

Clean Energy/Air Quality Integration Opportunities & Challenges

Texas Technology Showcase

Jerry Kotas

**U.S. Department of Energy
Office of Energy Efficiency &
Renewable Energy**

Denver Regional Office

March 19, 2003

Overview

- **The use of energy efficiency and renewable energy technologies, in lieu of fossil fuel-fired electricity generation can provide significant environmental benefits**
- **DOE and NREL are working actively with the US EPA, interested states and businesses to demonstrate projects that can serve as models for others**

Overview

- **Violations of state or federal air quality rules can result in large fines and negative PR**
- **Investing in a clean energy project in lieu of paying a portion of the fine can have significant & multiple benefits**
- **Many resources are available to help you identify viable projects and make them happen**
- **DOE & NREL and the state energy offices are available for technical assistance support**
- **Which businesses are interested in partnering?**

Background

- **Environmental benefits of EE/RE technologies have been routinely acknowledged**
- **States/localities with AQ limitations and *businesses* in violation of Clean Air laws are key candidates for clean energy Supplemental Environmental Projects (SEP's)**
- **Electric Utilities can demonstrate their leadership by suggesting clean energy projects to the EPA and state, in settlement negotiations**



Energy



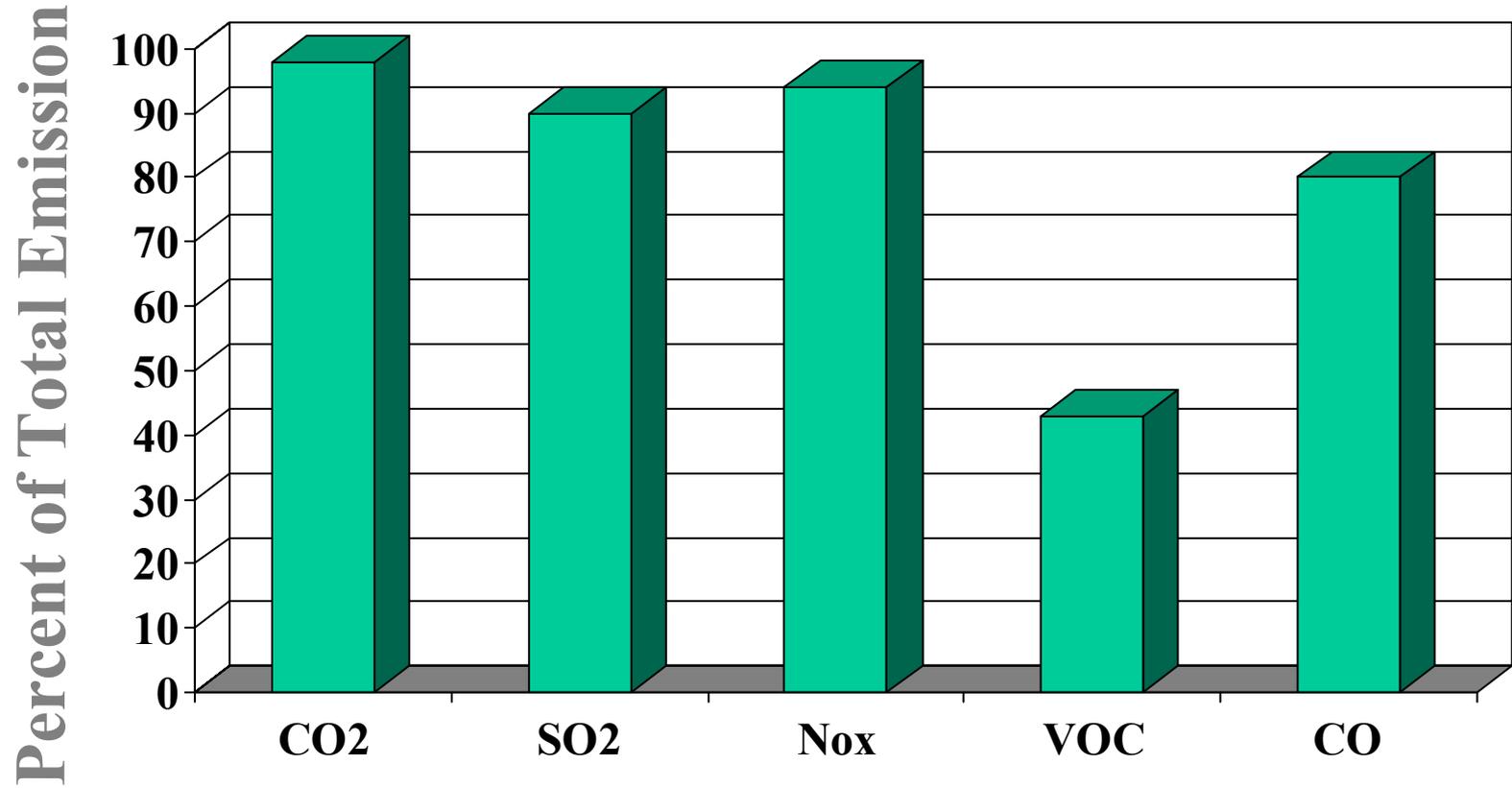
Economy

Environment



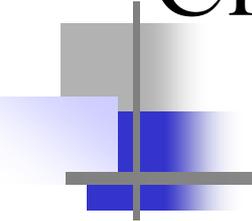
Air Quality depends upon Clean Energy

Emissions from Combustion-based Energy Use



Criteria Pollutants under NAAQS (except CO2)

Source: 1999 Emissions Trends Report, EPA

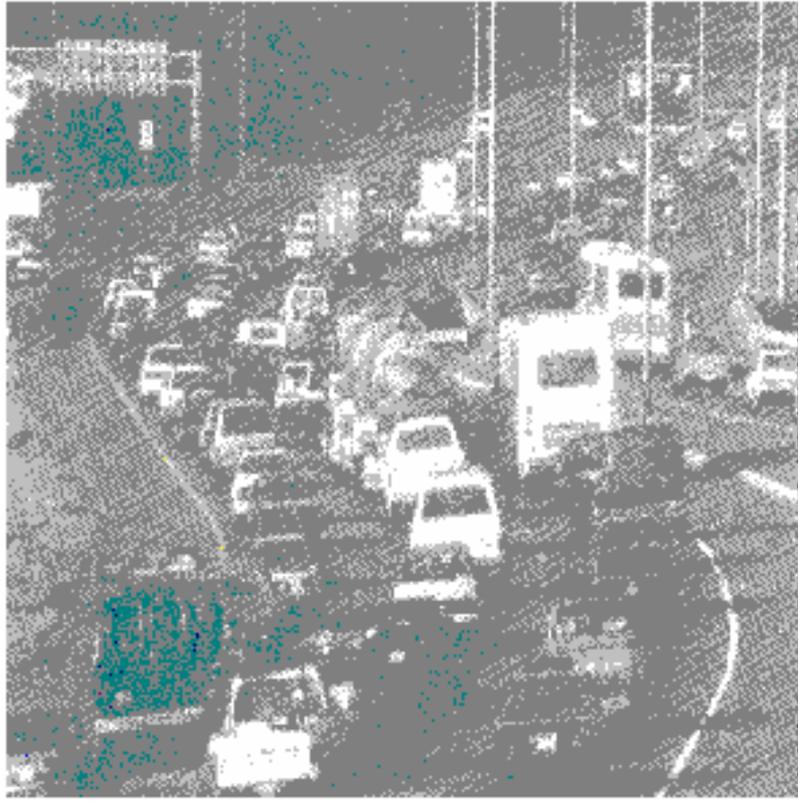


Clean Energy Projects Reduce **All** Emissions

<u>NOx Control Type</u>	<u>% NOx</u>	<u>% CO2</u>	<u>% PM</u>
Cheapest Combustion Controls	50%	0%	0%
Average Combustion Controls	55%	0%	0%
Average SNCR	37%	0%	0%
Average SCR	75%	0%	0%
Energy Efficiency & most Renewable Energy	100%	100%	100%

45% of U.S. Population living
in non-attainment areas

Air Emissions & Public Health



- **121.4 million Americans lived in counties that violated national air quality standards in 2000.**
- **The American Lung Association estimates that Americans spend >\$50 billion a year on health care as a result.**

Where are the opportunities?

- **State Implementation Plans (SIP's)**
 - Dallas SIP may include EE/RE technologies
 - Credit for biofuels and alternative-fuel vehicles
 - New 8-hour ozone and PM 2.5 standards
 - Regional air-shed
 - Transport important
 - Regional haze compliance plans – WRAP activities
 - Local air quality “hot spots” can benefit from EE/RE even if area is in attainment
- **Supplemental Environmental Projects**
 - EE/RE projects in negotiated settlement agreements

Texas Experience

- **Shortfall in necessary reductions in Houston/Galveston SIP**
- **State and EPA agreed to look to energy efficiency for some of the reductions**
- **EPA proposed emission reduction methodology**
- **SB 5 -- 25% energy reductions and new codes**
- **Cap & Trade in Houston area may preclude crediting EE projects in the SIP**
- **Other TX cities may credit EE/RE in their SIP's**
- **Lessons for other states**

Draft EPA Stationary Source Innovative Measures Policy

- **EPA has developed this draft policy to encourage use of EE/RE technologies in SIP's under the current Clean Air Act**
- **Innovative measures must be:**
 - **Quantifiable**
 - **Surplus**
 - **Enforceable**
 - **Permanent**
- **Limits innovative measures to 5% of needed reductions**

Supplemental Environmental Projects

- **In negotiation of settlement of federal or state enforcement action, violator can be given opportunity to voluntarily invest in environmentally beneficial project(s) in lieu of portion of penalty**
- **Energy efficiency and renewable energy projects can often qualify**

SEP PURPOSE

“The primary purpose of this Policy is to encourage and obtain environmental and public health protection and improvements that *may not otherwise have occurred* without the settlement incentives provided by this Policy.”

» (EPA Supplemental Environmental Projects Policy. Effective May 1, 1998; emphasis added)

Clean Energy SEPs

State of Colorado



Energy Efficiency SEPs

- **Implement EE project and savings re-invested in other environmentally beneficial projects including renewable energy**





Renewable Energy SEPs

Wind Power SEP (Manufacturer)

- **\$252,800 civil penalty offset by SEP**
- **1:1.2 multiplier, \$303,000 SEP expenditure**
- **Premium 2.5 cents per kWh**
- **Purchase wind power for 5 years**
- **Utility set up escrow account**
- **Total kWh 12,134,400 purchased for 5 years**
- **Build turbine to meet demand for SEP**



Renewable Energy SEPs

Environmental Benefits

- **Emissions avoided**
 - **NO_x 97 tons per year**
 - **SO₂ 73 tons per year**
 - **CO₂ 3,640 tons per year**
- **Environmental benefits equivalent to:**
 - **1,820 tons coal not burned**
 - **1,011 acres trees planted**

Another Renewable Energy SEP Example

- State of MD 2002 air pollution case**
- The utility defendant agreed to fund three SEP projects which will result in the installation of PV at two schools and a local environmental center**

Three Alternative-Fuel SEP's in Texas

- **A 2001 State settlement resulted in \$217k invested in low-emission vehicles for the Brazosport School District, Head Start in Brazoria County and the City of Freeport**
- **A 2002 State settlement resulted in \$70k invested in alt-fueled buses for the City of Odessa**
- **Another 2002 State settlement resulted in \$26k invested in alt-fueled vehicles for the City of Houston**



StEPP Foundation

Strategic Environmental Project Pipeline



StEPP Foundation

Funds renewable energy, energy efficiency and pollution prevention projects with significant, measurable environmental benefits.

Strategy

- **One Stop Project Identification, Screening, Management & Oversight**
- **Turnkey for SEP's**
- **Community Benefits**
- **Projects get in the ground**
- **Leveraging of other funds**

StEPP ONline

- **Unique application mechanism:
Strategic Environment Project Pipeline**
- **Web site: www.stepfoundation.org**
- **Contact Ellen Drew, Executive Director,
ellen.drew@stepfoundation.org
– 303-277-0932**

Why Should Businesses Care?

- **SEP expenditures may be eligible to be treated as other business expenses (should consult tax advisor)**
- **Business will likely have to report fines to shareholders**
- **There may be other local, state, and/or federal tax benefits for EE/RE SEPs**
- **Financial benefits may be offset by multiplier (determined during settlement negotiations); intent is to ensure business does not gain (short-term) financially from investing in a SEP**

Other Potential Benefits to Business

- **Positive PR from doing EE/RE project, especially in community where violation occurred**
- **Gain experience with EE/RE technologies**
- **Hedge against volatile fuel prices**
- **Environmental/energy leadership**
- **Reduce carbon intensity**
- **Enhance power quality**
- **Enhance energy security**
- **Generation diversity**

Are SEP's For You?

