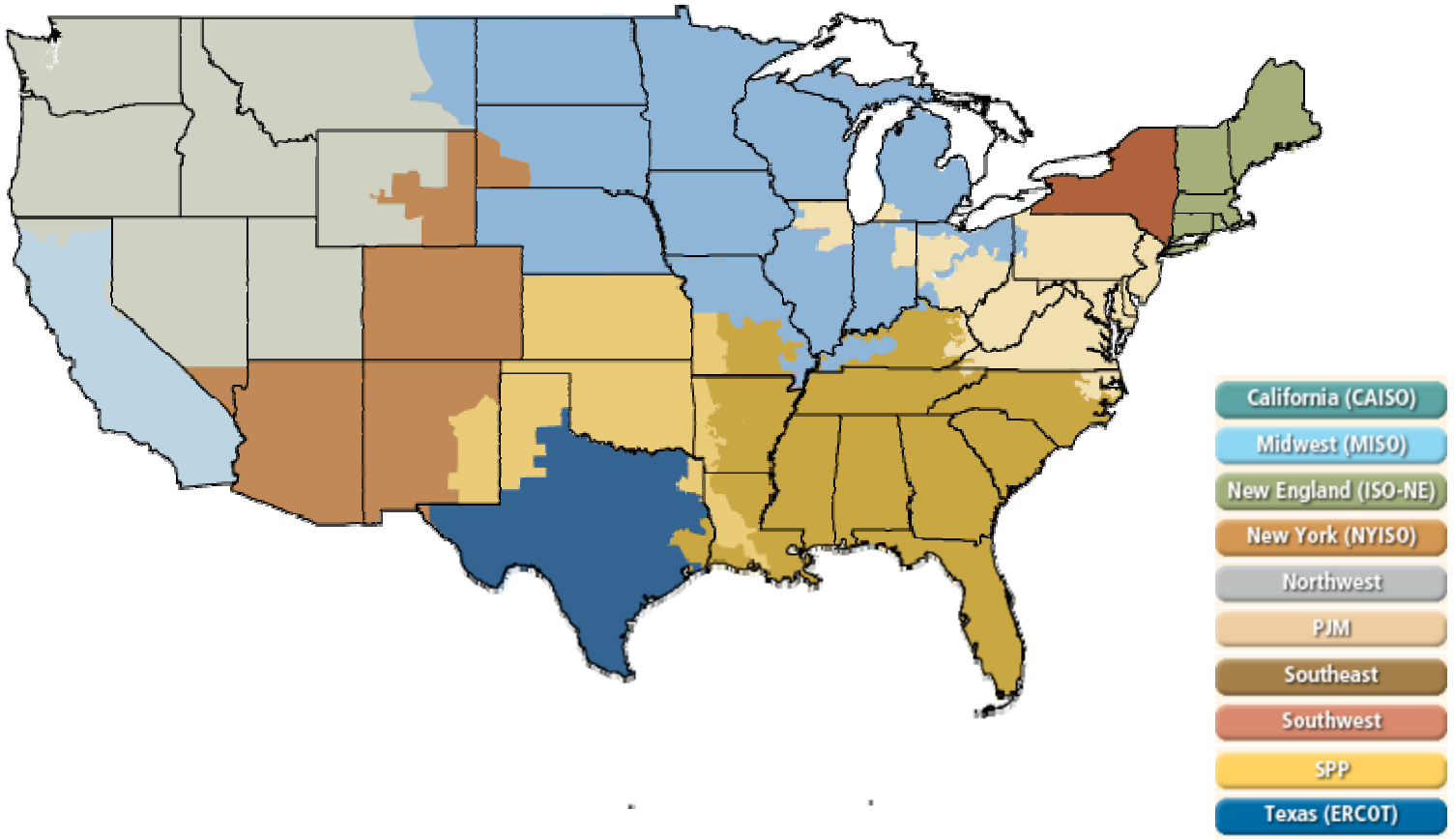
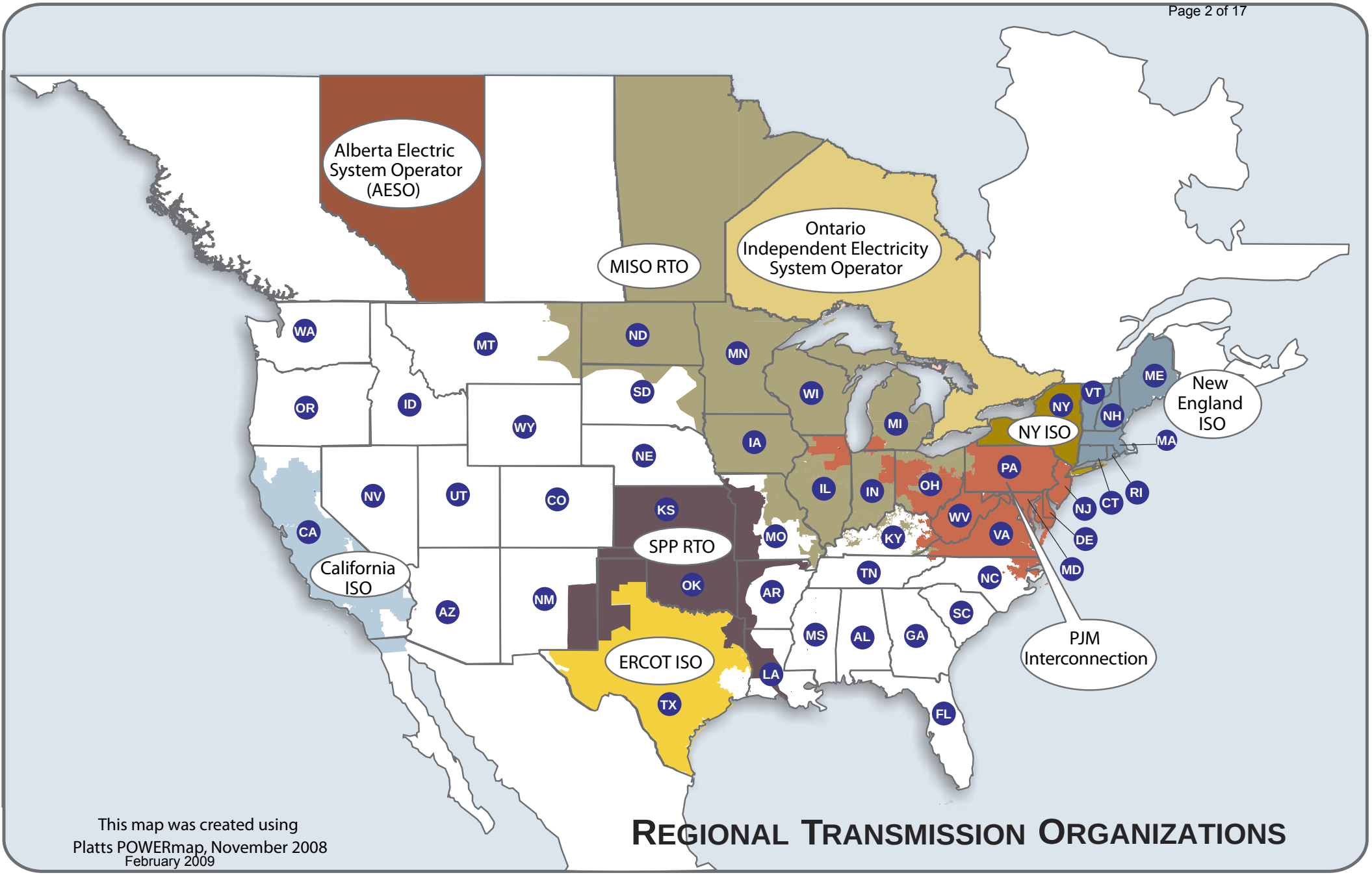
Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

