EPA's Commitment to Clean Distributed Energy Resources

U.S. Department of Energy - DER Program Review Meeting

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Overview

- EPA's Perspective on DER
- Green Power Partnership
- CHP Partnership
- Emissions Benefits of DER
- Opportunities for Collaboration

Clean DER -- the Next Step in Pollution Prevention

Pollution Rate
(supply side)

← *Clean DER* reduce this

X

Amount of kWh
(demand side)

← 

reduces this

=

GHG Emissions

The DER Opportunity

- Distributed energy resources offer an opportunity to dramatically reduce the environmental footprint of power generation:
  - reduced line losses
  - combined heat and power can achieve efficiencies of 80% and higher
  - renewable energy applications
- But DER can also be less efficient and environmentally harmful

Clean DER Have a Key Role to Play

- Clean, efficient DER:
  - break the link between rising energy demand and air pollution
  - improve power system reliability
  - improve national energy security
- Clean DER technologies and policies are available today
- Market barriers prevent greater use of clean DER

DER Barriers

EPA's goal is to create a level playing field for clean DER:

- lack of recognition in environmental regulations of increased efficiency of DER
- inconsistent tax treatment
- lack of objective information about the benefits that clean DER have to offer
- lack of environmental recognition for clean DER

EPA Activities

- Most DER are not Federally regulated
- Advocating environmental policies and regulations that promote clean DER:
  - recognition of efficiency in the New Source Review program
  - SIP credit, SEP toolkit
- Promoting CHP in targeted markets through new CHP Partnership
- Encouraging renewable energy demand through Green Power Partnership

EPA's Green Power Partnership

VISION

- Transform the market to make green power purchasing a common business practice
- Establish a new renewable energy procurement benchmark:
  - ✓ Environmental Standards -- ISO 14000
  - ✓ Energy Efficiency -- Energy Star
  - ✓ Renewable Energy -- Green Power Partnership

GOAL

- 4.0 MMTCE of annual avoided emissions by 2010

GPP Partner Commitment

- **22 Partners from universities, cities, and industry have joined the Partnership**
- **Partners pledge to replace a portion of electricity consumption with green power in the next year**
  - eligible renewables: wind, solar, geothermal, biogas, and eligible hydro and biomass
  - 5% new renewable resources requirement
- **Commitment can be on a facility, operating unit, state-wide or national basis**
- **Commitment levels range from 2% to 15%**

GPP Partner Services

- **Technical information and support**
  - Green power procurement guide
  - Verification of environmental benefits
  - Cascade Engineering EE/RE assessment
  - City of Portland green power assessment
- **Peer network and exchange**
  - Newsletter/listserv/meetings
- **Public recognition**
  - Press placement, logo usage etc.

EPA's CHP Partnership

- Program launched last month with 18 Partners representing 10% of US CHP capacity
- Partners agree to work with EPA to develop and implement CHP projects
- State agencies also an outreach target: IL, TX, NY
- Initial focus: 1-50 MW size range
- Other key markets include:
  - data center CHP
  - district energy w/universities and local governments

CHP Partnership Tools and Guidance

- Guidance document on output-based DER regulations
- Catalog of DER technologies
- Participation in state Model DER Rule effort
- Inventory of diesel generators in NE
- Public recognition of environmental benefits of Partners' CHP facilities
- On-site technical assistance
- Permitting assistance