Clean Energy SEP Threshold Questions

- 1. Does your company have environmental enforcement actions pending or anticipated?**
- 2. What viable clean energy resource(s), [wind, solar, biomass, energy efficiency] are available in your State?**
- 3. Does the State (air/enforcement) have an interest in doing this?**
- 4. Is there an existing utility green pricing or other similar programs? (Could facilitate easy SEPs.)**

More Threshold Questions

- 5. Any "deal breaker" provisions in your State that could prevent or impede developing a SEP project?**
- 6. How are the State's environmental penalties presently earmarked or used?**
- 7. Are there prior clean energy SEP'S that the State has been involved with?**

Proposed Next Steps

- **Schedule a meeting with your air/environmental enforcement office (state or EPA) to discuss Supplemental Environmental Projects**
 - **Review threshold questions to determine viability of clean energy projects in SEP's**
 - **Share SEP project matrix and project idea handouts plus your priorities**
 - **Share information on StEPP Foundation (handout)**
 - **DOE/NREL technical assistance may be available to help**

DOE & NREL Support

- Seeking interested parties
- Getting process started
- Specific project support, as resources permit
- Mapping resources
- Technical expertise
- Contacts: DOE: Jerry Kotas:
jerry.kotas@ee.doe.gov or 303-275-4850
- NREL: Roya Stanley roya_stanley@nrel.gov
or 303-275-3057

Green Power Partnership: Background

- **EPA voluntary program recognizing energy/air quality connection**
- **Developed in response to National Energy Plan, May 2001**
- **Launched in July 2001**
- **Program Vision: To establish renewable energy procurement as the next step in environmental responsibility**
- **Emissions reduction goal**
 - 4 MMTCE of annual avoided emissions by 2010



Partner Commitment

- **Partners (private sector & government) pledge to replace a portion of electricity consumption with green power within a year**

Annual Electricity Consumption	Commitment
> 100,000,000 kWh	2% of load
< 100,000,000 kWh	3% of load
< 10,000,000 kWh	6% of load
< 1,000,000 kWh	10% of load
< 100,000 kWh	15% of load

Green Power Leadership Awards

- Four Awards For Procurement Excellence in
 - Green Power, Renewable Energy Certificates, On Site, and Partner of the Year
- Green Power Leadership Club
- Submit nomination for the Purchaser or
- Purchasers can self-nominate
- Download the nomination form from the awards page at: <http://www.epa.gov/greenpower>

Partner Benefits

- **Technical information and support**
 - Green power procurement assistance
- **Peer network and exchange**
 - Newsletter
 - Partner events
- **Public recognition**
 - Communications and press assistance
 - Logo usage



***"The momentum for renewables
has never been greater"***

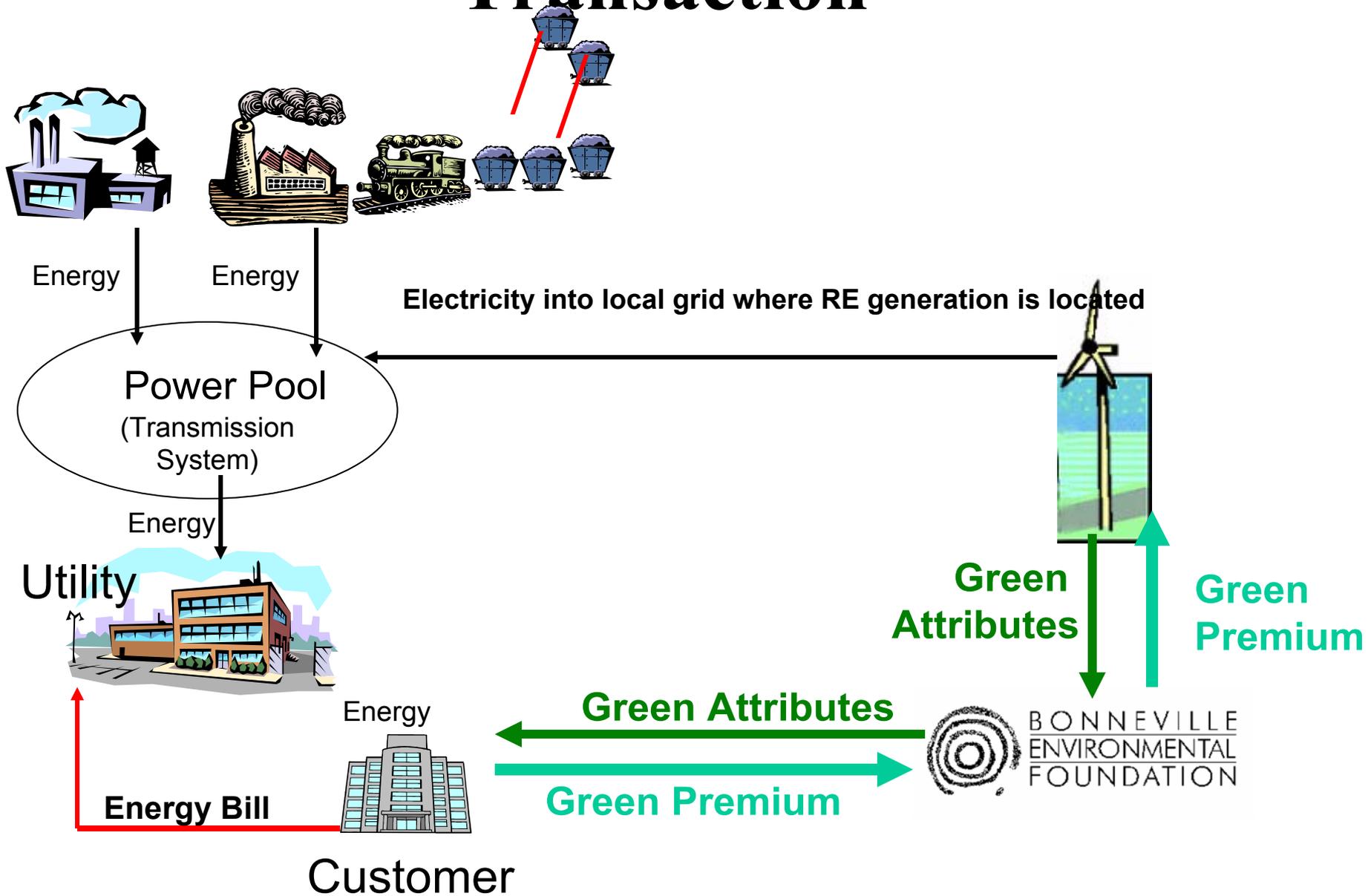
IEA 1999: The Evolving Renewable Energy Market

Extra Slides

What is a Renewable Energy Certificate or Green Tag?

- **A Renewable Energy Facility produces 2 distinct products:**
 - **Electricity**
 - **Environmental Attributes (Benefits)**
- **Renewable energy certificates are the package of ALL environmental benefits**
- **Electricity is sold separately as generic energy**

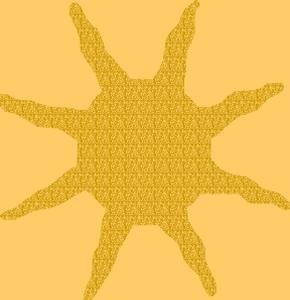
Renewable Energy Credit Transaction



Renewable energy certificates from national projects can have social and economic development value

- **Wind power on Native American lands – enormous wind resources in northern Great Plains, Montana**
- **Creates jobs, income for some of the most economically disadvantaged communities in the country**

The following presentation was prepared by Jerry Kotas
for the National Pollution Prevention Roundtable,
April 10, 2003



Clean Energy, Clean Air

Integrating energy efficiency, renewable
energy & emission reduction efforts

Jerry Kotas

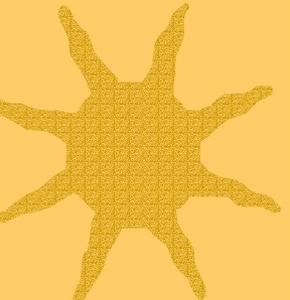
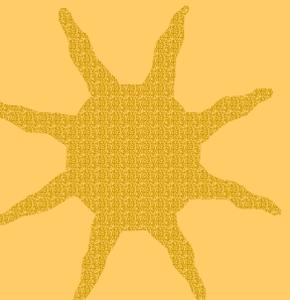
U.S. Department of Energy

Energy Efficiency & Renewable Energy

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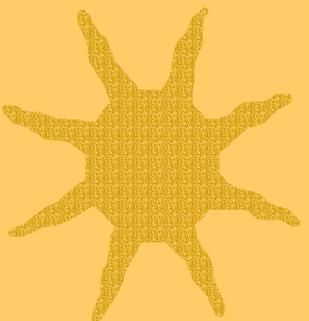
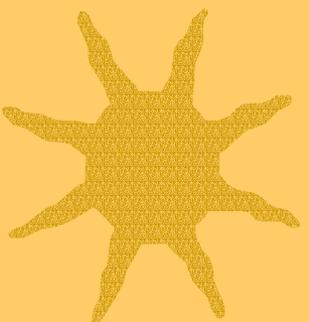
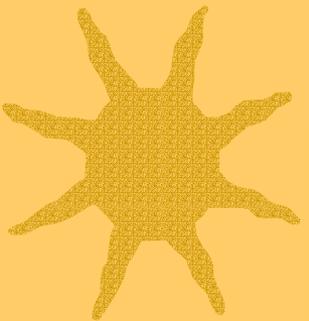
National Pollution Prevention Roundtable

April 10, 2003





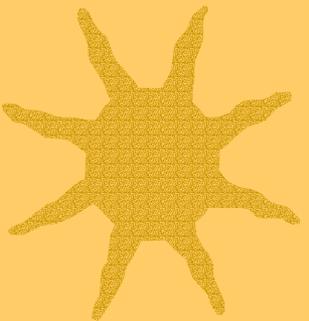
Message



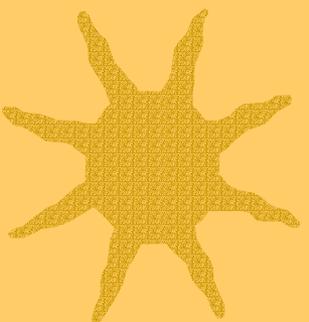
- ✓ Energy efficiency & renewable energy technologies offer tremendous potential as clean air tools
- ✓ Partnerships between DOE, EPA, businesses & States can capture that potential



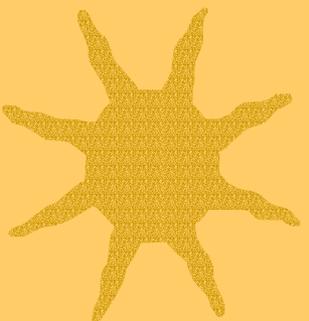
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★ **States/localities with AQ limitations and *businesses* in violation of Clean Air laws are key candidates for clean energy Supplemental Environmental Projects (SEP's)**

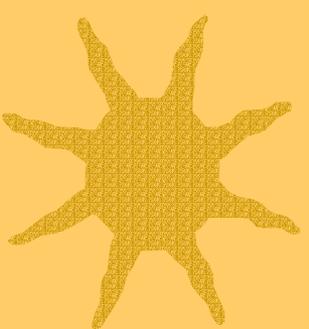
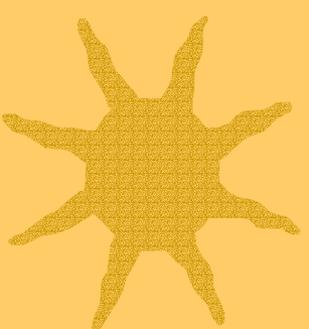
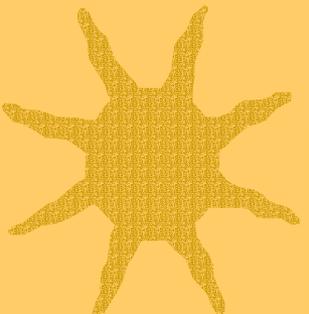


★ **Electric Utilities and other businesses can demonstrate their leadership by suggesting clean energy projects to the EPA and state, in settlement negotiations**



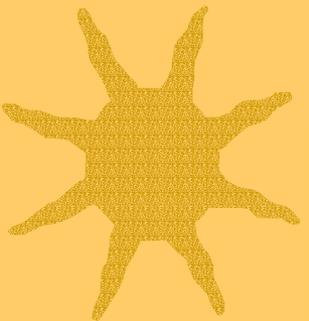
Topics

- ★ Energy-Air nexus
- ★ Status of clean energy technologies
- ★ State developments
- ★ National Energy Policy
- ★ DOE's programs
- ★ Opportunities for collaboration

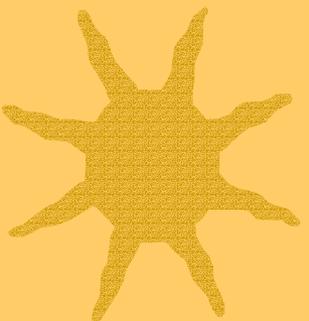
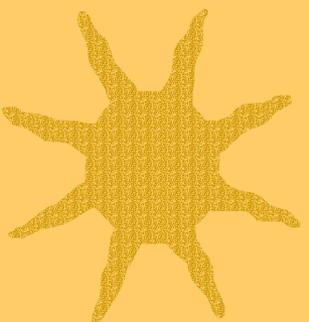