Electric Market National Overview

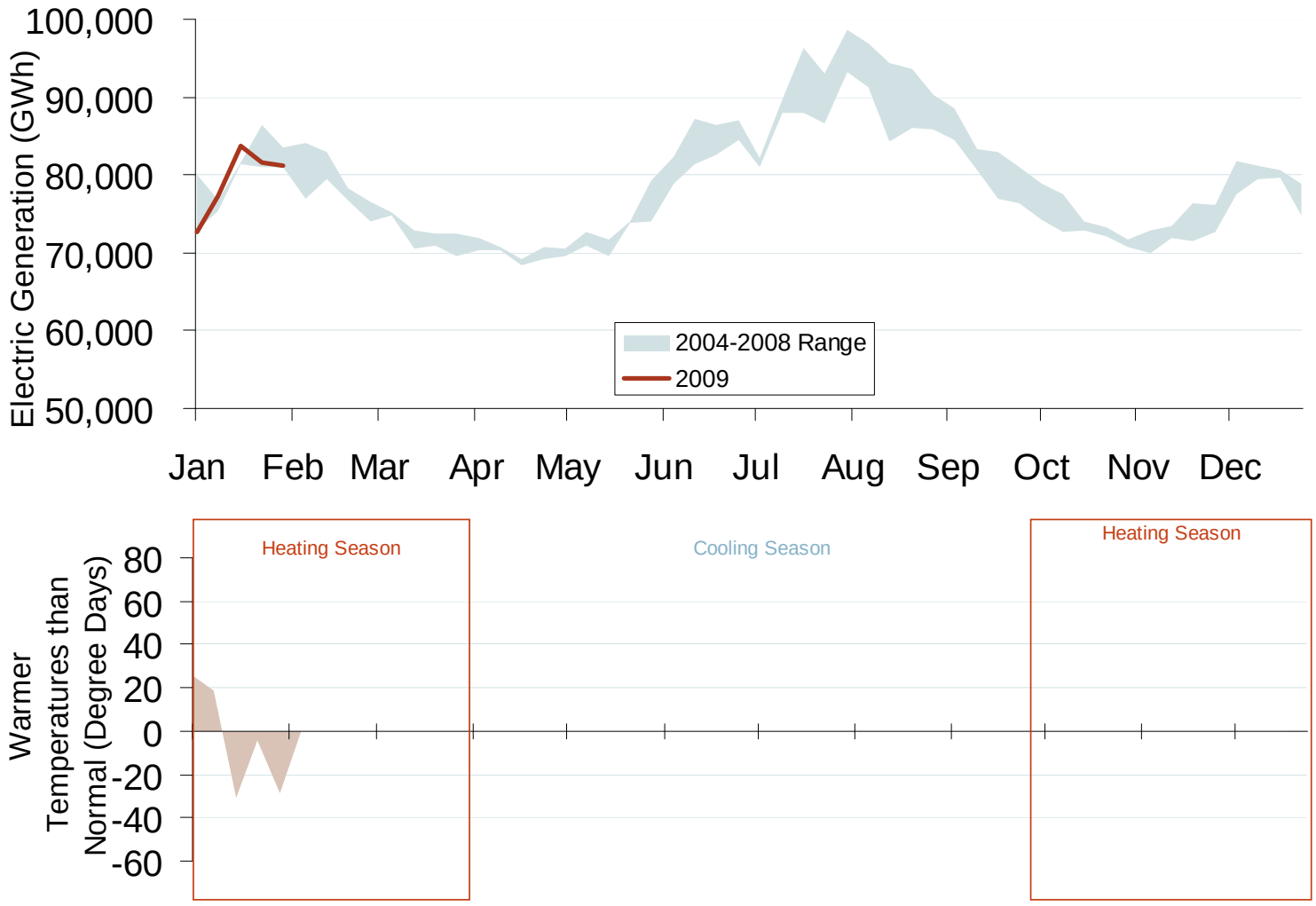




REGIONAL TRANSMISSION ORGANIZATIONS

This map was created using
Platts POWERmap, November 2008