Quantifying DER Emissions Impacts

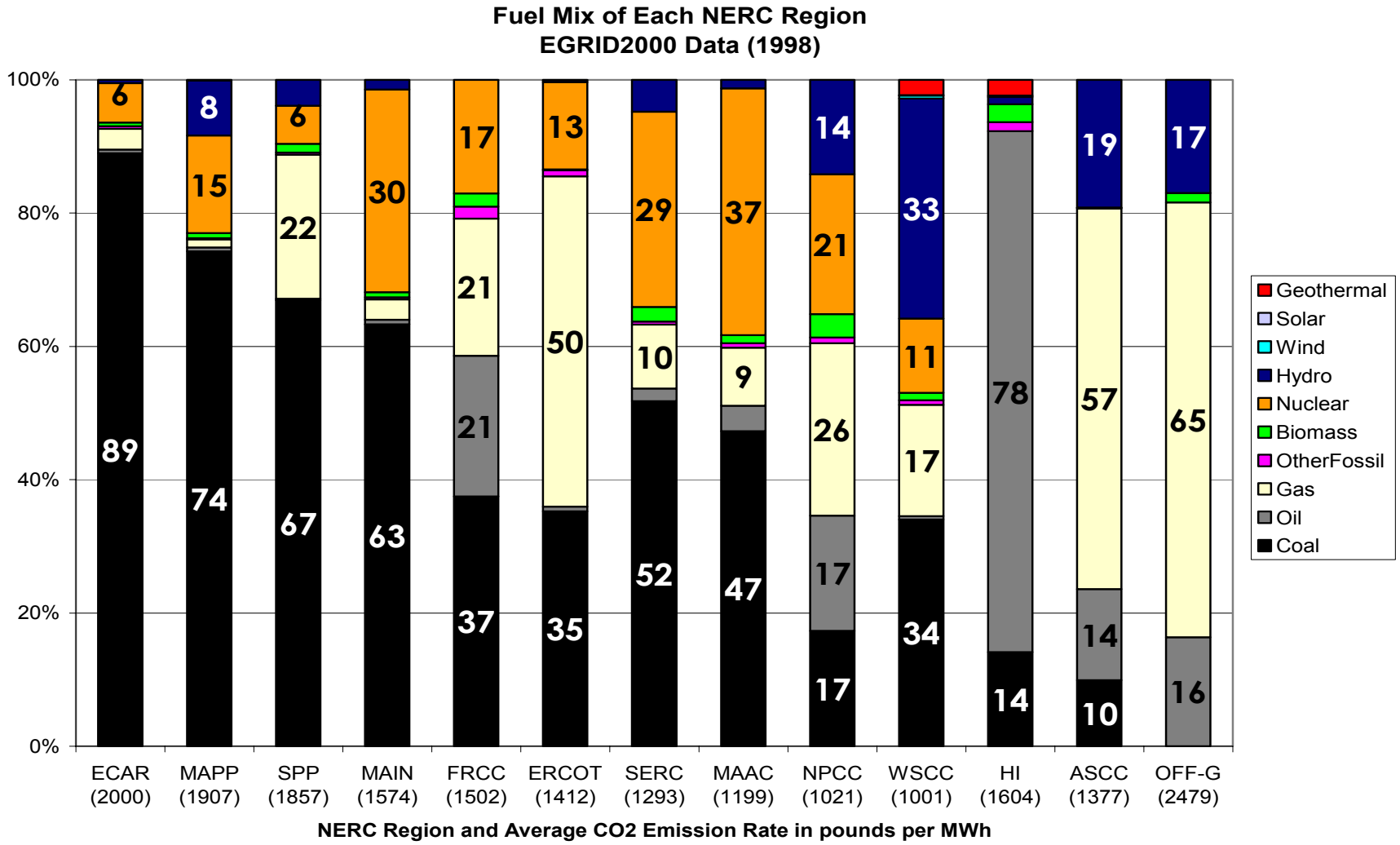
- Difficult to quantify what is being displaced from the grid:
  - varies by time of day/year
  - varies by region
  - now vs. 5 or 10 years from now
- At CHP projects, also need to understand what emissions are displaced by thermal output
- EPA developing improved methodology for estimating emissions benefits of DER

E-GRID Database

- EPA's E-GRID is a comprehensive overview of environmental impacts of U.S. electricity generation
- Uses include:
  - emissions disclosure
  - output-based standards
  - verification of environmental benefits of clean DER
- New E-GRID Features:
  - Mergers, divestitures captured
  - Mercury data for ~450 plants
- Coming E-GRID Features:
  - Power flows between grid regions, state imports & exports
  - Emissions Profile Tool

Download E-GRID at www.epa.gov/airmarkets/egrid

Regional Variability in Electric Generation Resources



Opportunities for Collaboration

- Modelling summit on DER technologies
- Review and comment on CHP NSR guidance
- Review and comment on program tools & documents
- Help recruit Partners for Green Power, CHP Partnerships
- Outreach to states on energy/environmental integration