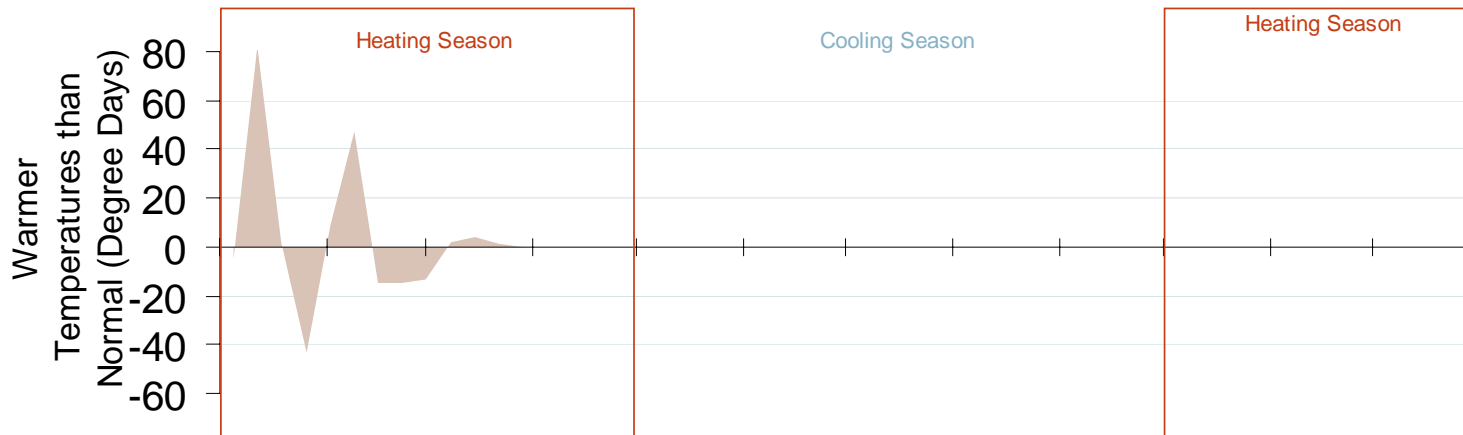
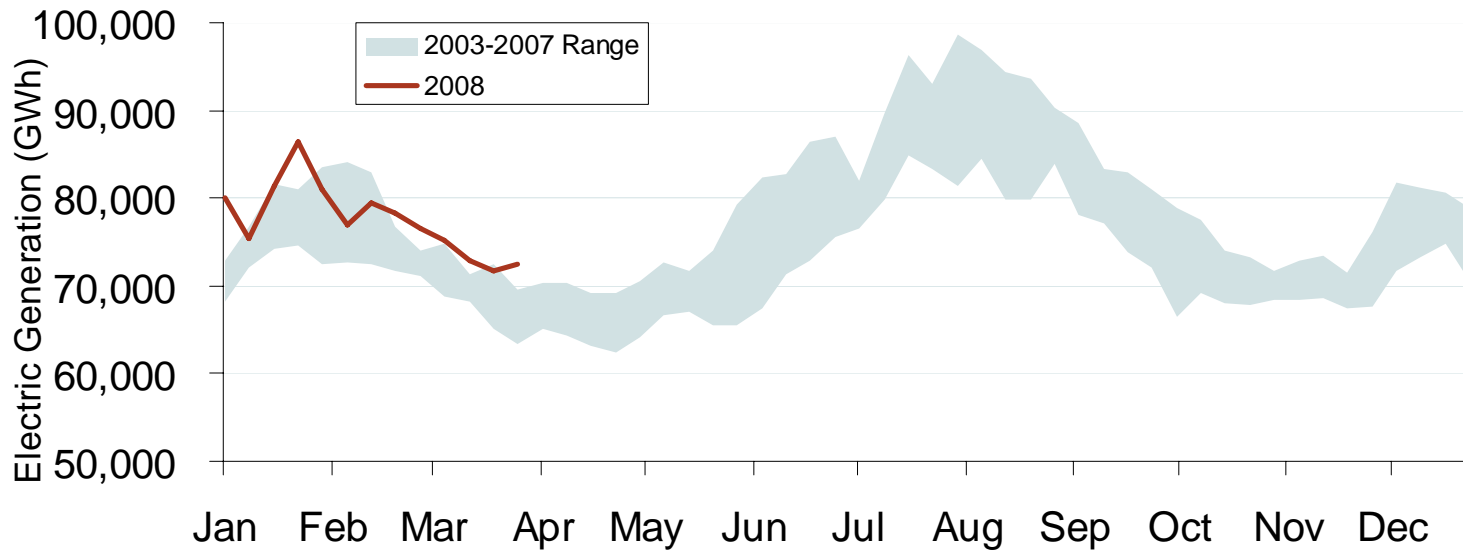