February 2009

Weekly U.S. Electric Generation Output and Temperatures

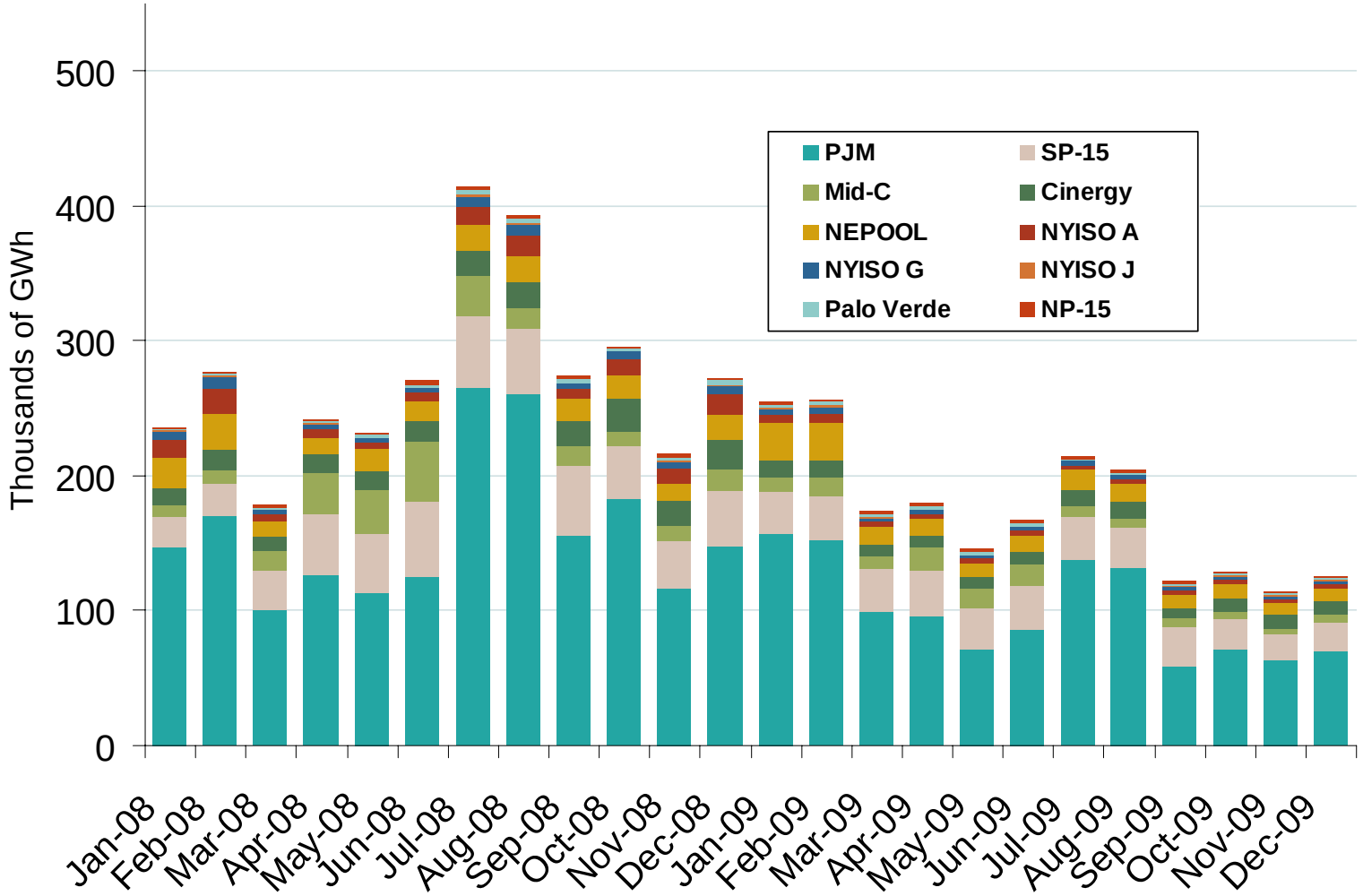


Source: Derived from *EEI* and *NOAA* data.