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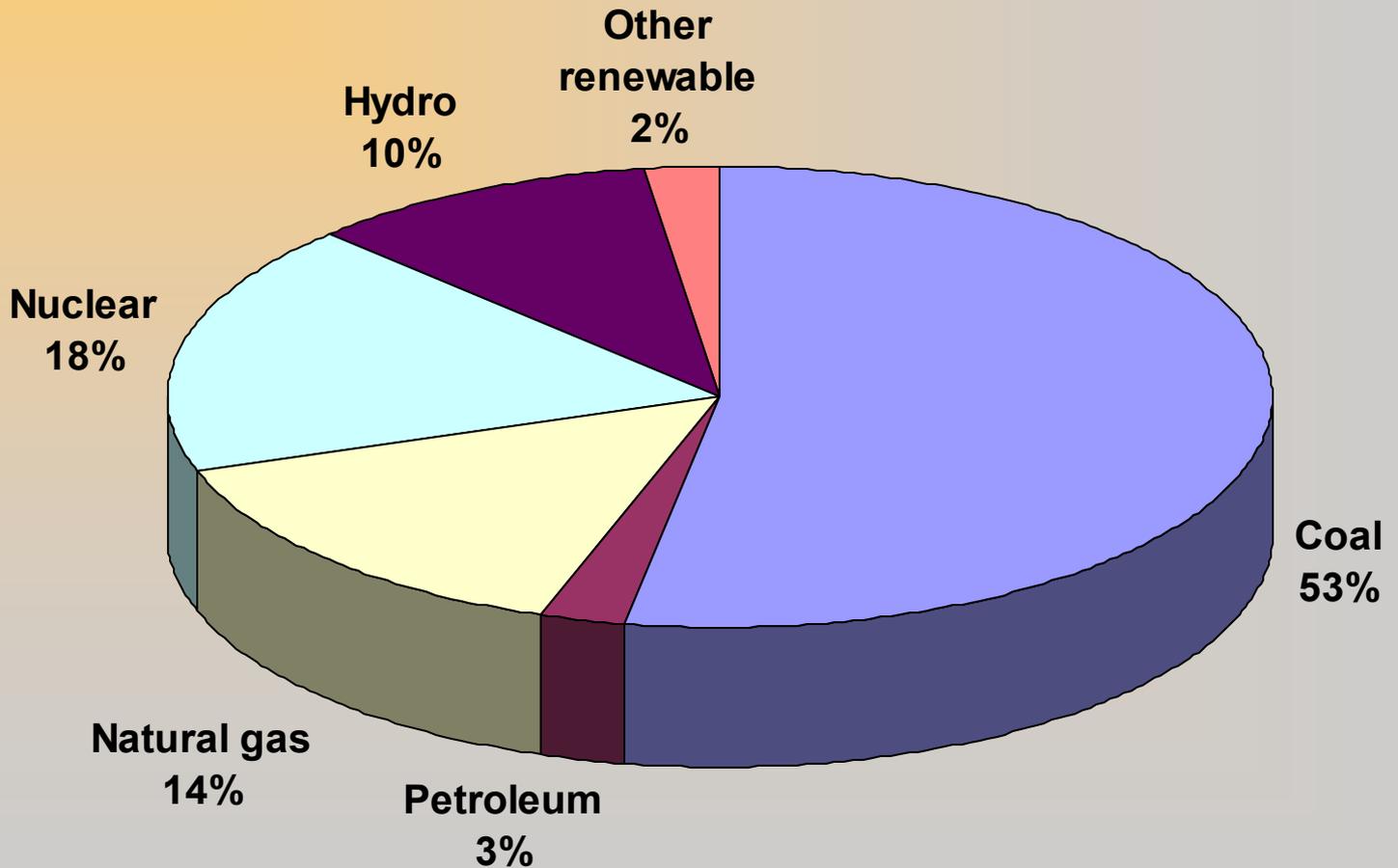
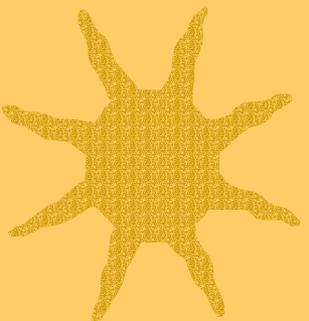
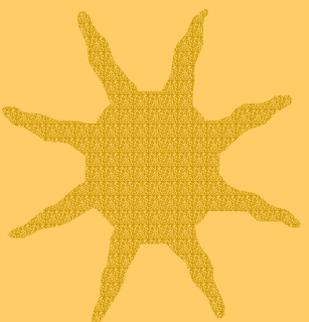
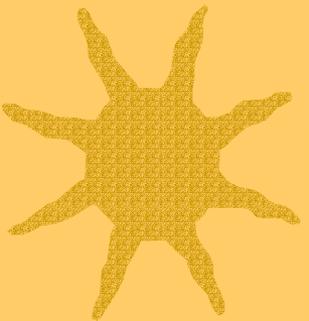


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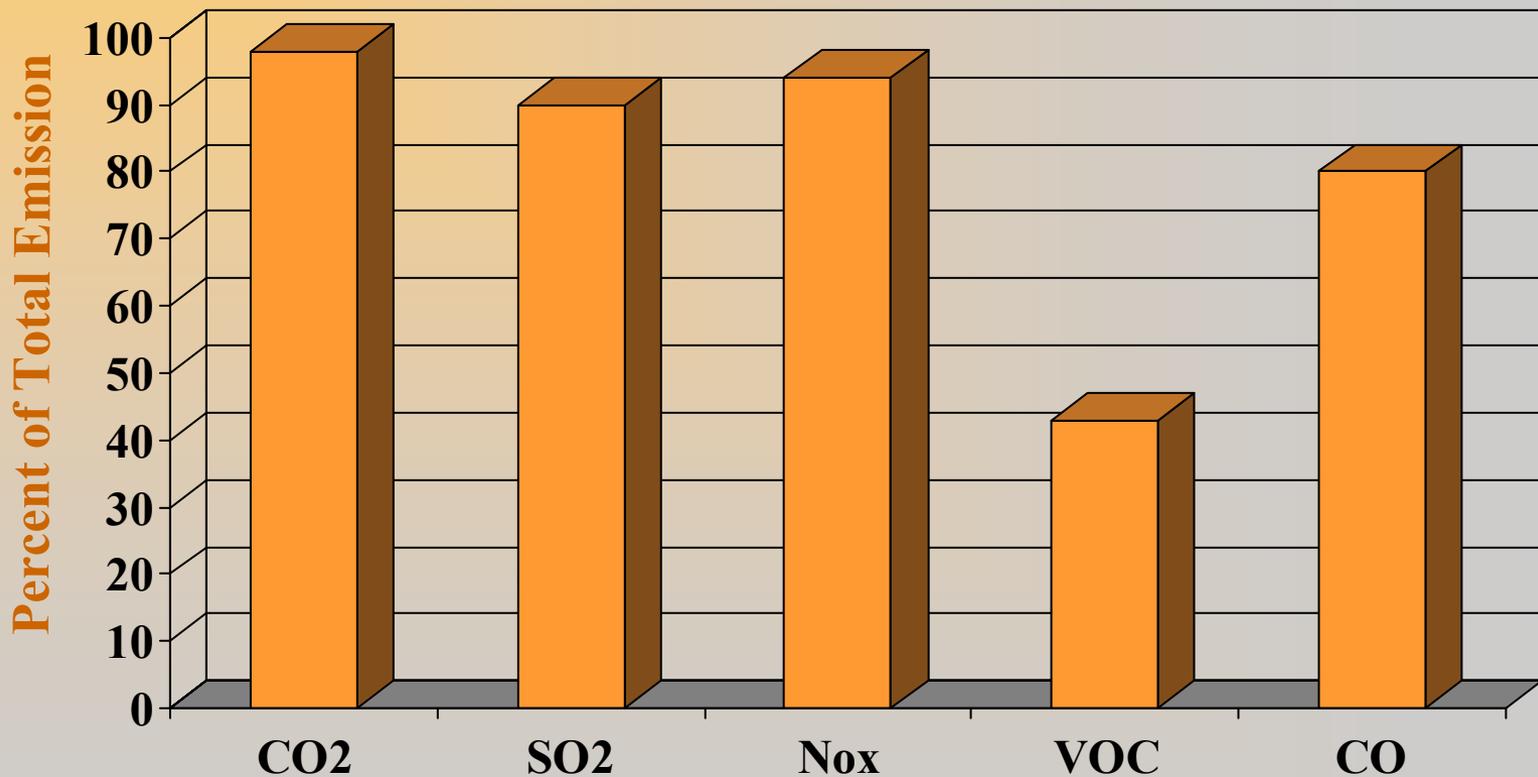
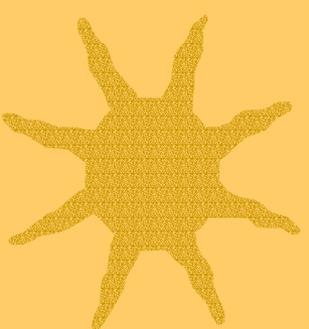
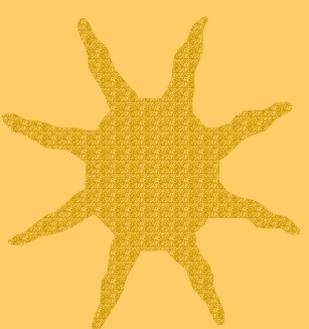
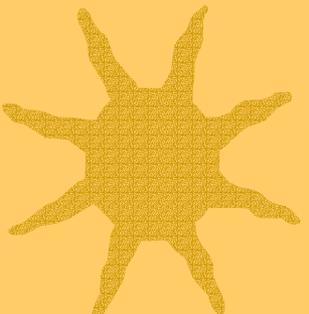


Power Industry Resource Mix (1997)





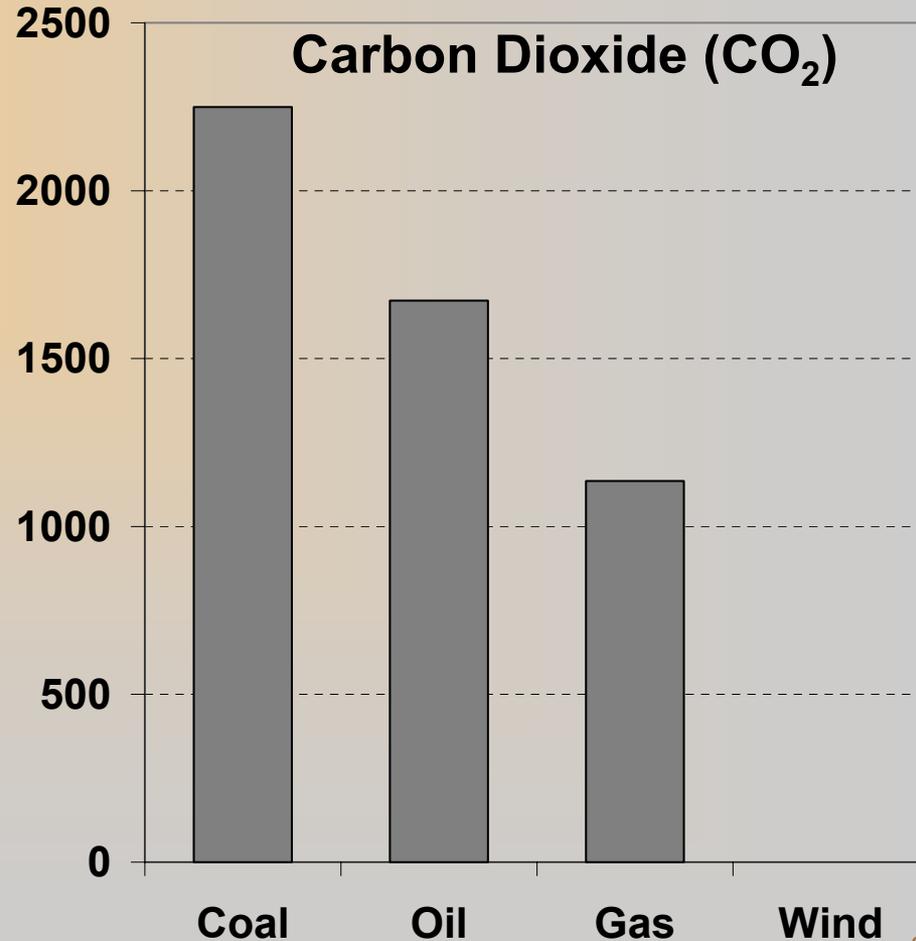
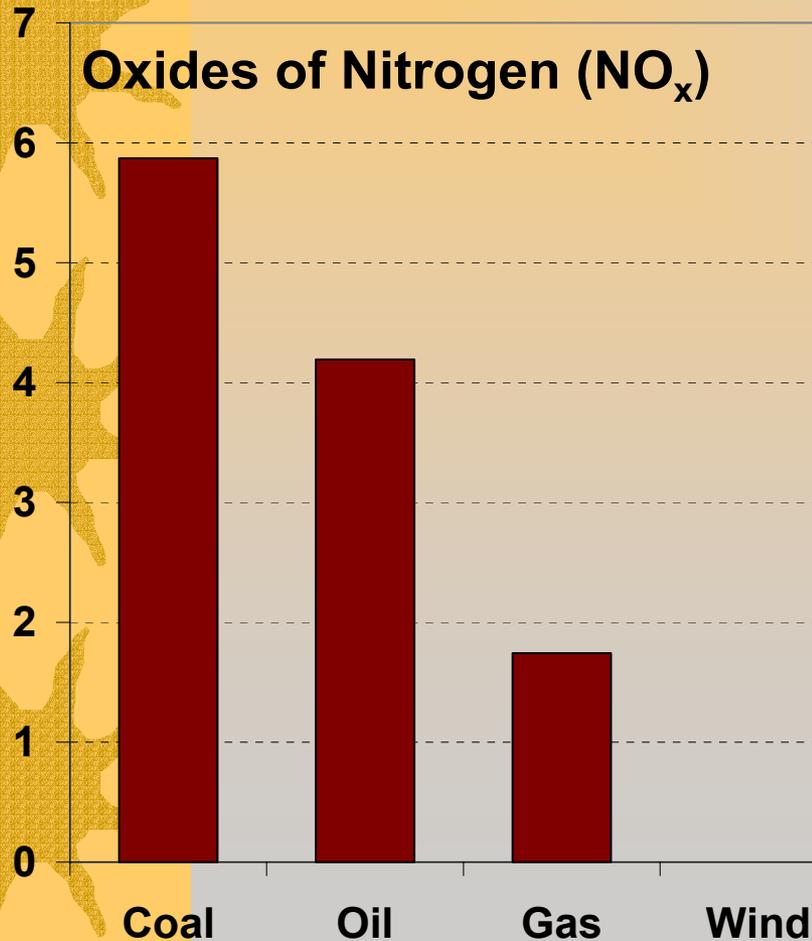
Combustion-based Energy Emissions



Criteria Pollutants under NAAQS (except CO2)
Source: 1999 Emissions Trends Report, EPA