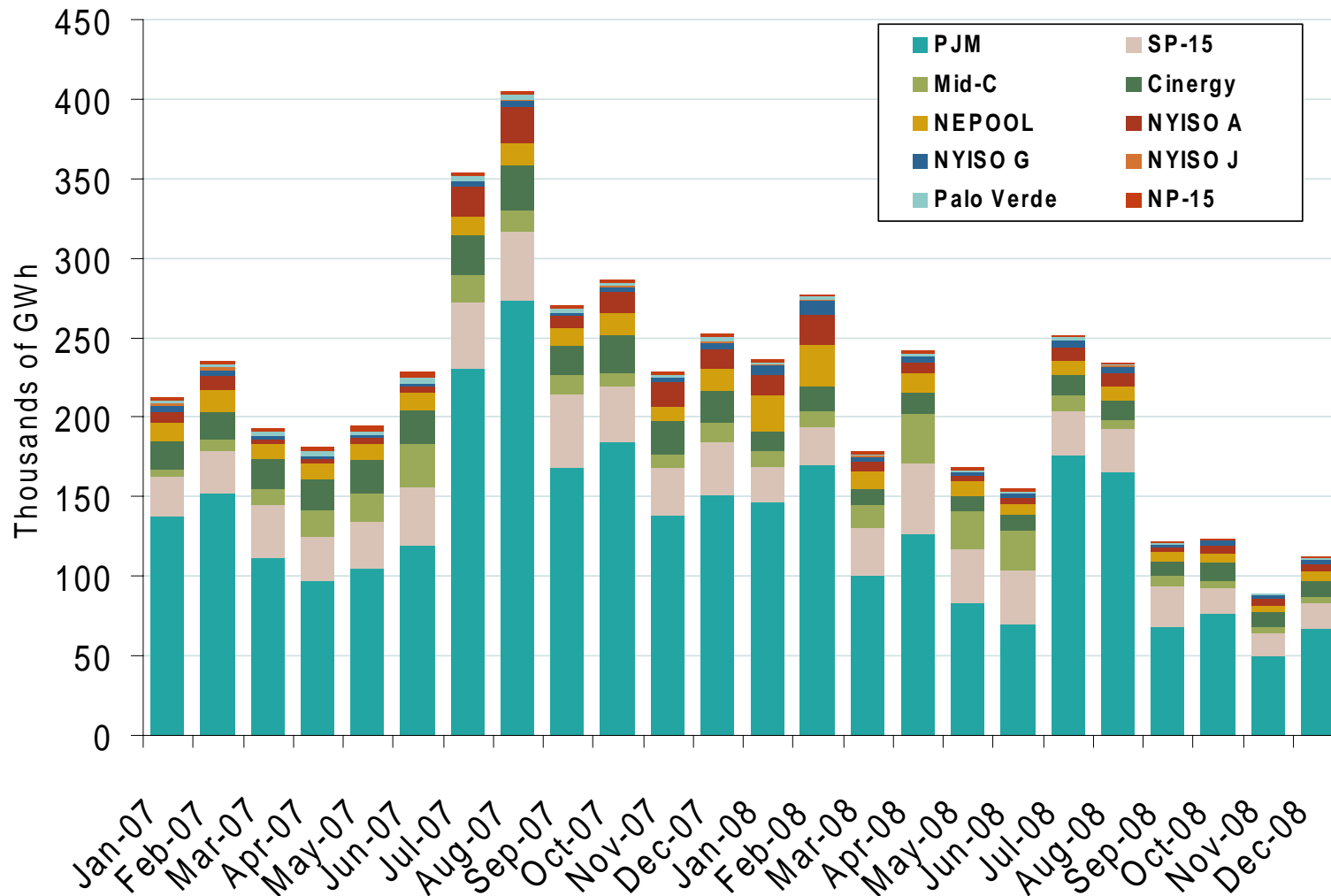