Updated February 6, 2009

1110

Financial Trading on ICE by Contract Month



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

Updated February 6, 2009

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Renewable Energy Portfolio Standards (RPS)

29 States including D.C. have an RPS

WA: 15% by 2020

OR: 25% by 2025;
small utilities 5-10%

ID: Priority to DR, EE, and in-state RE

CA: 20% by 2010;
goal: 33% by 2020

NV: 20% by 2015;
solar 5% per year

UT: 20% by 2025

CO: 20% by 2020;
co-ops & munis 10%;
includes 4% solar

AZ: 15% by 2025;
includes 30% DG

NM: 20% by 2020; co-ops 10%

TX: 5,880 MW by 2015;
goal: 10,000 MW by 2025

HI: 20% by 2020; *proposed increase to 40%* by 2030
agreed to for 2009 session

MT: 15% by 2015

ND: 10% by 2015

SD: 10% by 2015

NE: studying RPS

KS: goal - 20% wind by 2020

MN: 25% by 2025
Xcel 30% by 2020

IA: 105 MW in RPS
goal: 1,000 MW wind by '11

MO: 15% by 2021;
at least 2% solar

OK: Studying an RPS

AR: Utility IRPs to include RE

WI: 10% by 2015

IL: 25% by 2025

MI: 10% by 2015, and new RE capacity: 1,100 MW by 2015

OH: 12.5% by 2025; 0.5% solar

IN: 2 bills introduced

KY: Report recommends RPS

ME: 40% by 2017
goal: 3 GW wind by 2020

NH: 23.8% BY 2025

VT: 25% by 2025

MA:15% by 2020; two goals: 250 MW solar 2017; 2 GW wind 2020

RI: 16% by 2019

CT: 23% Class I/II by 2020
4% Class III by 2010

NY: 25% by 2013

PA: 8% Tier I, 10% Tier II by 2020; 0.5% solar set-aside

NJ: 22.5% by 2020; 2% solar

DE: 20% by 2019, with 2% solar

DC: 20% by 2020, with 0.4% solar

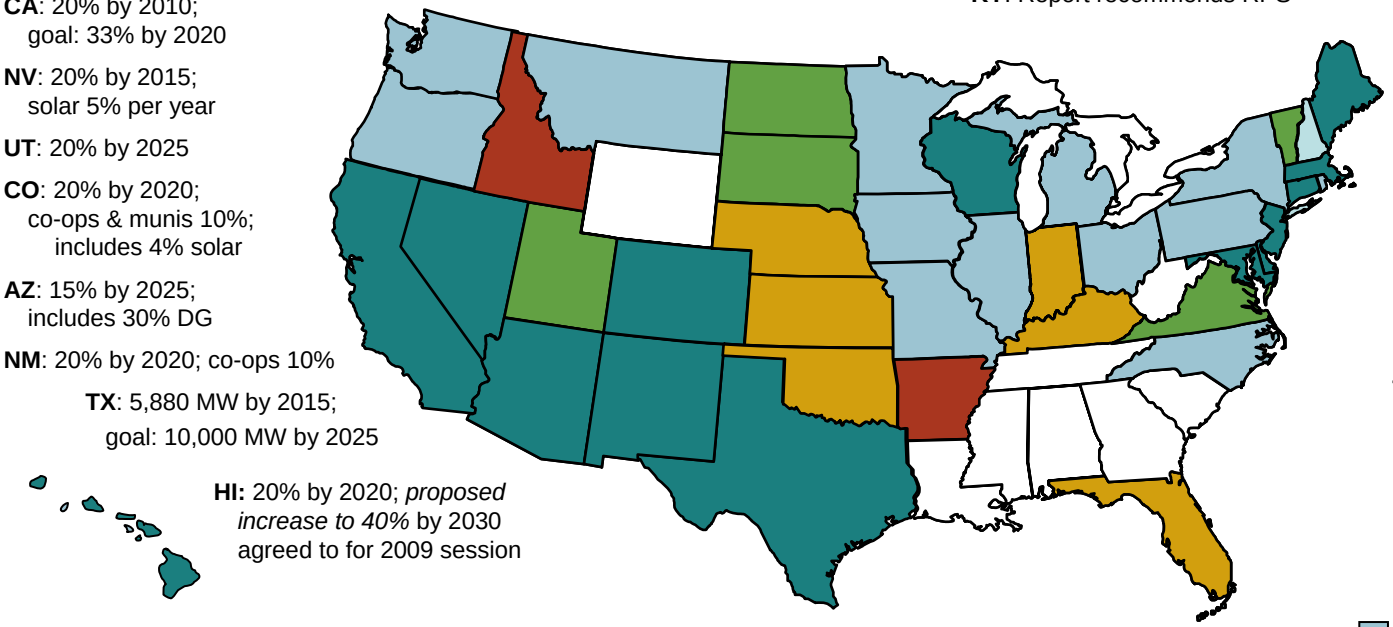
MD: 20% by 2022, with 2% solar

VA: 12% by 2022

TVA: 50% of generation from zero- or low-carbon sources by 2020*

NC: 12.5% by 2021
co-ops & munis: 10% by 2018

FL: draft RPS to legislature:
20% by 2020



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

Updates at: http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rps.pdf

Notes: An RPS requires a percent of an electric provider's energy sales (MWh) or installed capacity (MW) to come from renewable resources. Most specify sales (MWh). Map percents are final years' targets. Details, including timelines, are in the Database of State Incentives for Renewables and Energy Efficiency: http://www.dsireusa.org . Alaska has no RPS; TVA's goal is not a state policy: the Public Power Authority called for 50% of generation from zero- or low-carbon sources by 2020.
Abbreviations: DG: distributed generation; DR: demand response; EE: energy efficiency; IRP: integrated resource plan, RE: renewable energy.
Sources: Derived from data in: EEI, EIA, LBNL, PUCs, State legislative tracking services, DSIREUSA, Pew Center, and the Union of Concerned Scientists.

Updated February 6, 2009

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Renewable Energy Portfolio Standards

- **A Renewable Portfolio Standard (RPS)** requires a percent of energy sales (MWh) or installed capacity (MW) to come from renewable resources. Percents usually increase incrementally from a base year to an ultimate target. The percents on the map are ultimate targets.
