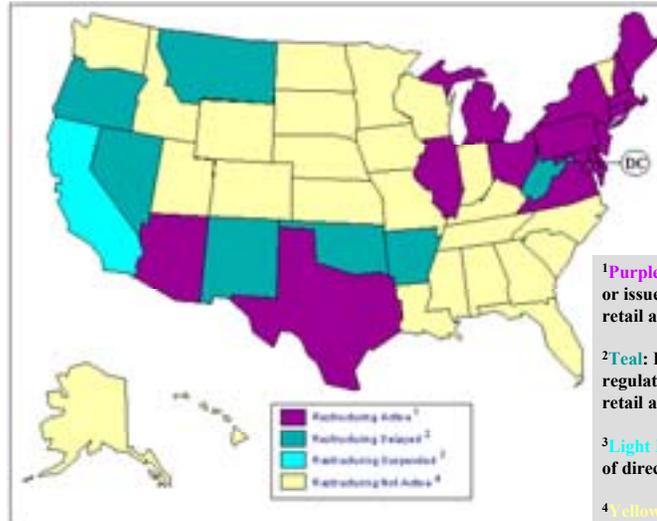


As of February 2001, **24 states and the District of Columbia** had **passed restructuring legislation or issued regulatory orders.**

Source: Energy Information Administration (EIA)

Background

Restructuring Status—November 2001



Now only **16 states and D.C.** remain active – *8 states have delayed or suspended competition*

¹ **Purple:** Either enacted enabling legislation or issued a regulatory order to implement retail access.

² **Teal:** Either passed legislation or issued regulatory orders to delay implementing retail access.

³ **Light Blue:** The CPUC ordered suspension of direct retail access.

⁴ **Yellow:** Have not enacted enabling legislation to restructure the electric power industry or implement retail access.

Source: Energy Information Administration (EIA)

- California and Western crises have significantly impacted pace of Restructuring and interest in Retail Competition - momentum is not there
- Even states that had some success with retail competition (e.g., Pennsylvania) have suffered setbacks as service providers exit market (particularly small customer market) and return customers to utility in wake of high, volatile prices
- All eyes are likely on TEXAS – the best next hope for Retail Competition (if it doesn't work in Texas, then it's back to drawing boards)

Background



Why is Electricity Restructuring Critical to Energy Efficiency/Renewables/DER?