Weekly U.S. Electric Generation Output and Temperatures



Source: Derived from EEI and NOAA data.

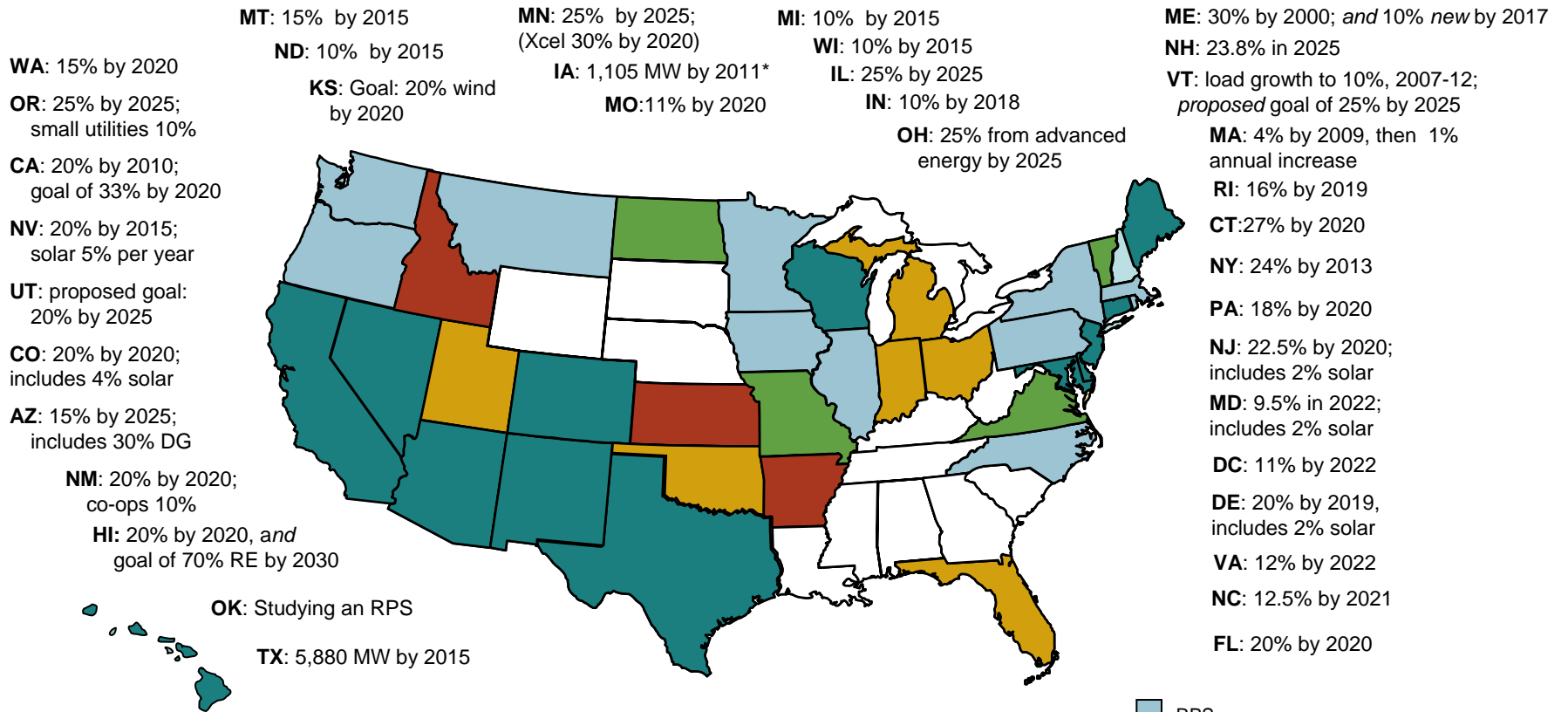
Financial Trading on ICE



Source: Derived from ICE data. ICE on-peak swaps (financial) volume include monthly, dual monthly, quarterly, and calendar year contracts traded for each month.

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Renewable Energy Portfolio Standards (RPS)



- RPS
- Strengthened/ amended RPS
- Voluntary standards or goals
- Proposed RPS or studying RPS
- Other renewable energy goal

Notes: Alaska has no RPS; DG is distributed generation; * Iowa has a goal of 1,000 MW of wind by 2010
Sources: Derived from data in: EEI, EIA, LBNL, PUCs, State legislative tracking services, Database of State Incentives for Renewables and Efficiency, and the Union of Concerned Scientists.