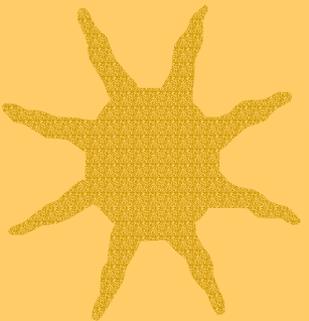


Emission Rates: Fossil vs. Wind (lb/MWh)

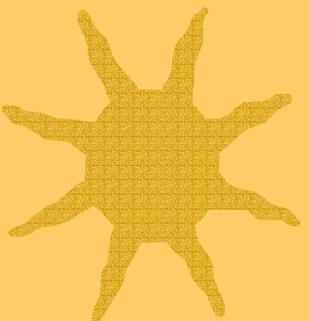
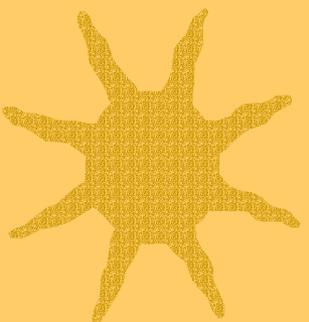




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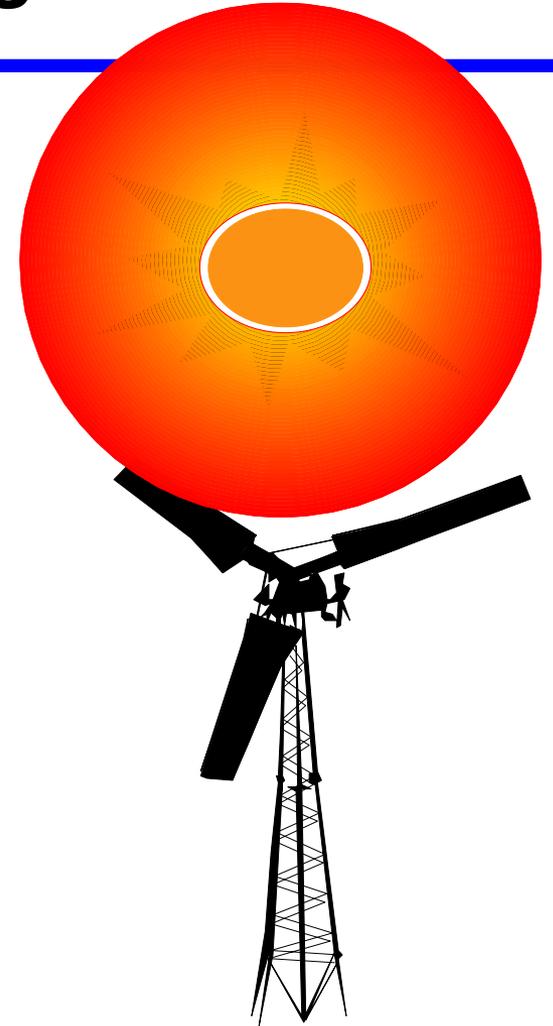


Solar and Wind are Preferred Energy Resources

Energy Resource

Somewhat or Strongly Favor

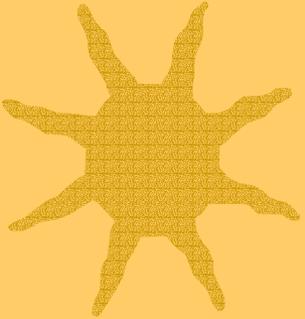
Solar	93%
Wind	91%
Natural Gas	83%
Geothermal	71%
Landfill Gas	64%
Forest Waste	59%
Nuclear	31%
Coal	24%





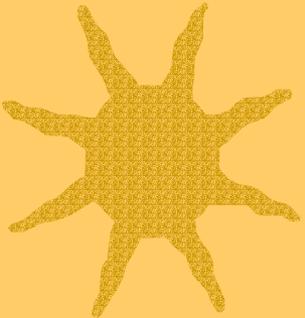
Status of Renewables Today

www.eren.doe.gov/state_energy/states.cfm



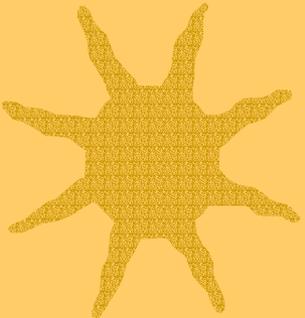
★ Wind Energy

- Cost 4-5 cents/kWh
- Down from 40 cents in 1980



★ Solar photovoltaics

- \$1 billion global industry
- Cost 25-30 cents/kWh
- Down from \$1 in 1980



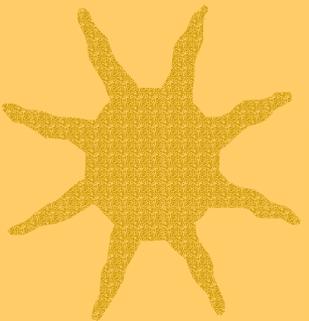
★ Biomass Power

- 350 power plants in U.S.
- 7,000 MW of power
- Cost 6-12 cents/kWh and coming down

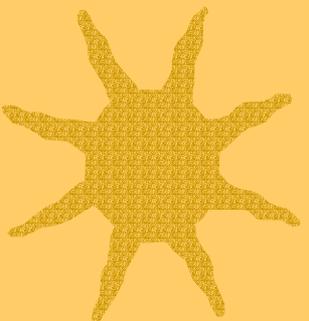
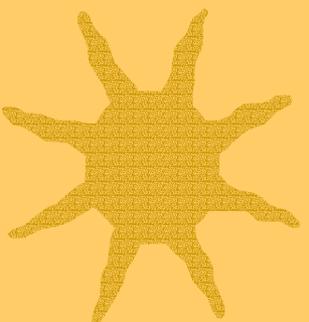




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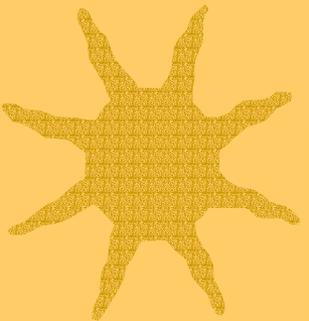


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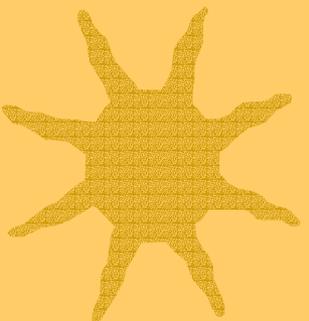
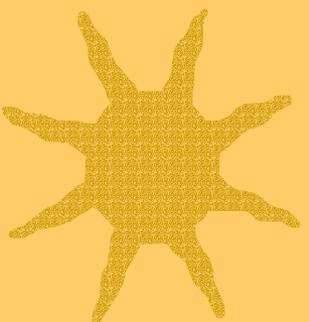




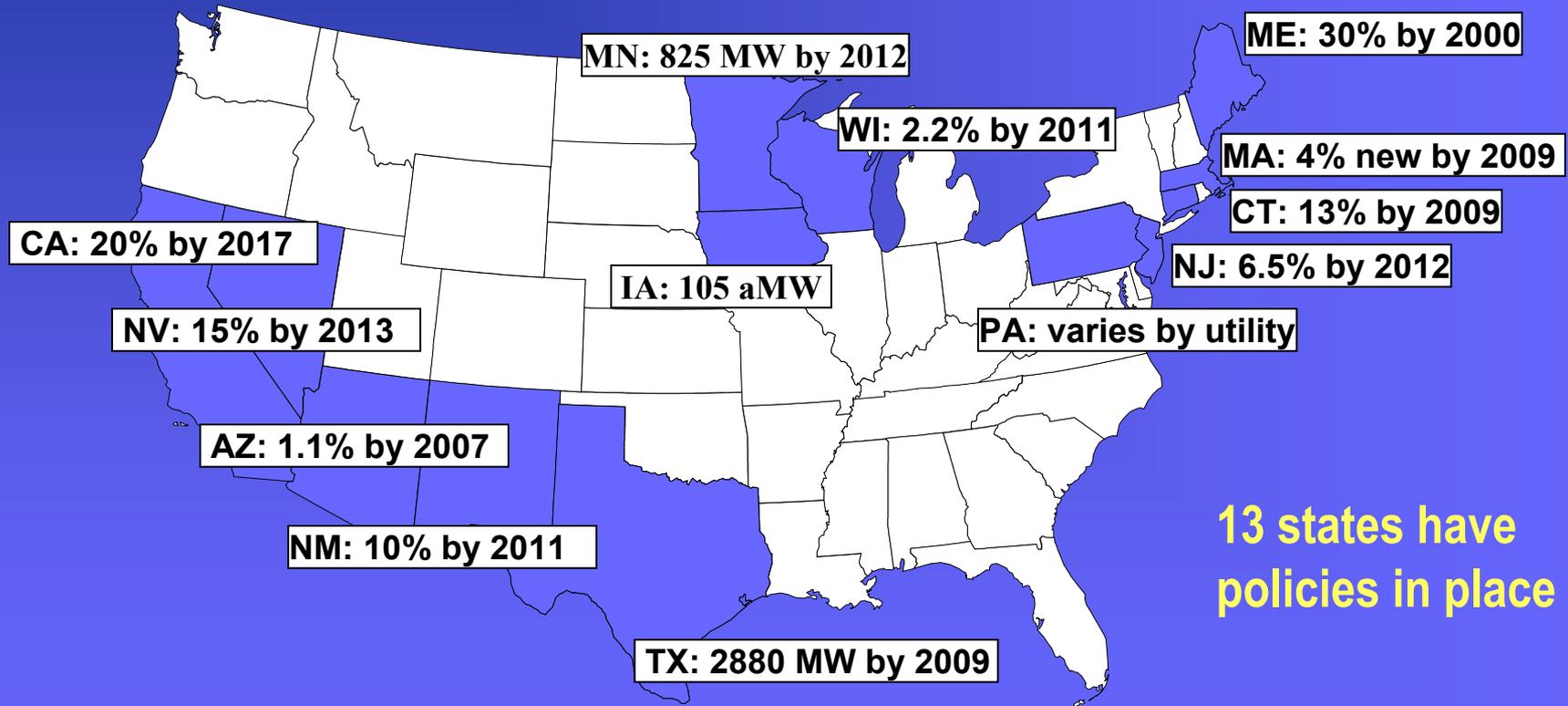
State Policy Options



- Renewable portfolio standards
- Renewable energy funds
- Financial incentives
- Net metering
- Green pricing requirements