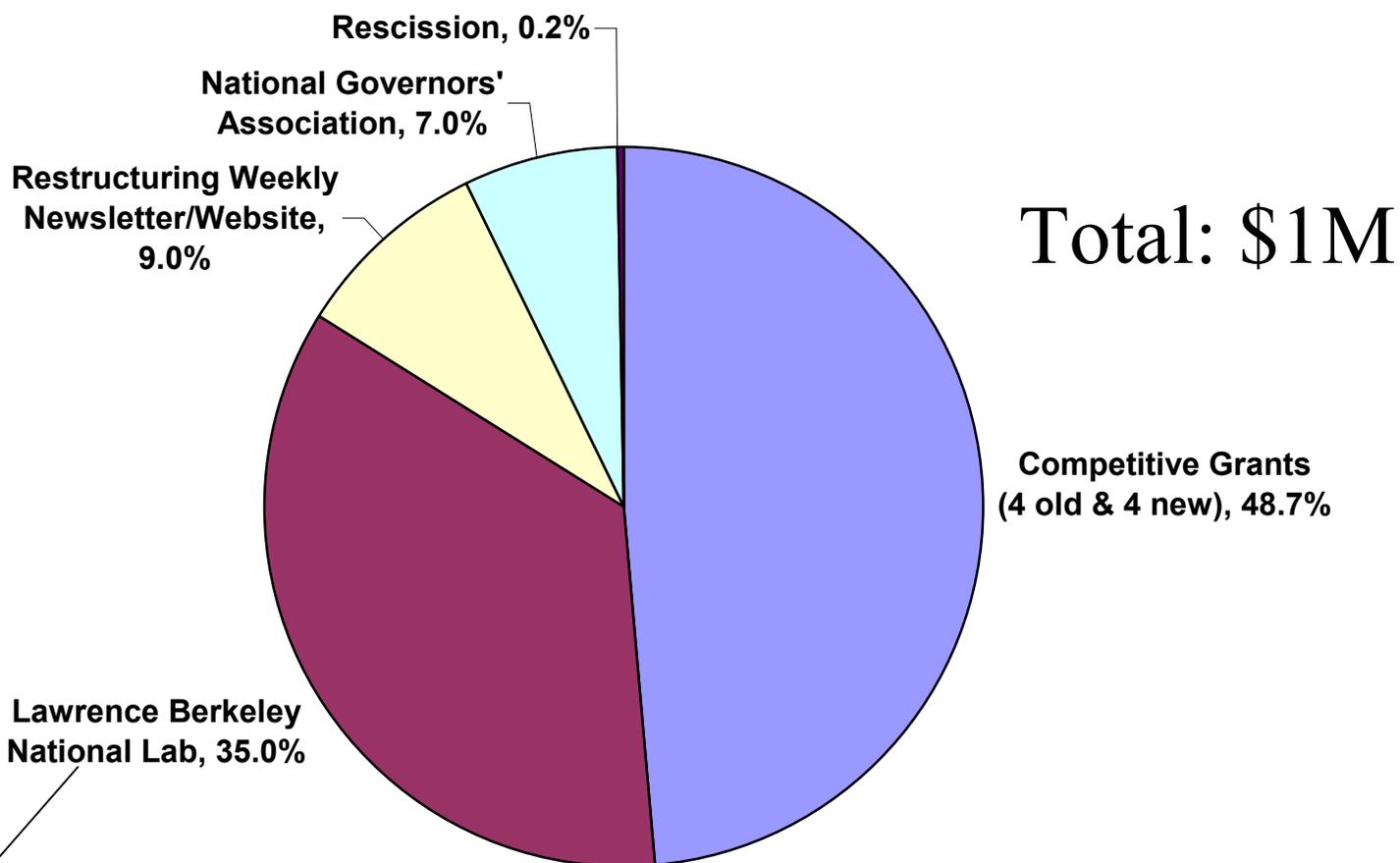
- ▶ Restructuring has significantly impacted investment decisions
 - Historic support by PUCs and utilities for public purpose activities (e.g., energy efficiency, RD&D, renewables, low-income) at risk
- ▶ Achievement of goals for EERE technologies depends on effective new market rules, policies, and regulations for electricity markets
 - Electricity restructuring does not necessarily open markets for DER technologies, but it does offer new market choices, which DER could benefit from

Program Mission



- ▶ *Mission:* Work with states (restructured or not) and industry to maintain or expand energy efficiency, renewable and distributed energy resources.
 - *How:* Technical outreach and assistance accomplished in partnership with a range of national, regional, and sometimes state-based groups. Combined with analysis of national trends.
 - We don't advocate—we serve as a clearinghouse to policymakers on policies and programs that do/don't work.

Restructuring Program FY 01 Disposition of Funds



Technical assistance to states, integrated energy services and green power, demand responsiveness

Competitive Grants: FY2000 Awards



Recipient	Funding	Project Summary
Regulatory Assistance Project	\$83.8K	Electricity Restructuring Outreach and Info. Dissemination to State PUC Regulators
ACEEE	\$69.9	Expand Public Benefit Program Data Tracking & Info. Dissemination
NARUC	\$65	National Council on Competition and Electric Industry
Nebraska Energy Office	\$44.6	Public Power's Role in Maintaining and Fostering EERE during Restructuring
Southern States Energy Board	\$60	Analyze Mkt. & Policy Options to Enable States to Meet Their EERE Goals in a Competitive Market
NCSL	\$65	Assistance to State Legislatures on Policies Related to Electric Restructuring
Western Gov's Assn.	\$60	Efficient Transmission Pricing and Congestion Mgmt. in the West
NAESCO	\$74.5	Barriers in Demand Responsive Loads and the Role of ESCOs in Wholesale Markets
Total	\$523K	

Four New Competitive Grants: FY2001 Awards



Recipient	Funding	Project Summary
Western Governors' Association (WGA)	\$75K	Western Interconnection Demand Response Team to provide decision makers in Western states with info. to address immediate power supply constraints using demand mgmt. techniques
National Association of State Energy Officials (NASEO)	\$60	"Demand Responsiveness Electric Reliability Project" to provide state decision makers across country with info. to address immediate power supply constraints using demand mgmt. techniques
National Association of Energy Service Companies (NAESCO)	\$60	"Market-based Incentives Project" to provide state decision makers with info. to address immediate power supply constraints using two distinct demand mgmt. techniques: market transformation programs and resource acquisition strategies
American Council for an Energy-Efficient Economy (ACEEE)	\$35	"Reliability Focused EE Project" to provide decision makers with info. to address immediate power supply constraints using demand mgmt. techniques
Total	\$230K	