- **29** states – including D.C. – have renewable mandates.
- **Six** have renewable goals without financial penalties: KS, ND, SD, UT, VT and VA.
- **Six** states proposed RPS bills or released studies that propose including more RE in state resources: FL, IN, KS (bills) and AK, KY, NE (state energy reports).
  - **Florida's PSC** sent its draft RPS to the legislature in response to an April 2008 legislative requirement. The legislature will decide how to proceed.
  - **Indiana's** House introduced two bills for an RPS in January. A traditional one has a 20% by 2020 target; the other creates two compliance tiers. An RPS bill did not pass last year.
  - **Kansas** introduced an RPS bill, with a 20% by 2020 target based on a utility's average peak load (in MW) for 2016-18. (Jan 14)
  - **Alaska** issued "Sustainable Energy for Alaskans" as a guide for communities to review local energy sources including in-river hydro, wind, solar, wave, tidal, biomass, and geothermal, in addition to traditional resources. It does not recommend state action or set a RE goal. (Jan 7)
  - **Nebraska's** "*Interim 2009 Energy Plan*" supports enacting an RPS and stresses EE, RE, and Nebraska's commitment to nuclear power. A final report will identify regulatory and statutory activities following the comment period, which closed Jan 23.

OVERVIEW OF 2008 RPS DEVELOPMENTS:

- **Three states passed a new RPS:** Ohio, Michigan, and Missouri. Ohio's and Michigan's were by state legislation; Missouri's was the third RPS to pass by ballot (after Colorado and Washington state).
- **Five jurisdictions amended or strengthened** existing standards: Washington, D.C.; Maryland; Massachusetts; Minnesota; and New Hampshire.
- **Four states** with an existing goal or RPS strengthened them: ME, VT, CA, HI. Maine enacted an installed wind goal. Vermont increased its goal to 25% RE by 2025. California's goal, set by Executive Order, is to increase RE to 33% by 2020. Hawaii set a goal of 40% of energy from renewable sources by 2030.
- **Four states** adopted a voluntary RPS or renewable goal: SD, UT, KS, and FL. South Dakota (Feb) and Utah (April) enacted goals without non-compliance penalties. An MOU between the Governor and Kansas utilities created its goal. Florida's goal, via Executive Order, is for utilities to produce 20% from RE; the PSC sent a draft RPS to the legislature on Jan 30.
- Kentucky and Oklahoma are working to establishing a renewable standard by legislation in 2009. In 2008, OK passed a bill allowing recovery of wind-related transmission costs.
- **Sixteen** states include energy efficiency in their RPS or renewable goals. Several issued major energy plans or draft plans with goals encompassing renewable energy, energy efficiency, and greenhouse gas reduction, including Kentucky, New Jersey, New York, and Vermont.