Updated March 7, 2008

Renewable Energy Portfolio Standards

- A Renewable Portfolio Standard (RPS) requires a percent of energy sales or installed capacity to come from renewable resources.
- 26 states and D.C. have renewable energy standards.
- Four states have enacted renewable goals without financial penalties.
- 54% of U.S. load is located in states with a renewable energy purchase obligation; an additional 6% is in states with a renewable energy goal.
- Nine states and D.C. have solar set-asides as part of their RPS; five offer extra credit to solar or distributed generation. New Jersey was the first state to create a separate solar credit tracking program (SREC). Maryland adopted a similar program in July 2007 modeled on New Jersey's.
- States revisit earlier RPS goals:
 - Arizona's governor asked the legislature to extend the RPS to cover all utilities.
 - A "green bill" in Massachusetts would increase the use of renewable energy and add energy efficiency.
 - The Maryland Energy Administration called for increasing the RPS and compliance payment; it also called for energy efficiency and advanced metering measures.
 - Iowa added a goal of 1,000 MW of installed wind by 2010, as its utilities long ago met their RPS requirements.
- Eleven states already include energy efficiency in their RPS or renewable goals.
- States which are considering an RPS or other renewable energy goals include:
 - Chambers in Michigan, Ohio and Vermont passed RPS legislation this session which include energy efficiency. Conference committees will try to reconcile details.
 - Indiana re-introduced an RPS from last session; in January, it failed in House Committee. The Senate is considering a separate bill.
 - Kansas' Governor Sibelius set a goal for wind to be 20% of generation by 2020.
 - In January, Oklahoma held a technical conference and issued a notice of inquiry on a possible RPS.
 - Idaho's Draft 2007 Energy Plan included a provision for utilities to give priority to demand response, energy efficiency, and in-state renewable energy over other resources.

Energy Efficiency Resource Standards (EERS)

ID: evaluating DR, EE, and RE as priority resources

MN: reduce fossil fuel use 15% by 2015 through EE, RE

MI: proposed EERS -- incremental savings increasing to 2012 for E&G

ME: EE in 10% new by 2017 RPS goal as 2nd priority

MT: Governor's initiative - 20% reduction by 2020

IA: mandated study

WI: RPS requires utility EE programs

VT: goal: EE & RE to meet 2007-12 growth

MA: EE & RE to meet 2007-12 growth

NY: goal - reduce 15% of forecast energy use by 2015

CT: 4% savings by 2010, and a Tier III RPS resource

PA: EE is a Tier II resource: 10% 2020

NJ: 20% load reduction by 2020

MD: 15% reduction by 2015

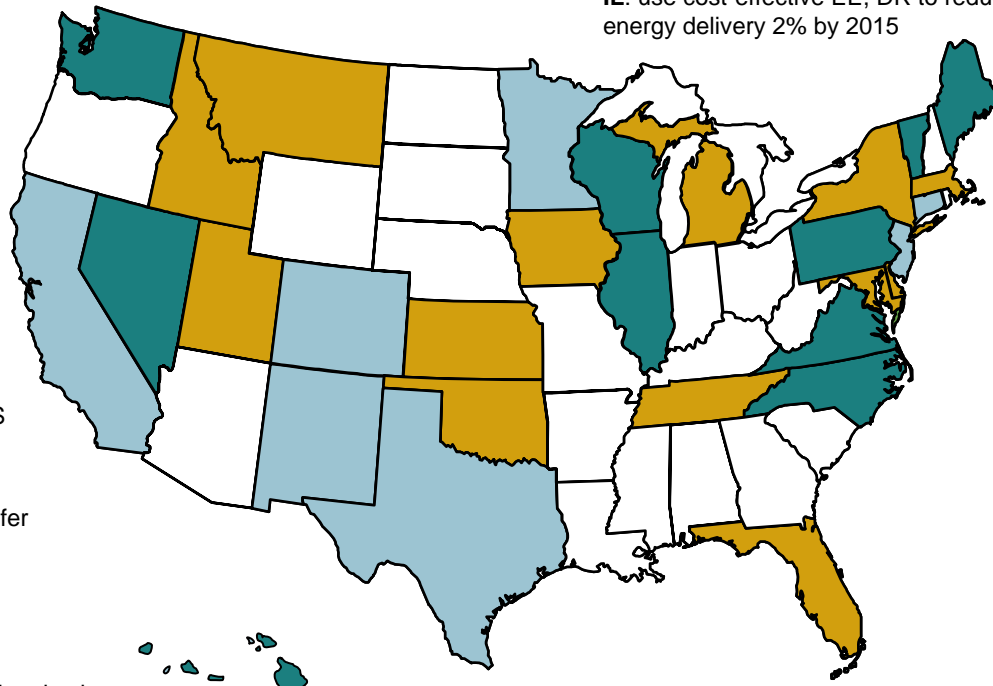
DE: created Sustainable Energy Utility to promote EE, conservation