Renewables Purchase Requirements

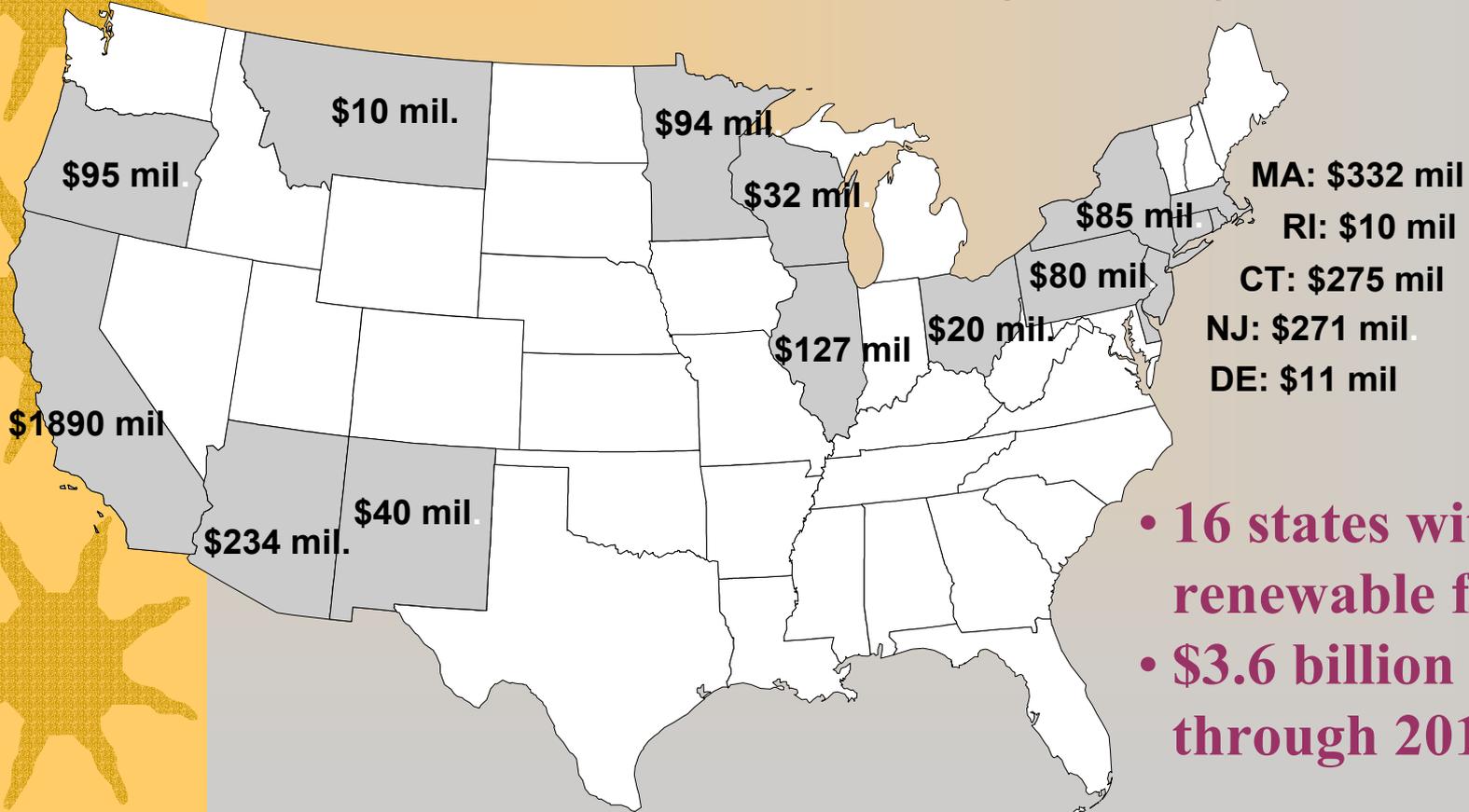


13 states have policies in place



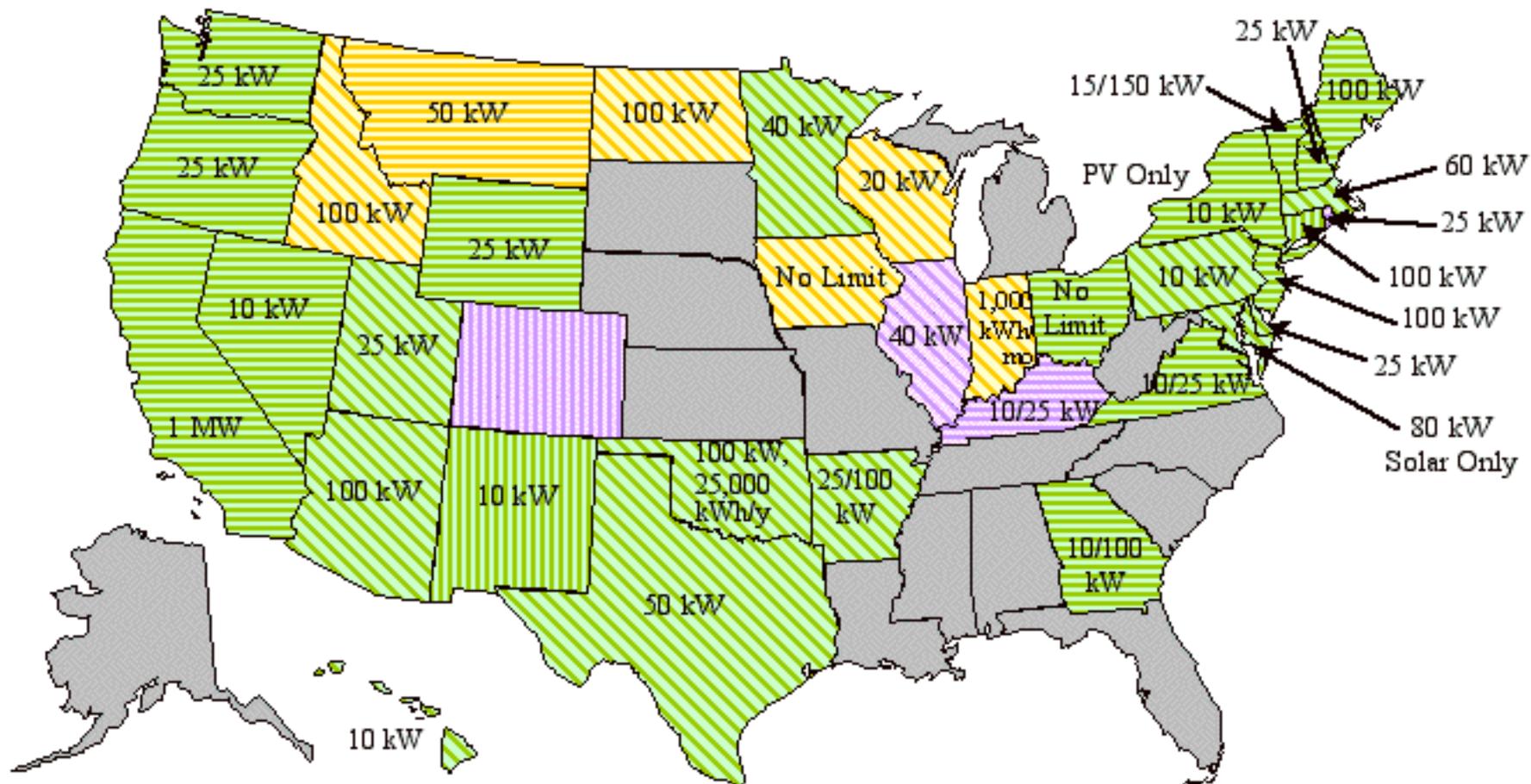
State Renewable Energy Funds

Cumulative 1998-2012 (million \$)

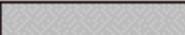


- 16 states with renewable funds
- \$3.6 billion collected through 2012

Net Metering By State

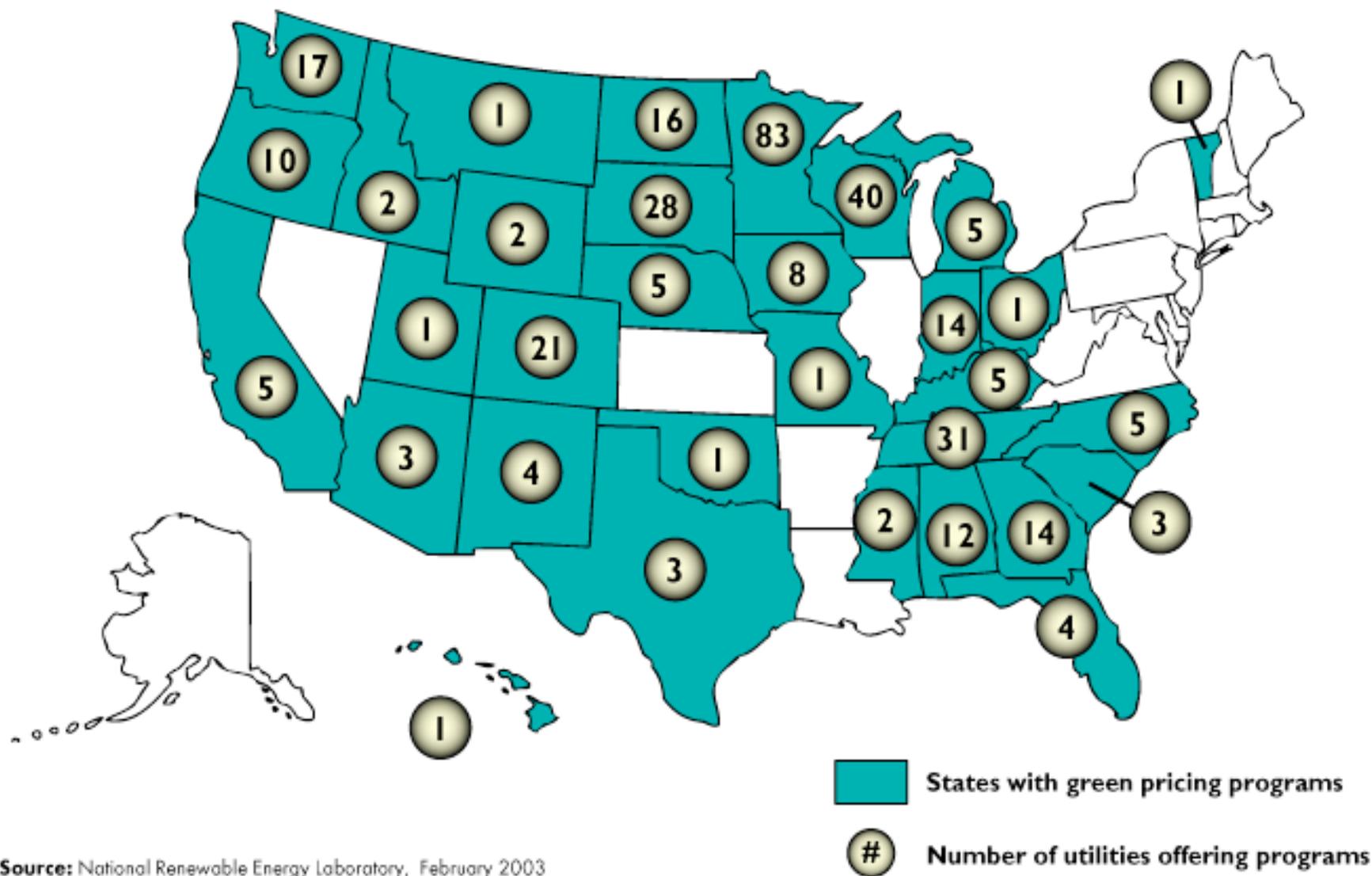


-  Monthly Net Metering
-  Annual Net Metering
-  Varies by Utility or Unknown

-  None
-  Individual Utilities
-  Investor-Owned Utilities Only, Not Rural Cooperatives
-  Investor-Owned Utilities and Rural Cooperatives

Revised: 15 Aug02

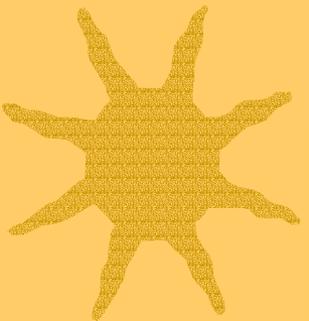
Utility Green Pricing Activities



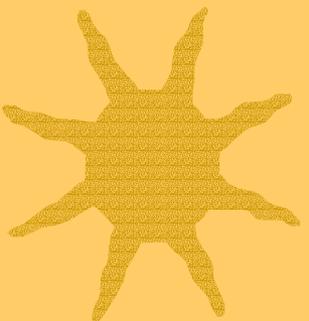
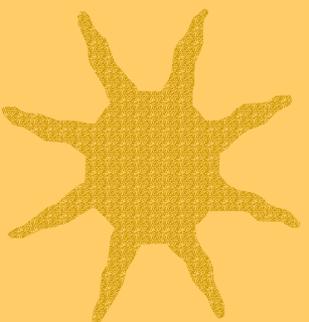
Source: National Renewable Energy Laboratory, February 2003



State Financial Incentives



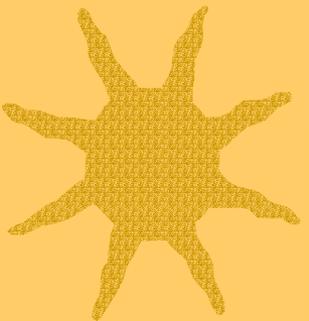
- Production tax credits (MD, MN, OK)
- Investment tax credits (MD)
- Sales tax exemptions (FL, RI)
- Excise tax exemption (SD)
- Income tax credits (NY, RI)
- Small system rebates (FL, CA)





State Energy Offices

www.NASEO.org/members/states.htm

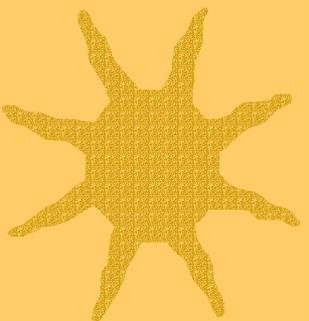
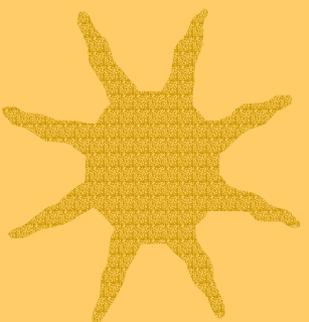


★ 55 States and Territories

★ Locations:

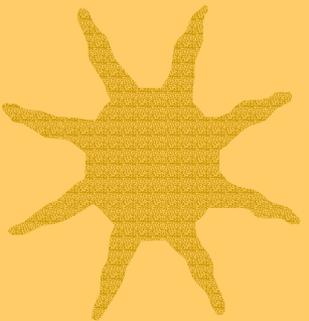
- Environmental departments
- Community development offices
- Public Utility Commissions
- Natural Resource Departments
- Governors' offices

★ \$65 million annually in DOE funding for efficiency/renewables

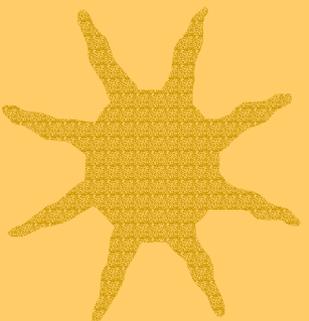
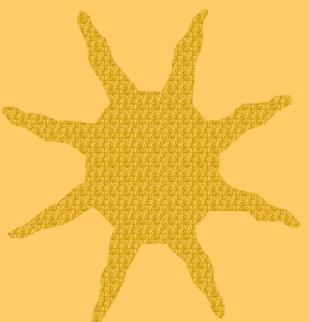




Topics

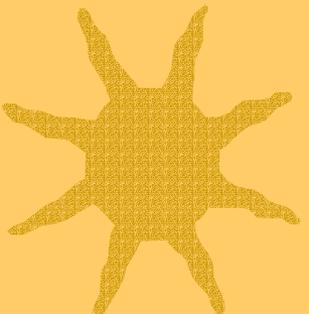


- ★ Energy-Air nexus
- ★ Status of clean energy technologies
- ★ State developments
- ★ National Energy Policy
- ★ DOE's programs
- ★ Opportunities for collaboration

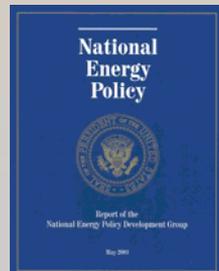
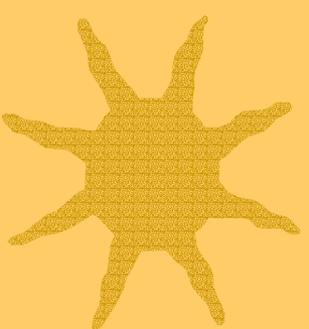




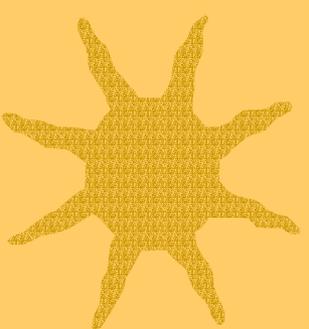
Role of Renewable Energy



“Sound national energy policy should encourage a clean and diverse portfolio of domestic energy supplies...Renewable & alternative energy supplies not only help diversify our energy portfolio; they do so with few adverse environmental impacts.”