Abbreviations: EE: Energy Efficiency; MOU: Memorandum of Understanding; PSC: Public Service Commission; RE: renewable energy; RPS: Renewable Portfolio Standard

Updated February 6, 2009

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Energy Efficiency Resource Standards (EERS)

ID: Energy Plan puts conservation – DR and EE – as priority resource

MT: state agency reduction initiative: save 20% by 2010

WA: must pursue all cost-effective conservation

OR: IOUs required to have EE in IRP & assess cost-effectiveness

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

NV: use EE for up to 25% of RPS by 2015

UT: EE incentives in RPS goal

CO: save 40 MW and 100 GWh annually to 2013

NM: use EE and DR to save 10% of 2005 retail electric sales by 2020

KS: Order advocates voluntary utility programs, not mandate

OK: PSC approved quick-start DSM programs, including EE

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

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

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

IA: utilities must establish EE goals by end of 2008

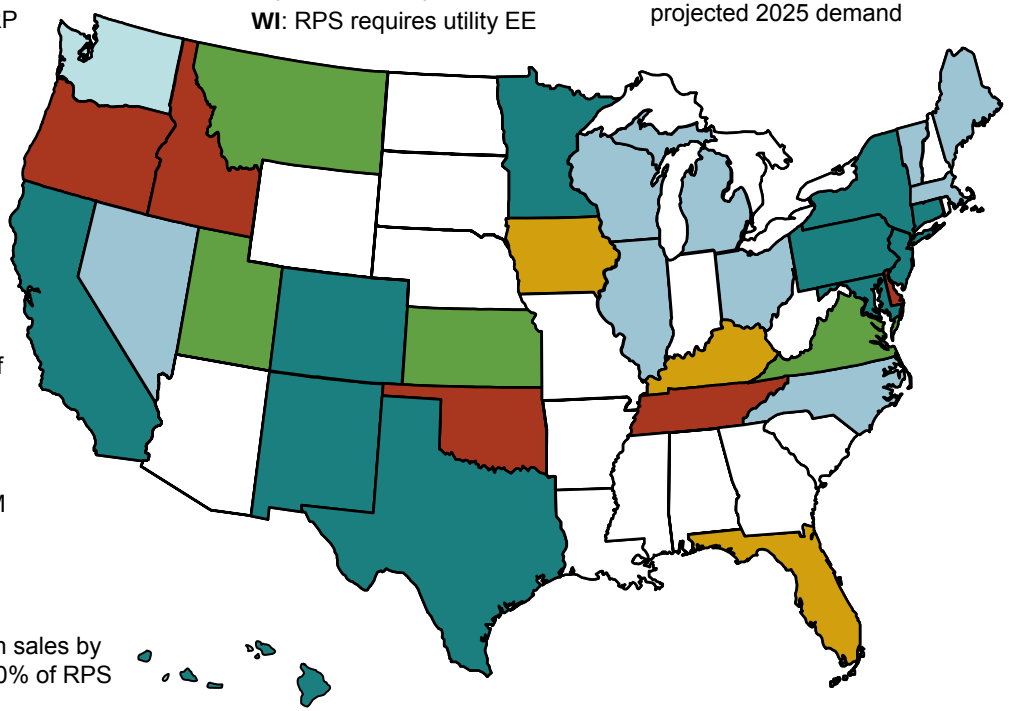
MI: annual savings: 1% of prior year's sales by 2012

WI: RPS requires utility EE

IL: reduce energy 2% by 2015 (EE) and 0.1% from prior year (DR)