Unsolicited Grant: National Governors' Association



- ▶ Funding: \$400K in FY01-03 with EE, FE, and NE funds
- ▶ Implements National Energy Policy Recommendation 2.5
- ▶ Task Force on Electricity Infrastructure
 - Generation siting
 - Transmission siting
 - Regional electric markets

Recent DER-Related Grants



- ▶ Northeast Midwest Institute (NEMW)
 - Prepared a study/toolkit on options to remove barriers to DER implementation in restructured markets
- ▶ Regulatory Assistance Project (RAP)
 - Provide policy development and direct educational & technical assistance to state utility commissions on electricity restructuring issues focusing on energy efficiency, renewable energy resource, and DER deployment
- ▶ National Association of Regulatory Utility Commissioners (NARUC)
 - Three year 2000 collaborative workshops with utilities, competitors, and regulators to educate and build consensus on effective policy options for emerging competitive DER markets
 - Released paper, "Innovative Financing of Distributed Generation: Pay-As-You-Save"
 - Working with the U.S. Combined Heat and Power Association to address regulatory barriers

FY01 Topics



▶ *Public Policy Mechanisms*

- Renewable Portfolio Standards (RPS)
- Public Benefits Fund (PBF)
- Information Disclosure Provisions
- Demand Response Programs
- Green Power

▶ *Market-Based Mechanisms*

- ISOs/RTOs where generators & customer loads can bid in to provide products/services
- Retail Choice & Retail Energy Suppliers
- Energy Efficiency Services Industry

FY01 Major Accomplishments



- ▶ Analyze impacts of RPS and Green Power on Renewable Energy Development
- ▶ Public Benefit Funds for Energy Efficiency and Renewables
 - Technical Assistance to ~20 States (e.g., Florida 20/20 Study Commission, NYSERDA, MD, Efficiency Vermont, Western states, Texas)
 - Highlight “best practices” on program and administration options
 - Peer-to-peer exchanges with regulators and staff

For the past two years, the Restructuring Program has supported national and regional organizations that have access to decision makers. National organizations funded by the program include the National Association of Regulatory Utility Commissioners (NARUC), the National Conference of State Legislators (NCSL), the Regulatory Assistance Project (RAP), the National Association of State Energy Officials (NASEO), National Council on Competition and the Electric Industry, and the American Council for an Energy-Efficient Economy (ACEEE). These organizations provide critical support to state policy makers --including public utility commissioners and state legislators--on policies that impact the development and support of renewable and energy efficiency programs such as Public Benefit Funds, Renewable Portfolio Standards, Interconnection Standards, Net Metering, and consumer disclosure.

In addition, Lawrence Berkeley National Laboratory (LBNL) has analyzed impact of various renewable policies, like RPS, on renewable energy development

Support to regional organizations includes the Western Governors' Association (WGA), the Southern States Energy Board, and the Governors' Public Power Alliance to support state and regional energy efficiency and renewable energy initiatives, including distributed energy resources.

Project examples include:

- 1) FY01 awards to NASEO, WGA, and the National Governors' Association (NGA) to support the collection and analysis of data on Demand Response Programs.
- 2) This December, WGA will complete a report on Efficient Transmission Pricing in the West which will include the identification of incentives and barriers to the expanded use of renewable technologies.
- 3) The Program has been assisting WGA for the past year with the identification of successful energy education programs, the development of an inventory and analysis of model energy efficiency programs, and the writing of a Transmission Plan for the western grid.

FY01 Major Accomplishments (cont.)



- ▶ Monitor & Track Restructuring activities affecting EE, DER, and Renewable Technologies (*Lawrence Berkeley National Laboratory, American Council for an Energy-Efficient Economy*)
- ▶ Price Responsive Load: Strategies to address reliability concerns and high peak period prices
 - Emergency technical assistance to Federal and state regulators and regional organizations -- Western Governors' Association, New England ISO (*Regulatory Assistance Project, Lawrence Berkeley National Laboratory*)
 - Case studies of innovative demand response programs (*Lawrence Berkeley National Laboratory*)
 - Opportunities and barriers to ESCO participation (*National Association of Energy Service Companies*)
- ▶ National Governors' Association Task Force on Electricity Infrastructure
- ▶ Redesign of website: www.eren.doe.gov/electricity_restructuring

In FY01, the Program directed significant resources to address increasing concerns regarding electric system reliability and high/volatile prices during peak times.