VA: voluntary: reduce 10% of 2006 sales by 2022 with EE, DR

NC: EE to meet up to 25% of RPS to 2011; later to 40%

TVA (TN): encouraging customers to save 1200 MW per day 2008 - 2012

FL: PUC directed to study EE



WA: must pursue all cost-effective, conservation

CA: IOUs reduce MW 10%, peak demand (MWh) 12% by 2013; munis 10% by 2017

NV: up to 25% by 2015; part of RPS

UT: goal to increase EE 20% by 2015

CO: save 40 MW and 100 GWh annually to 2013*

NM: Public utilities must use EE and DR to save 10% of 2005 retail kWh by 2020; also in separate RPS

KS: studying for E&G utilities

OK: implement DSM and EE to defer or avoid new plant construction* **

TX: 10% of load growth, beyond 2004, based on prior 5 years

HI: 20% of MWh sales by 2020; up to 50% of RPS

- Existing EERS by regulation or law (separate from RPS)
- Energy efficiency part of an RPS rule or goal
- Voluntary standards or goals
- Energy efficiency goal proposed / being studied

Abbreviations: DR - demand response; DSM - demand side management; EE - energy efficiency; E&G: electric and gas utilities; RPS: Renewable Portfolio Standard

* Colorado's standard applies to Public Service of Colorado

** Oklahoma's applies to PS of Oklahoma

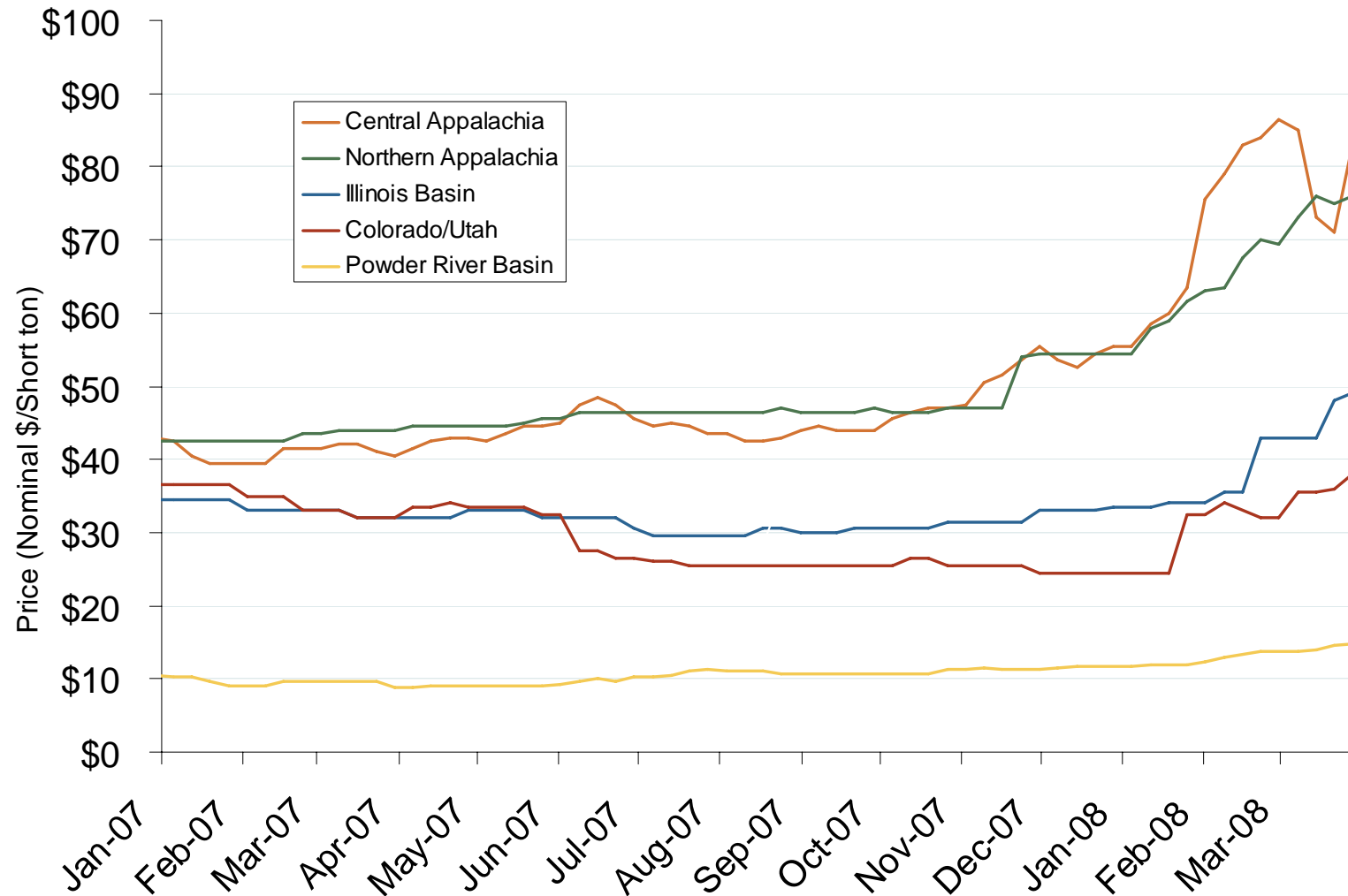
Sources: ACEEE, EPA, Regulatory Assistance Project, Union of Concerned Scientists, State legislative sites