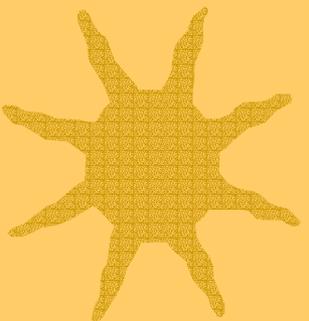
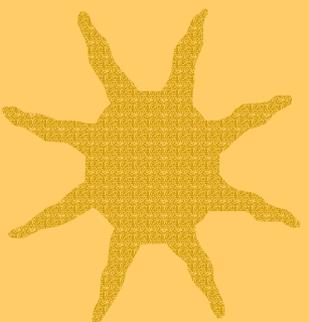
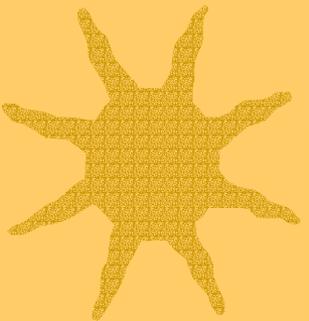


- National Energy Policy, May 2001

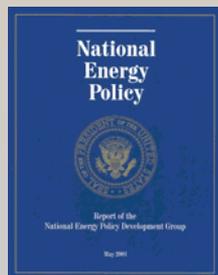




Role of Energy Efficiency



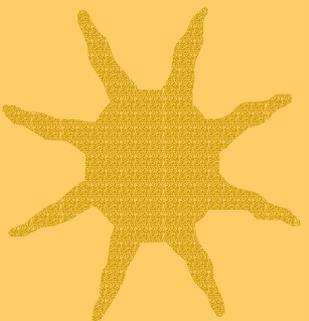
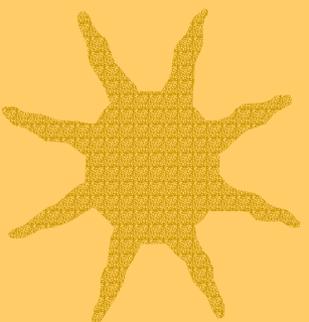
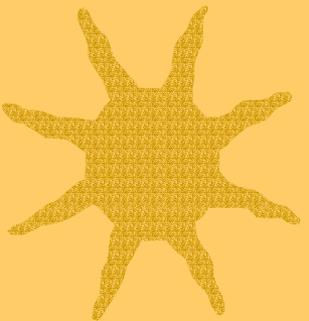
“Greater energy efficiency helps us make the most of U.S. energy resources, reduces energy shortages, lowers our reliance on energy imports, mitigates the impact of high energy prices, and reduces pollution.”



- National Energy Policy, May 2001



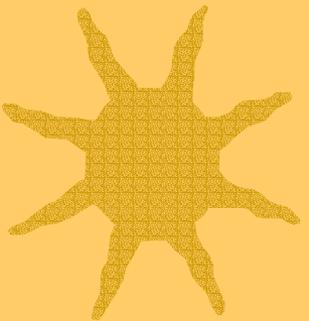
Federal Financial Incentives



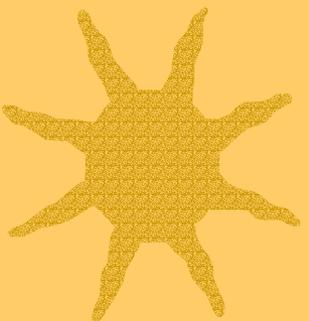
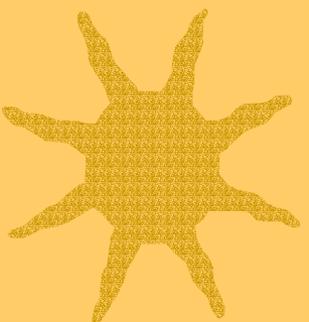
- **Business investment tax credit**
 - 10% for solar and geothermal projects
- **Accelerated depreciation**
 - 5-year accelerated depreciation schedule
- **Renewable energy production incentive**
 - Annual payments of 1.5¢/kWh (inflation-adjusted) available to publicly owned utilities for first 10 years of operation of new wind, solar, biomass & geothermal projects
 - Subject to annual congressional appropriations



Topics



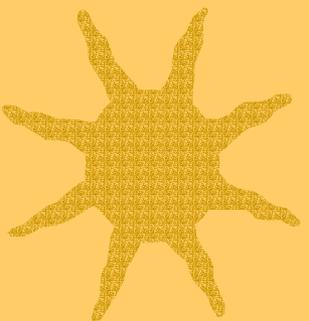
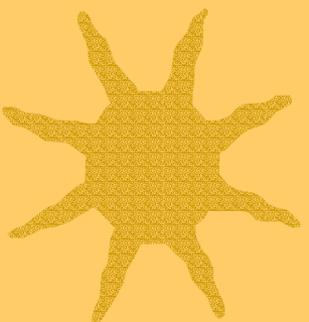
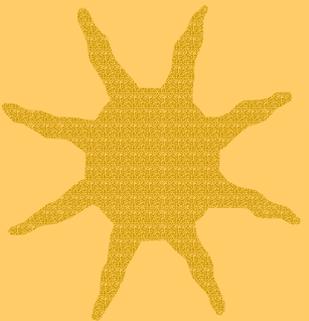
- ★ Energy-Air nexus
- ★ Status of clean energy technologies
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DOE Clean Energy Programs

www.eren.doe.gov

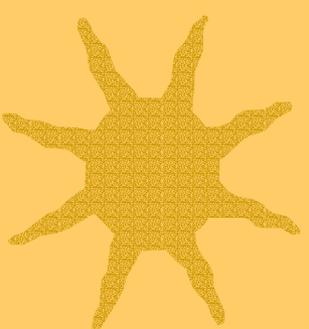
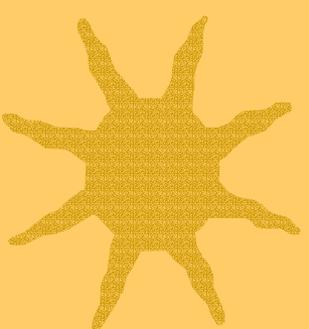
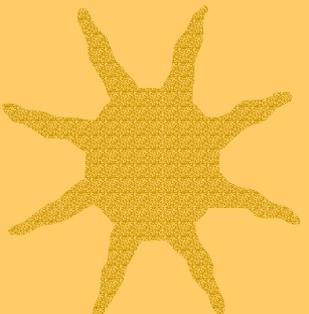


- Weatherization Assistance Program
- State Energy Program
- Regional Biomass Energy Program
- Clean Cities
- Rebuild America
- Building America
- Green Energy Parks
- Geopowering the West
- Federal Energy Management Program
- Wind Powering America
- Million Solar Roofs
- Buildings Codes and Standards
- State Energy Program Special Projects
- EnergySmart Schools
- State Industries of the Future
- Industrial Assessment Centers
- Distributed Generation



Goals

Wind Power

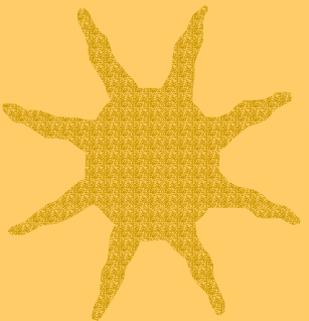


- Reduce cost of energy from large wind systems to 3 cents/kWh, competitive with conventional fuels in bulk electricity markets in Class 6 wind areas by 2004 & Class 4 wind areas by 2010
- Develop small wind turbine systems for residential & small business applications by 2007 that achieve costs in the range of 10-15 cents per kWh in Class 3 wind areas
- By 2005, increase from 12 to 32 the number of States with more than 20 MW of installed windpower capacity
- By 2010, increase number of states with more than 100 MW from 8 to 16

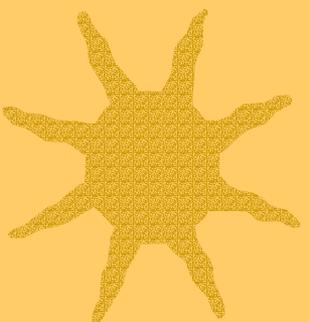


Goals

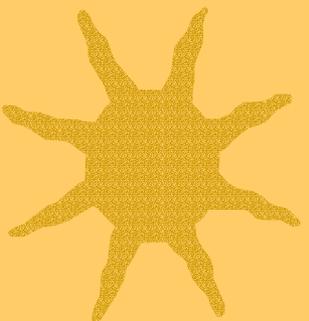
Biomass



- By 2005, develop bioconversion technologies to reduce cost of cellulosic ethanol from \$1.40 to \$1.20 per gallon, & by 2010 to \$1.07 per gallon



- By 2008, develop and verify technologies & systems needed to co-produce at least one cost-competitive bio-based chemical or material product, along with biofuels and/or biopower

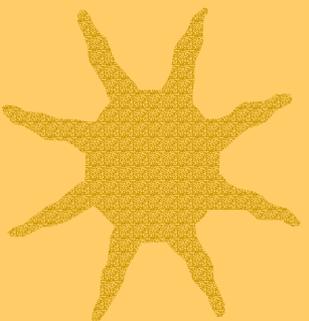
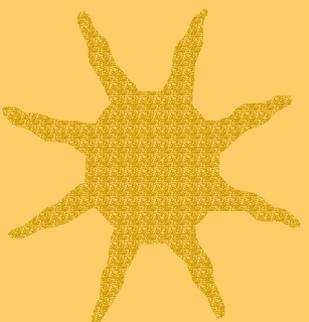
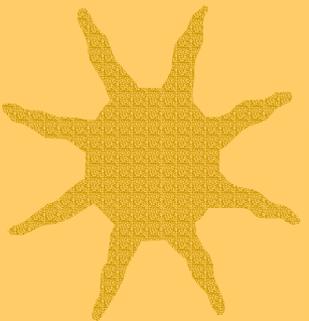


- By 2010, develop & verify gasification technologies that enable increased efficiency of biopower systems from current 20% to 30-35%



Goals

Building Technologies



- By 2008, develop design packages that can achieve, relative to the 2000 model energy code, purchased energy efficiency increases of:
 - 40-70% in new homes
 - 20% in existing homes
 - 40% in new commercial buildings
 - 15% in existing commercial buildings
- By 2008, introduce 5 new cost-effective, ready-for-market, efficient building products
- By 2010, develop cost-effective, marketable Zero Energy Building design packages capable of providing 100% of net residential building energy annually

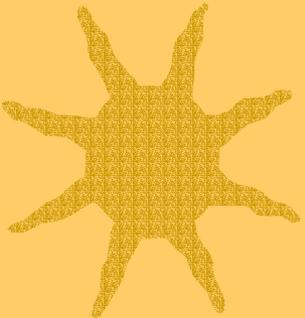
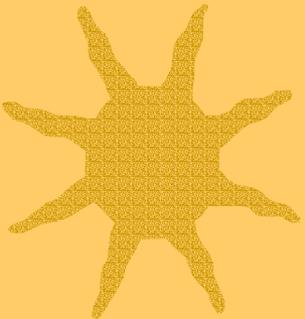
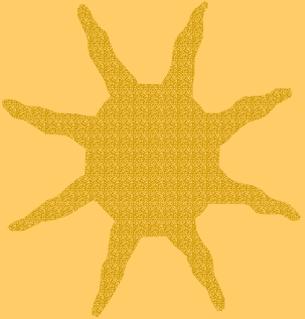


Goals

Hydrogen & Fuel Cells



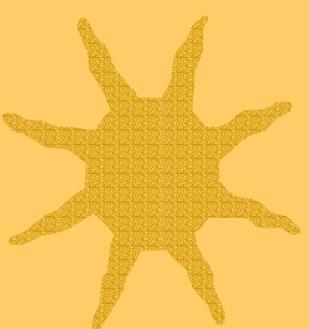
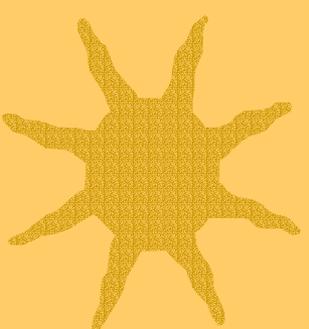
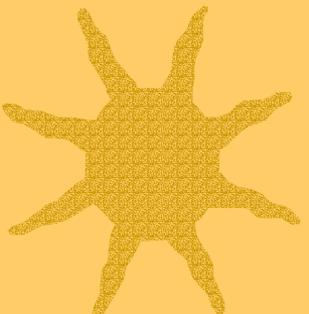
- Develop technology that will reduce cost of producing hydrogen from natural gas from \$5.00 per gallon of gasoline equivalent in 2000 to \$1.50 per gallon of gasoline equivalent in 2010.
- Reduce production cost of hydrogen- or gasoline-fueled, 50kW vehicle fuel cell power system (including hydrogen storage) from \$275/kW in 2002 to \$45/kW in 2010 at production levels of 500,000 units per year.
- Increase the efficiency of natural gas or propane-fueled 50kW stationary fuel cell systems from 35% in 2002 to 50% in 2010.