LBNL provided emergency technical assistance to the Western Governors' Association on demand side options and program designs that could reduce summer peak in the West over the next 1-2 years.

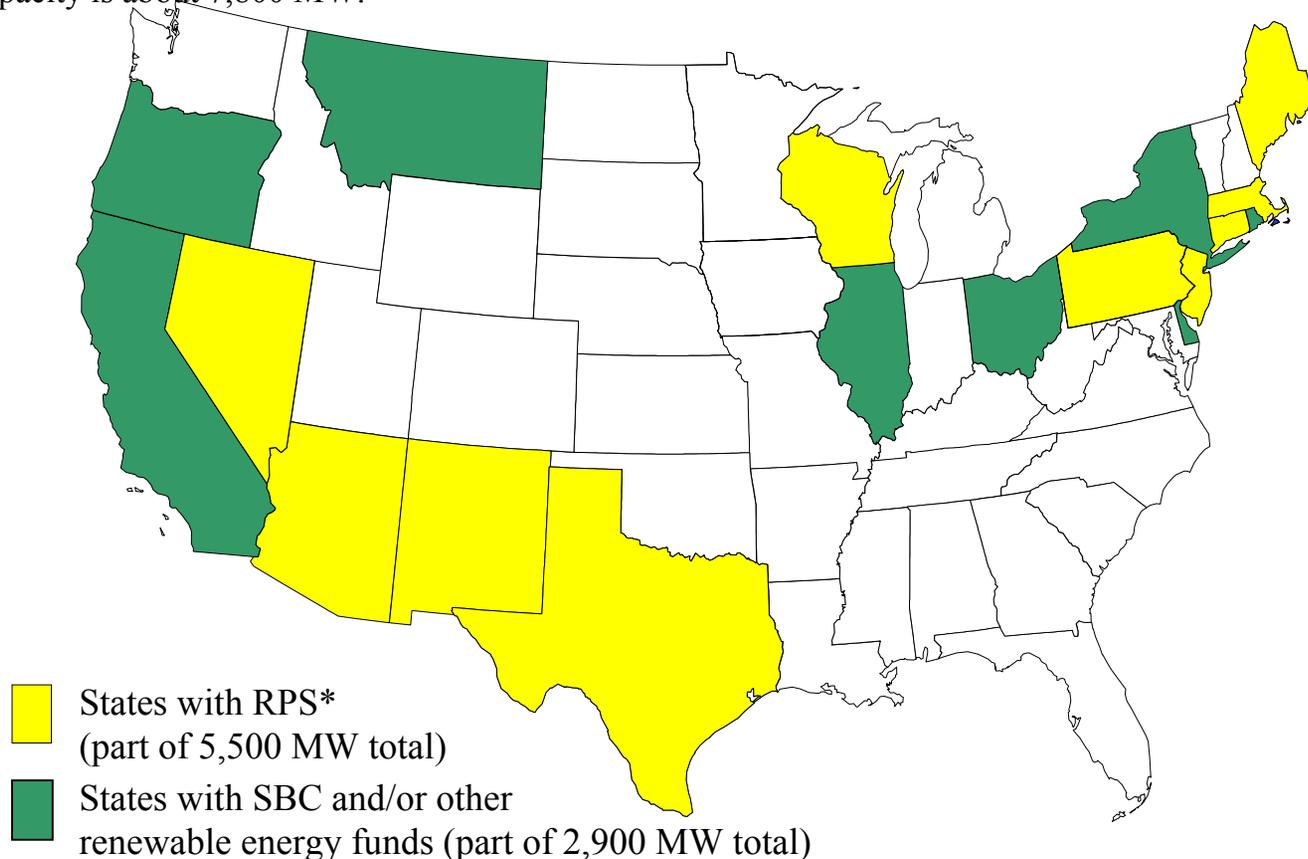
LBNL also conducted case studies of ~15 innovative Demand Response programs in order to identify "best practices" and lessons learned.

NAESCO prepared a study identifying barriers (and opportunities) for ESCOs to participate in wholesale and retail demand response programs - assessed the "business case".