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Energy Efficiency Resource Standards (EERS)

- An energy efficiency resource - or portfolio - standard (EERS) aims to reduce or flatten electric load growth through energy efficiency measures
- Goals may specify reductions in energy (MWh), demand (MW), or both
- 19 states have energy efficiency standards or goals; ten of those include energy efficiency as part of a renewable portfolio standard (RPS) or goal.
 - Five states added an EERS in 2007: Minnesota, Virginia, North Carolina, Connecticut, and Illinois.
 - New Mexico enacted an EERS in February 2008; this is in addition to the energy efficiency already in an RPS.
- States that proposed, are studying, or mandated an EERS design include: Florida, Maryland, Massachusetts, Michigan, Ohio, New Jersey, New York, and Vermont.
- New Mexico's "Utility Customer Load Management" is among the acts which put energy efficiency, conservation, and load management or demand-side resources explicitly on a par with generation resources. They are eligible for cost recovery and form a basis for just and reasonable rates. Many states added performance-based financial incentives as well as cost-recovery.
- Delaware created a "Sustainable Energy Utility" to use a market-based approach to address energy efficiency, conservation, and renewable energy.
- States can encourage participation through public benefit funds or by decoupling utilities' revenues from power sales. Not all use financial penalties for non-compliance.

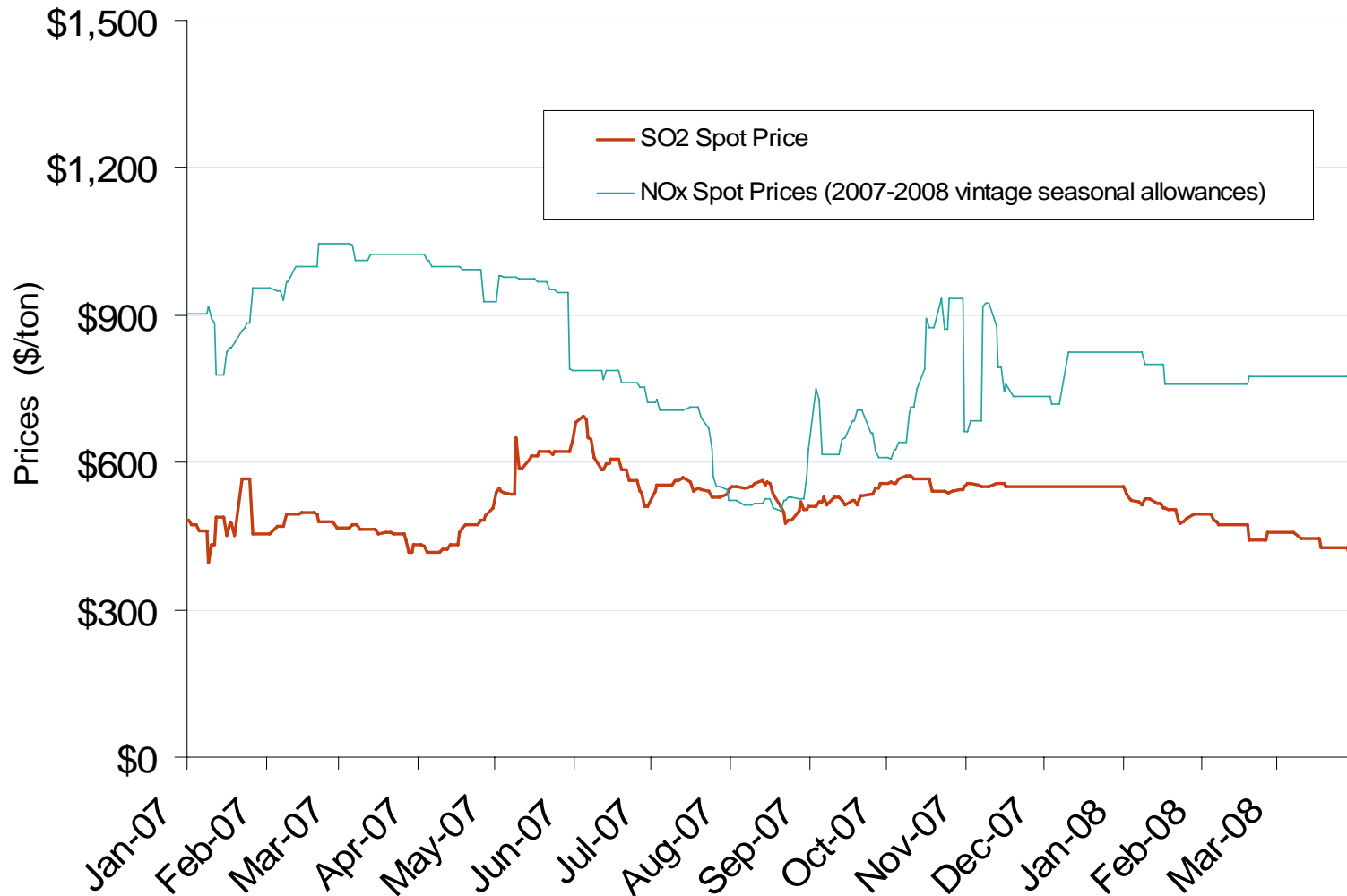
Central Appalachian and Powder River Basin Coal Prices



Source: Derived from Bloomberg data.