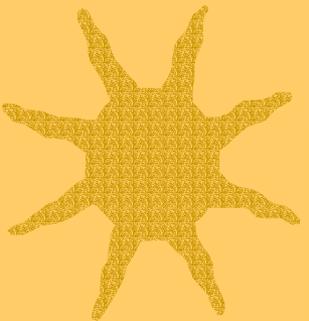
EERE's Regional Offices

<http://www.eere.energy.gov/rso.html>

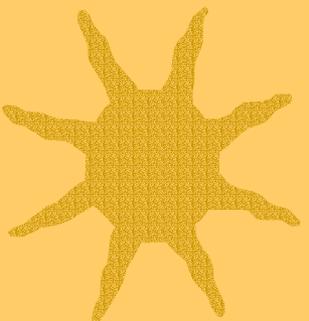
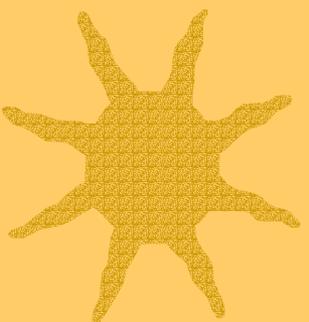




Topics

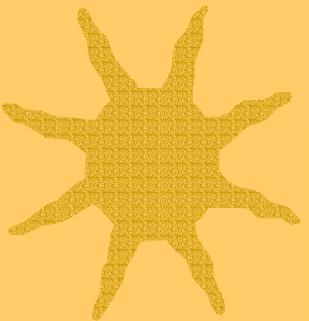


- ★ Energy-Air nexus
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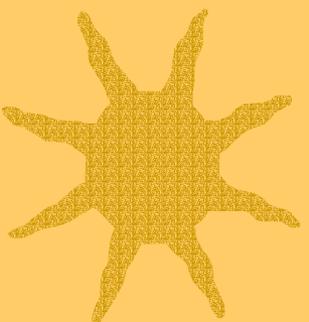




Potentials for collaboration

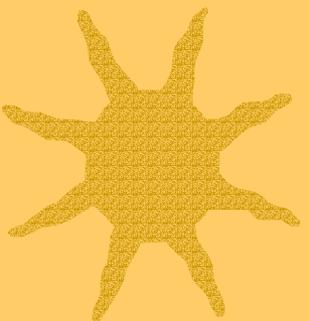


★ EPA, States & localities looking for new tools to meet requirements of CAA



★ Energy efficiency & renewable energy perfectly matched to task

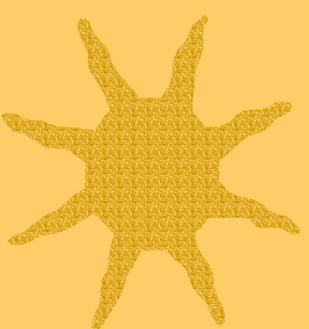
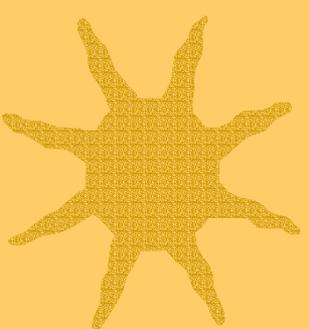
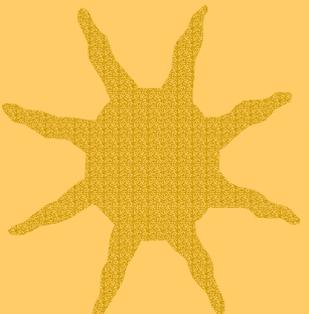
- Multi-pollutant
- Multi-media
- Multi-sector
- Multi-objective



★ EPA/DOE collaboration can occur more easily at regional than at national level



Why Federal-State Partnership Important

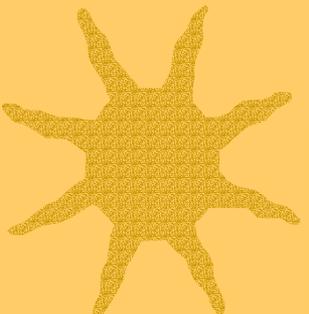


- ★ States & localities have greater capital resources than EERE
 - Annual DOE budget for efficiency/renewables is \$1.4 billion annually
 - 23 States have systems benefit charges, totaling \$1.7 billion yearly
 - Clean Air Act compliance investments 17 times more than EERE budget
- ★ States have regulatory leverage
 - Issue 90% of all environmental permits
 - Conduct 75% of all enforcement actions
- ★ Feds have technical & financial assistance



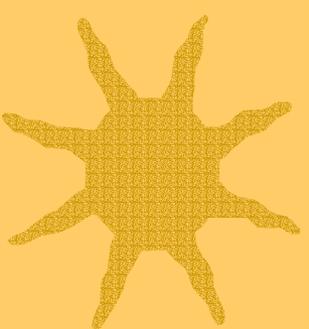
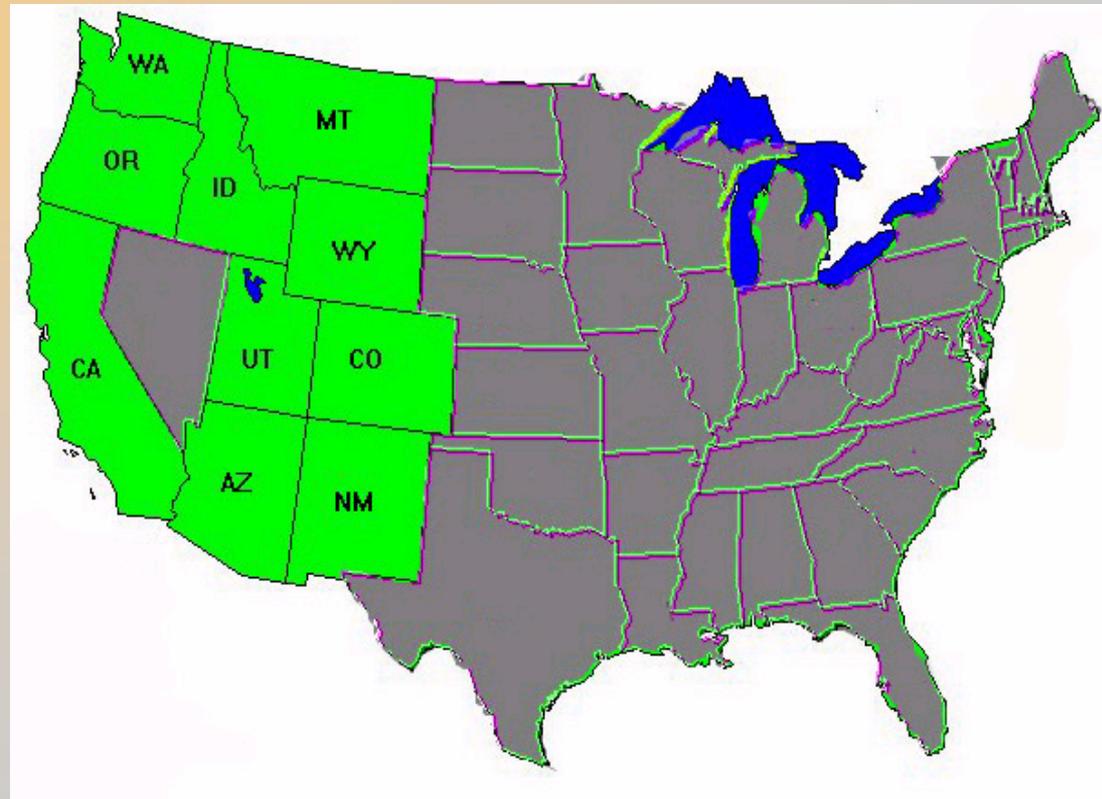
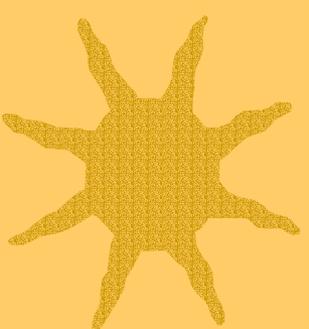
SIPs

Western Regional Air Partnership



Goal:

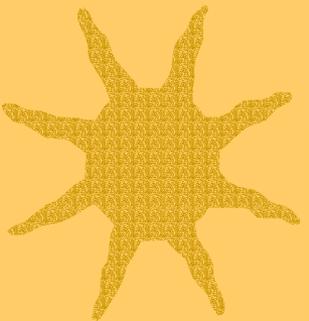
- ★ 10% of electricity from renewables by 2005
- ★ 20% by 2015



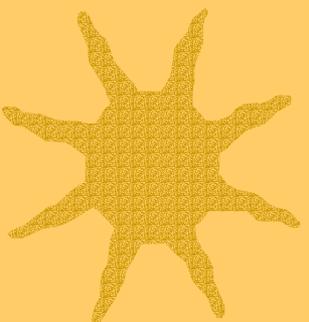


SIPs

WRAP's State Policy Ideas

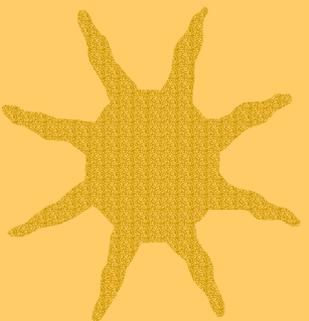


★ Renewable Energy Portfolio Standard or System Benefit Charge as core financial incentive strategies.



★ State and local tax incentives

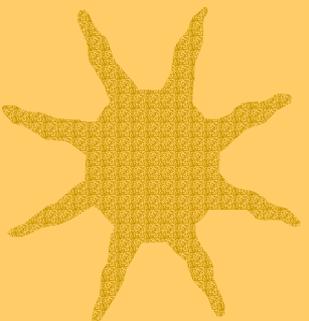
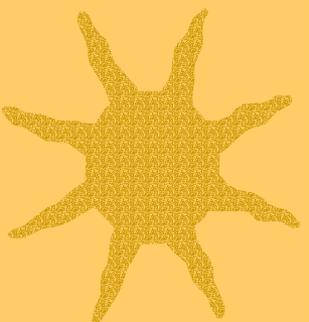
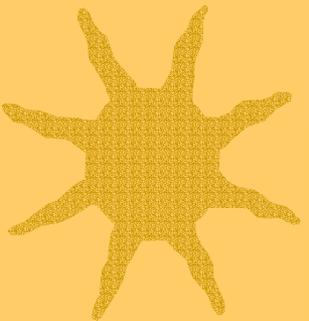
★ State government leadership with green power purchase requirements.



★ Policies supporting efficient markets.



Supplemental Environmental Projects



- ★ **In negotiation of settlement of federal or state enforcement action, violator can be given opportunity to voluntarily invest in environmentally beneficial project(s) in lieu of portion of penalty**
- ★ **Energy efficiency and renewable energy projects can often qualify**

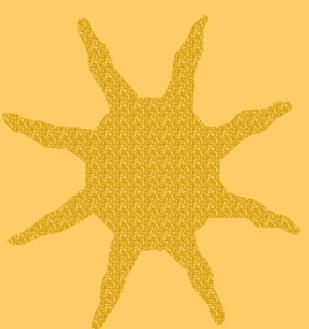
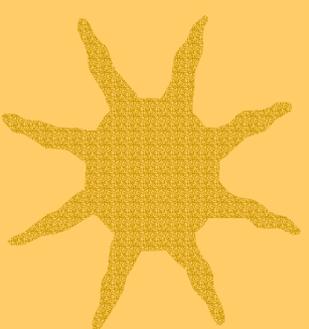
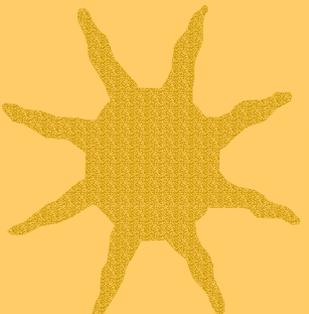


SEPs

Renewable Energy in CO



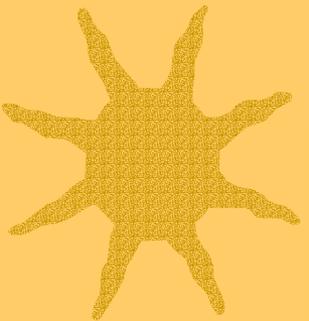
- ★ \$252,800 civil penalty
- ★ Company paid \$303,000 in SEP
 - 1:1.2 multiplier for tax & other benefits
- ★ Company purchased wind power for 5 years
 - 2.5 cent green power premium
 - Total purchase = 12 million kWh
- ★ Utility set up escrow account for funds
- ★ Utility installed new turbine to meet demand





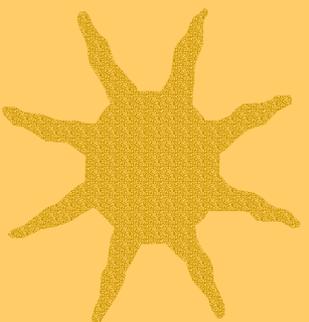
SEPs

Renewable Energy in CO



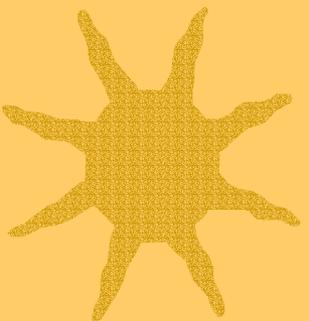
★ Annual emissions avoided

- 97 tons of NO_x
- 73 tons of SO₂
- 3,640 tons of CO₂



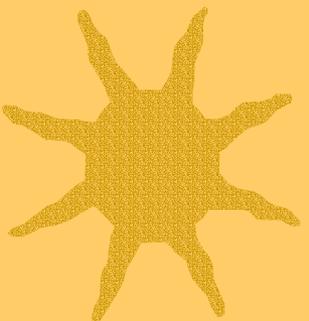
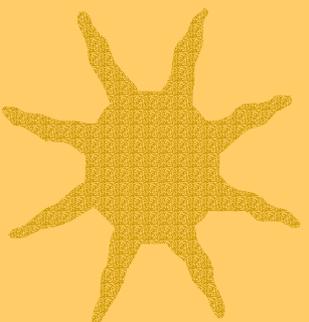
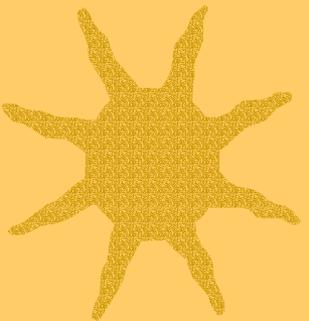
★ Environmental benefits equivalent to