The Positive Impact of State Policies on Renewables



Based on Lawrence Berkeley National Laboratory's analysis of various *existing* state laws and policies, if states maintain their current laws and policies on renewables, the result will be more than **a doubling of non-hydro renewables by 2012**. The 8,400 MW of additional capacity is from 5,500 MW of state purchase obligations (including renewable portfolio standards) and 2,900 MW estimated to potentially be developed through system-benefits charges (SBC) and other renewable energy funds. Current non-hydro renewable capacity is about 7,800 MW.



*In addition to an RPS, the following states also have SBC and/or other renewable funds in place: MA, CT, NJ, PA, MI, AZ, and NM.

10 states' RPS obligations:

- AZ: 1.1% by 2007
- NV: 15% by 2013
- NM: 5% as available
- TX: 2,880 MW by 2009
- WI: 2.2% by 2011
- PA: varies by utility
- NJ: 6.5% by 2012
- CT: 13% by 2009
- MA: 4% by 2009
- ME: 30% by 2000

Non-RPS purchase obligations:

- MN: 550 MW by 2002 plus 400 MW by 2012
- IA: about 250 MW

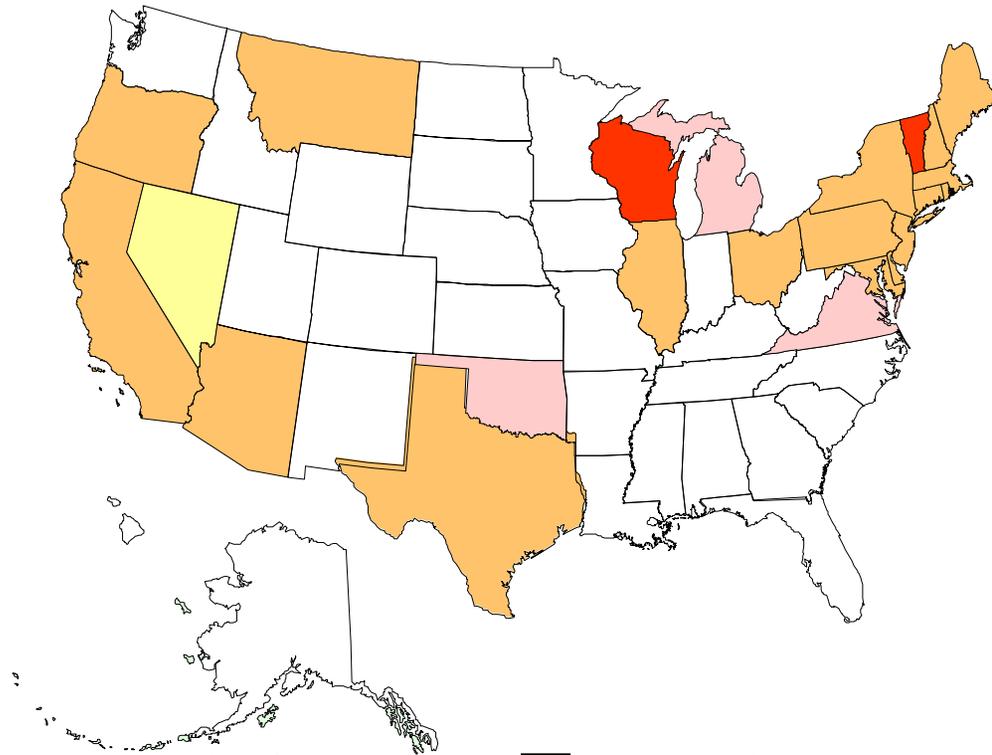
→ **25% of retail load covered**

→ **80% of New England load covered**

State Energy Efficiency Policies



A total of 19 states and the District of Columbia have passed specific public benefits policies to fund energy efficiency programs, with annual budgets totaling more than \$800 million.



Examples of funded energy efficiency programs:

CA: AB 1890 requires utilities to provide funding through a public goods charge, with \$368M/year allocated for energy efficiency*

CT: Public Act 98-28 includes specific line charges for energy efficiency: 3.0 mills/kWh for conservation and load management

DE: Energy efficiency funds financed by Conectiv customers at the meter: \$1.5M annually

IL: Public Act 90-561 allocates \$3M/year, contributed by electric suppliers and utilities