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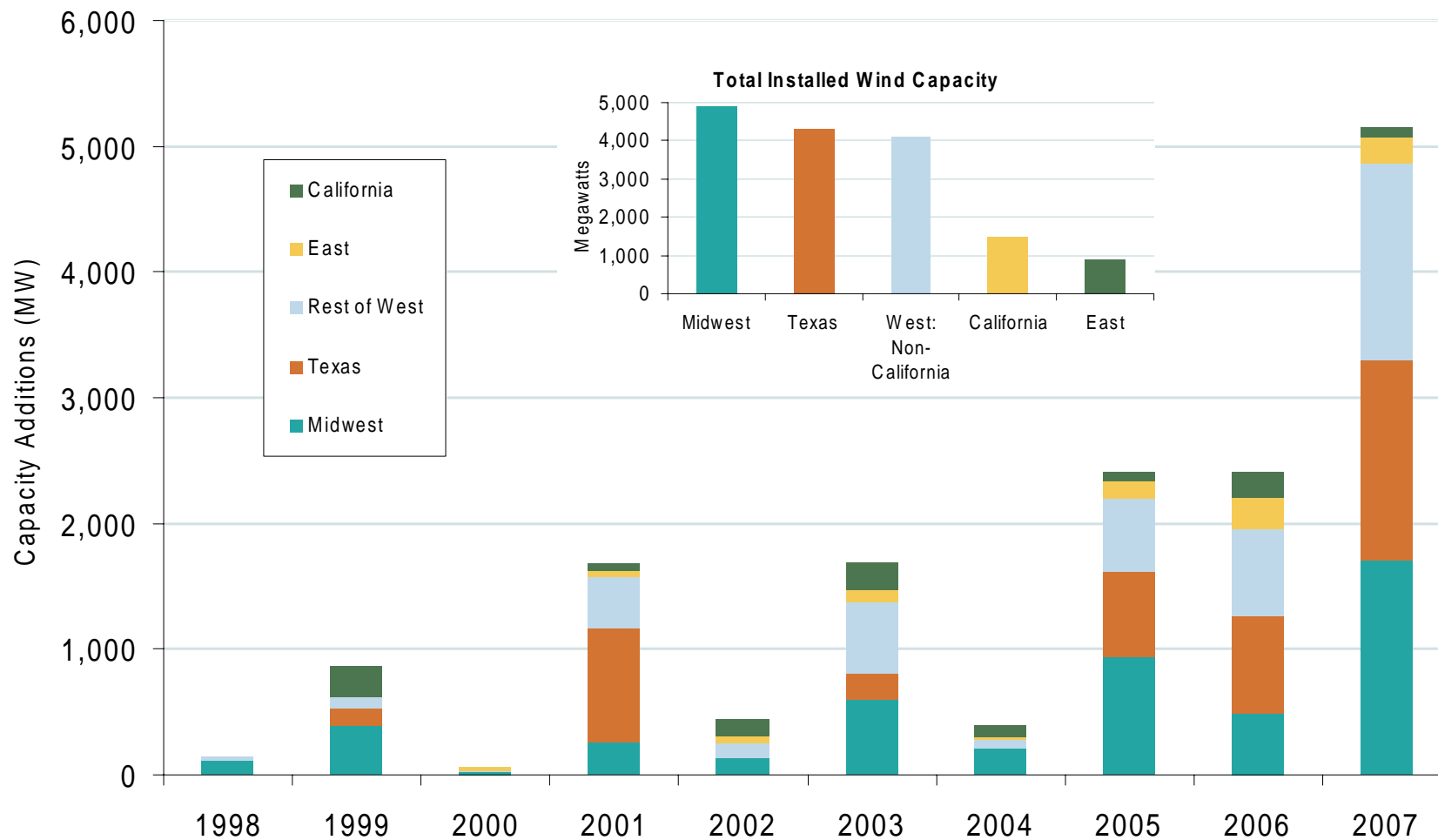
SO₂ and NO_x Allowance Spot Prices



Source: Derived from Cantor Fitzgerald data.

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Growth of U.S. Installed Wind Capacity (MW)



Midwest includes: IL, IA, KS, MI, MN, MS, NE, ND, OH, OK, SD, WI

East includes: ME, MA, NH, NJ, NY, PA, RI, TN, VT, WV

Source: American Wind Energy Association (AWEA)

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2007 Review of Wind Generation

- Installed wind capacity grew 5,244 MW from 11,603 MW in 2006 to 16,818 MW in 2007, a 45% increase.
- More new wind capacity was added in 2007 than any prior year.
- Just over half of new capacity – 2,704 MW – was installed in states with the highest wind potential. 59 percent of that – 1,588 MW – was in Texas.
- Installed capacity grew 150% from 2004 to 2007, while:
 - the number of states (including D.C.) with a renewable portfolio standard grew from 21 to 27, and
 - the wind production tax credit did not lapse.
- The top five states by capacity added in 2007 were: Texas (1,618 MW), Colorado (776), Illinois (592), Oregon (447), and Minnesota (405). Texas moved into 1st place in installed wind capacity in 2006, passing long-time leader California.
- The top 10 states by cumulative installed capacity have 14,366 MW of wind, or 85% of U.S. capacity. Nine of them had a Renewable Portfolio Standard (RPS) in 2007.
- The rapid growth of wind generating capacity has led to a backlog in many interconnection queues. The Commission held a Technical Conference on December 11, 2007 (AD08-2-000) to re-examine the Large Generator Interconnection Rule. Many ISO/RTOs reported that the queuing procedures specified by Order 2003 impede the timely interconnection of wind resources.