- 1,820 tons coal not burned
- 1,011 acres trees planted





Another Renewable Energy SEP Example

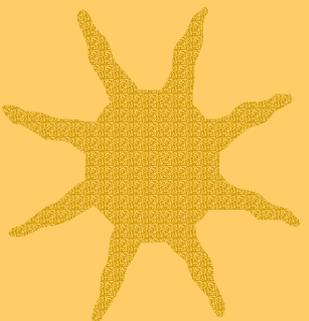
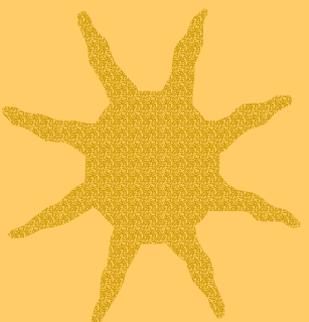
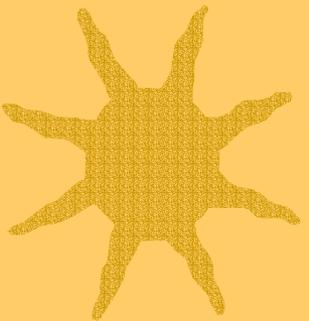


- ★ **State of MD 2002 air pollution case**
- ★ **The utility defendant agreed to fund three SEP projects which will result in the installation of PV at two schools and a local environmental center**



SEPs

Alternative Fuels in Texas



- ★ 2001 State settlement resulted in \$217k invested in low-emission vehicles for the Brazosport School District, Head Start in Brazoria County and the City of Freeport
- ★ 2002 State settlement resulted in \$70k invested in alt-fueled buses for the City of Odessa
- ★ 2002 State settlement resulted in \$26k invested in alt-fueled vehicles for the City of Houston

StEPP Foundation **Strategic Environmental Project Pipeline**

Funds renewable energy, energy efficiency and pollution prevention projects with significant, measurable environmental benefits.

Strategy

- ★ **One Stop Project Identification, Screening, Management & Oversight**
- ★ **Turnkey for SEP's**
- ★ **Community Benefits**
- ★ **Projects get in the ground**
- ★ **Leveraging of other funds**

StEPP ONline

- ★ **Unique application mechanism:
Strategic Environment Project
Pipeline**
- ★ **Web site:**
www.stepfoundation.org
- ★ **Contact Ellen Drew, Executive
Director at 303-277-0932**



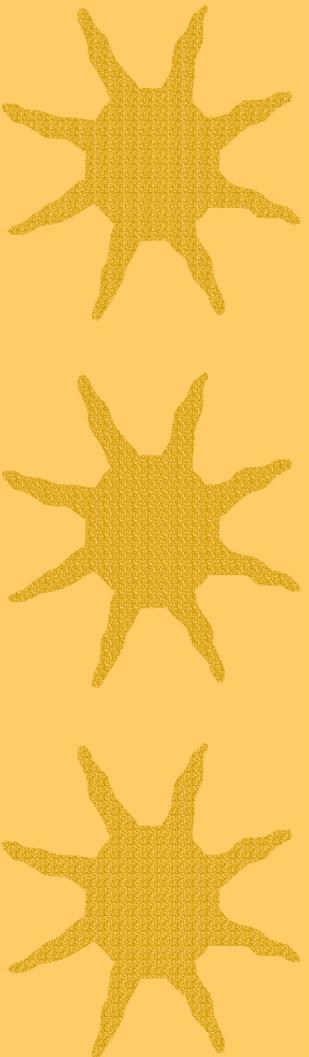
Where are the opportunities?

★ **State Implementation Plans (SIP's)**

- **Dallas SIP to include EE**
- **Credit for biofuels and alternative-fuel vehicles**
- **New 8-hour ozone and PM 2.5 standards**
 - **Regional air-shed**
 - **Transport important**
- **Regional haze compliance plans – WRAP activities**
- **Local air quality “hot spots” can benefit from EE/RE even if area is in attainment**

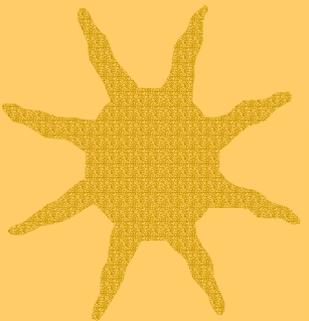
★ **Supplemental Environmental Projects**

- **EE/RE projects in negotiated settlement agreements**

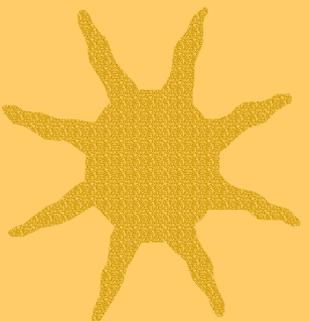
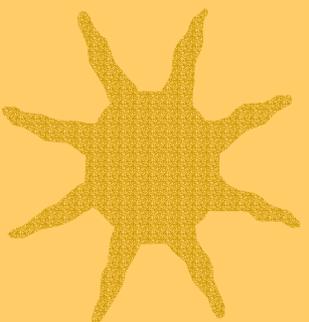




Why Should Businesses Care about Clean Energy SEP's?



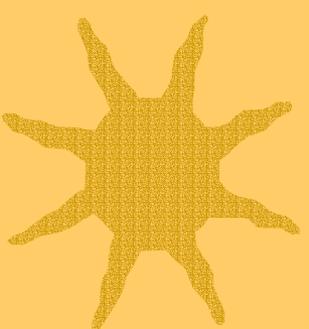
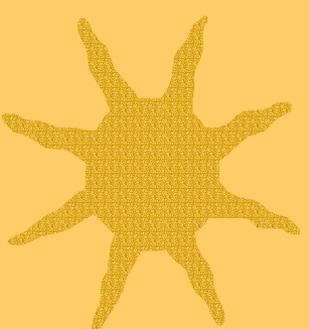
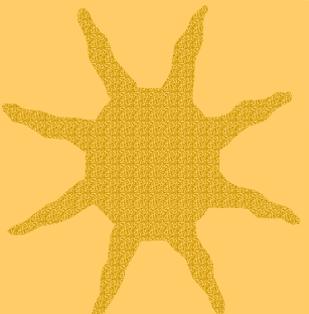
- ★ **Positive PR from doing EE/RE project, especially in community where violation occurred**
- ★ **Gain experience with EE/RE technologies**
- ★ **Hedge against volatile fuel prices**
- ★ **Environmental/energy leadership**
- ★ **Enhanced power quality**
- ★ **Enhanced energy security**
- ★ **Generation diversity**





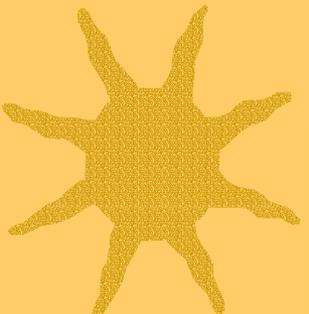
Other Potential Benefits to Business from Clean Energy SEP's

- ★ **SEP expenditures may be eligible to be treated as other business expenses (should consult tax advisor)**
- ★ **Business will likely have to report fines to shareholders**
- ★ **There may be other local, state, and/or federal tax benefits for EE/RE SEPs**
- ★ **Financial benefits may be offset by multiplier (determined during settlement negotiations); intent is to ensure business does not gain (short-term) financially from investing in a SEP**



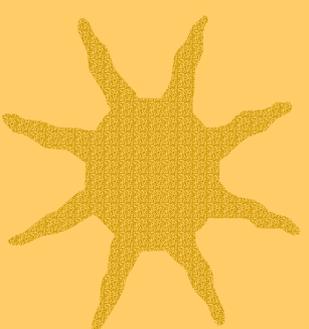


Other Ideas for Linking Emissions & Renewables



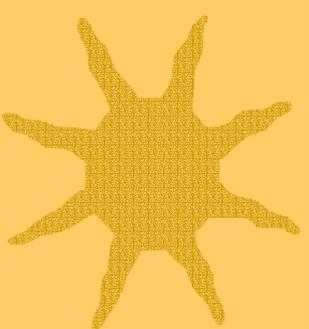
★ Regional partnerships

- WRAP allows renewables trading in states' regional haze SIPs



★ Emissions performance standards

- Mass, Conn require clean power
- New England's Generation Information System tracks emissions, renewables



★ Resource planning via “portfolio management”

- PUCs explore resource procurement strategies
- Regulatory Assistance Project (www.rapmaine.org)

★ Renewables-friendly transmission policies

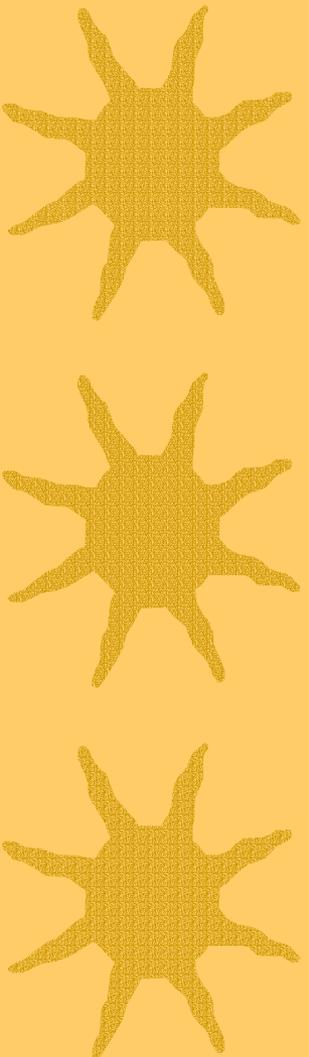
- FERC seeks elimination of barriers to renewables



Situation Analysis

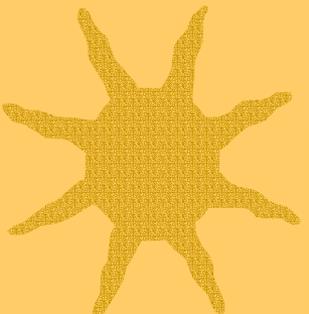
Challenges

- ★ Some EERE applications harder to measure & verify
 - Need to quantify/verify emission reductions
- ★ Need more precedent-setting examples and continuing collaboration to meet EPA's test for creditable measures
 - Permanence
 - Quantifiability
 - Enforceability
 - New reductions

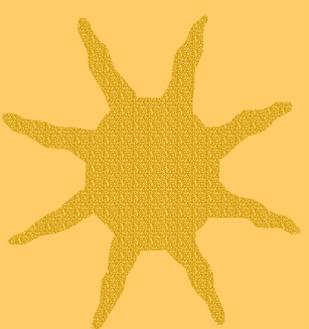
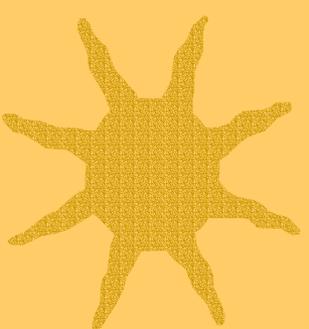




Progress to date

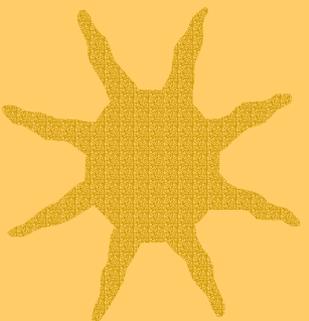
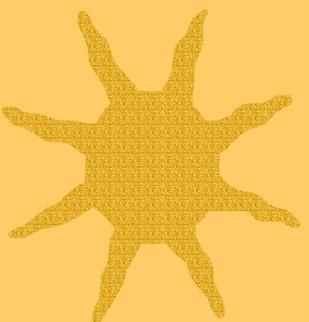
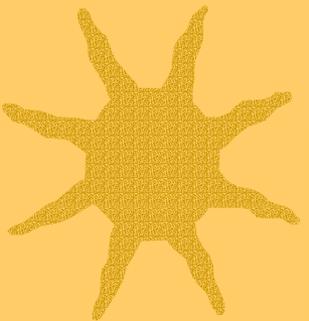


- ★ Several states and EPA regional offices negotiating clean energy SEP's
- ★ EPA drafts “innovative measures guidance” to encourage EERE in SIPs
- ★ EPA issues encouragement on use of EERE in SEPs
- ★ DOE/EPA collaborations underway in Regions 3,6,8
- ★ New partnership agreement signed by ASHTO, ECOS, NARUC & NASEO
- ★ Partners identify work plan for specific projects & funding





Conclusions ...



- ✓ Energy efficiency & renewable energy technologies offer tremendous potential as clean air tools
- ✓ Many policy options & programs already exist to promote growth in clean energy
- ✓ Federal R&D creating many more technologies in future
- ✓ Partnerships between DOE, EPA, States and businesses will help fulfill potential
- ✓ Contact us if you would like to consider partnering on a project
- ✓ Jerry Kotas – jerry.kotas@ee.doe.gov