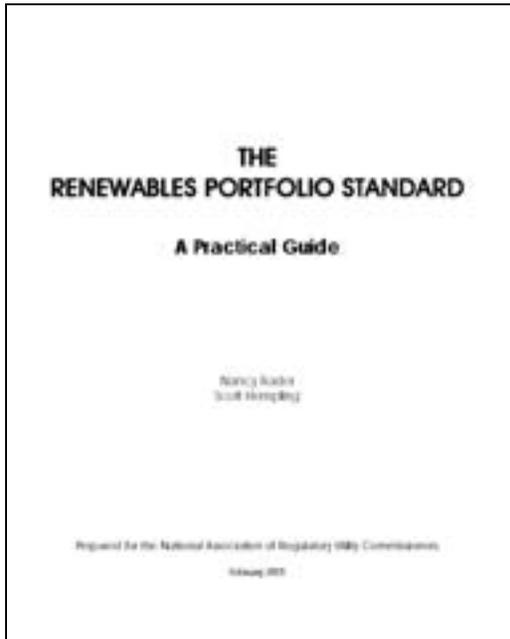
ME: Funded through rates charged to end-users by the transmission and distribution utilities: funded at 1.5% of total transmission and distribution revenues

TX: SB 7 states that electric utilities will administer energy efficiency programs to save a minimum of 10% of future load - funding will be included in transmission and distribution rates

* About an additional \$500 million is allocated to help mitigate California electricity crisis.

Source: American Council for an Energy-Efficient Economy, March 2001

Sample Products



**Demand Response Programs:
Configuring Load as a Resource for
Competitive Electricity Markets**

Chuck Goldman and Grayson Heffner
GCHeffner@lbl.gov and CAGoldman@lbl.gov

E. O. Lawrence Berkeley National Laboratory
Peak Load Management Alliance Conference
November 8, 2001

1011

*Lessons, Statistics and Results
from Restructuring*

Matthew H. Brown
Program Director, Energy
National Conference of State Legislatures
303-830-2200 x183
matthew.brown@ncsl.org

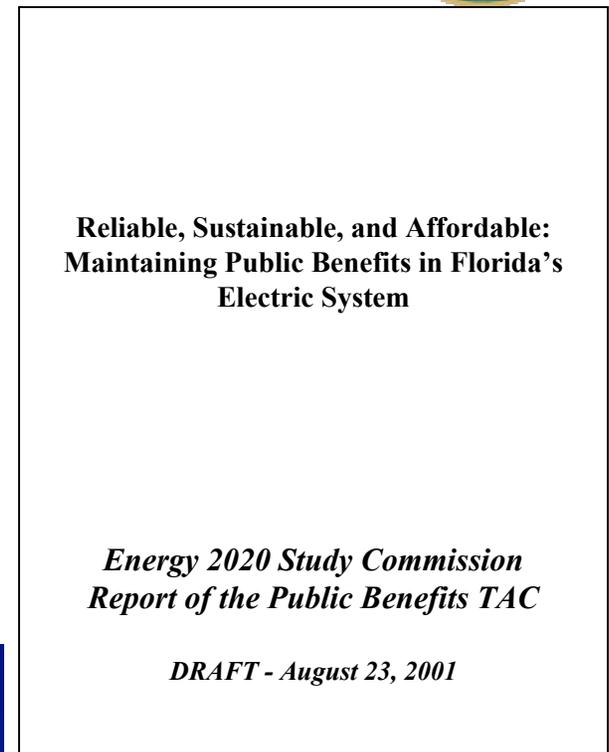
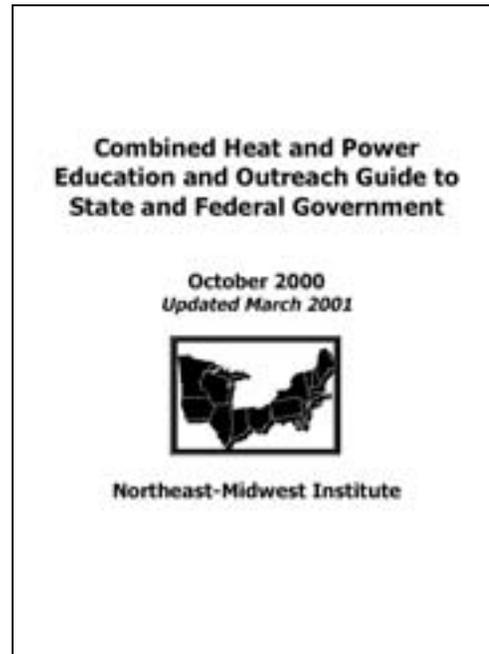
**State Renewable Energy
Policies: Lessons from
Experience**

Ryan Wiser
Lawrence Berkeley National Laboratory
RHWiser@lbl.gov

NCSL Energy Institute:
Power Markets and Wind Energy Issues
Denver, Colorado
October 18, 2001

Presentation available at:
www.ncsl.org/programs/esnr/101lesson

Sample Products (cont.)



Increasing opportunities for the Demand-side in California's Wholesale (and Retail) Power Markets

Charles Goldman
E. O. Lawrence Berkeley National Laboratory
CAGoldman@lbl.gov

**FERC Public Workshop
San Diego
September 12, 2000**

NARUC Department of Energy IRP Grant: An 8-Year Program



Integrated Resource Planning (IRP) Grant

From 1993-2001—with assistance from EERE's Electricity Restructuring Program—the National Association of Regulatory Utility Commissioners (NARUC):

- Published 62 research and briefing papers for state utility regulators and other stakeholders on:
 - Renewable Portfolio Standards
 - Distributed Energy Resources (DER)
 - Electricity Restructuring
 - Consumer Information Disclosure
 - Demand Side Management
 - Supply Side Efficiency
- Conducted or supported 141 forums focused on clean energy, encouraging dialogue between state utility regulators, legislators, and Federal officials on critical energy topics

NARUC Wraps-up 8-Year Program

In March 2001, the National Association of Regulatory Utility Commissioners (NARUC) closed the Department of Energy Integrated Resource Planning (IRP) Grant awarded to NARUC in 1993. A key component of the grant was the development of regulatory-focused publications. Since 1993, with assistance from EERE's Electricity Restructuring Program, NARUC published 62 research and briefing papers for the state utility regulators and other energy stakeholders. General topics included:

- Renewables Portfolio Standards
- Distributed Energy Resources
- Electricity Restructuring
- Consumer Information Disclosure
- Demand Side Management
- Supply Side Efficiency

In addition to publications, grant activities created information forums for the development of key regulatory concepts to advance clean energy policies and programs. Since 1993, NARUC has conducted or supported 141 forums focused on clean energy, encouraging dialogue between state utility regulators, legislators, and Federal officials on a number of critical energy topics. For more information, please contact Andrew Spahn, Director of Grants and Research, NARUC.

FY02 Major Program Thrusts



- ▶ Technical assistance to states on policy and market mechanisms to achieve renewable energy, energy efficiency, and price-responsive load goals
- ▶ Public Benefits Funds - Design, Administration, & Implementation
 - Clean Energy Funds Network, NY, CA, VT, MD
- ▶ Renewable Portfolio Standards - Design & Implementation
 - Texas, New England
- ▶ Vibrant Energy Services Industry
 - ESCO Industry and Market Trends
- ▶ Strategic Targeting to under-served areas
 - Southeast
- ▶ Be responsive to emergencies & FERC's new direction
 - New England and Western states demand response initiatives

For FY02, the Restructuring Program will continue to focus on providing technical assistance to state and regional policymakers on policy and Market Mechanisms that can achieve EE, renewable, and price-responsive load goals as electricity markets continue to evolve.

Examples include:

- The Program will continue to help states that request assistance on design, policy objectives administration options, and implementation of public benefit funds -- specifically we will continue to work with the 14 administrators of Clean Energy Funds Network, as well as targeted assistance to states (NY on renewables, VT and CA on energy efficiency)

- Continue work on Design and Implementation of state RPS policies -- crucial point in development of RPS programs as state programs must move from legislation/policy rules to implementation phases (and project development)

- Important policy goal is to promote development of a vibrant energy services industry -- precursor to successful retail competition. Restructuring program provides in-depth analysis of ESCO industry and market trends (through LBNL project that works with NAESCO).

- Program work with stakeholders in the Southeast (SSEB) that is exploring renewable, DER, and EE options for their region

- If funding allows, the Program will support regional initiatives in New England and the Western states to develop comprehensive rules for a coordinated set of demand response initiatives. These initiatives will support FERC's desire to include demand response/distributed energy in their writing of the rules for wholesale electric markets.

Upcoming DOE-FERC Symposium



***Mark Your
Calendars!***

***One of several
ways DOE is
working to help
make sure FERC's
wholesale market
rules give fair
encouragement of
Demand Response***

February 14, 2002

Washington, DC Convention Center

One-Day Workshop on Demand Responsiveness

Agenda and registration materials available soon