OH: reduce peak-demand 8% by '18; 22% energy savings by '25

KY: proposed REPS - EE and conservation to offset 18% of projected 2025 demand



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

VT: EE & RE to meet 2007-12 growth

MA: meet 25% of capacity and energy with DSR by 2020

NY: 15% electric use reduction by 2015; doubles EE funding

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

NJ: reduce consumption 20%, and peak demand 5,700 MW by 2020

DE: EE, RE, DG, and DR are priority resources before new gen

PA: reduce energy consumption 3% and peak demand 4.5% by 2013

DC: reduce peak demand and energy consumption

MD: reduce peak demand and per cap electricity use 15% by 2015

VA: 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: reduce peak demand 1,400 MW by 2012 with EE, DR *

FL: PSC to adopt goals to reduce electric consumption, peak demand

Updates at: http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-eeps.pdf

- EE only as part of an RPS law, rule, or goal
- EERS by regulation or law (stand-alone)
- Voluntary standards (in or out of RPS)
- Energy efficiency goal proposed / being studied
- Other energy efficiency or demand-side rule or goal

***** TVA's "EE and DR Plan" is from the Public Power Authority, and is not a state policy.
Abbreviations: CHP – Combined heat & power; DG – distributed generation; DR - demand response; DSM - demand side management; DSR – demand-side resources; EE - energy efficiency; E&G: electric and gas utilities; IRP – integrated resource plan; RPS: Renewable Portfolio Standard
Sources: ACEEE, EPA, Regulatory Assistance Project, Union of Concerned Scientists, State regulatory and legislative sites, trade press

Updated December 5, 2008

1126

Energy Efficiency Resource Standards (EERS)

- An **EERS** – energy efficiency resource or portfolio standard – aims to reduce or flatten electric load growth through energy efficiency (EE) measures. Goals may specify reductions in energy (MWh), demand (MW), or both. Many specify both overall energy reductions and peak-load reductions.
- **Twenty-three** states have an EERS or goal; at least 16 include EE as part of a renewable standard or goal.
- States that enacted significant energy efficiency legislation in 2008 include: DC, FL, HI, IA, MA, MD, MI, NJ, NM, NY, PA, OH, OK, UT, and VT.
- State energy plans have included decoupling and PUCs opened dockets to examine whether utilities should be encouraged or required to eliminate the throughput incentive in traditional rates, including: HI, KY, MI, NJ.
- **Kentucky** Governor Beshear announced a comprehensive energy plan, *Intelligent Energy Choices for Kentucky's Future* (Nov 20). It calls for KY to establish both a Renewable and Efficiency Portfolio Standard (REPS) and an Alternative Transportation Fuels Standard. First among Kentucky's strategies will be to improve the EE of its homes, buildings, industries, and transportation fleets. Its first goal is to use EE to offset 18% of projected 2025 demand. Altogether, the plan envisions that 25% of Kentucky's energy needs will be met by 2025 with greater efficiency, conservation, and use of renewable and alternative sources such as wind, solar, and biofuels.
- The **Kansas Corporation Commission** (**KCC**) issued an Order on Cost Recovery and Incentives for Energy Efficiency Programs (Nov 14). It states that energy efficiency is a resource in its own right; however, the KCC deemed it inappropriate to create an EE mandate or EERS. Because EE programs are inherently beneficial to utilities, they might not need regulatory encouragement. KCC's policy will be to consider proposals from utilities on a case-by-case basis for: cost-recovery for EE programs through tariff riders; decoupling to address the throughput-incentive issue; and shared savings performance incentive plans (rather than performance-based incentives).
- **NERC's** *Long-Term Reliability Assessment* highlights the growth in demand response and energy efficiency resources, and the role they play in providing critical reliability services, increasing the operational flexibility of the grid, and complementing new variable generation resources such as wind and solar. NERC projects that close to 11,000 MW of EE and 34,000 MW of DR will be in place in North America by 2016. As a consequence, it expects EE to reduce total demand by 3.3%, and DR to offset nearly 80% of U.S. peak demand growth. (Nov 20)
- The Western Governors Association sent President-elect Obama a letter urging him to "aggressively pursue a national [EE] program to reduce existing and future energy demand and thereby reducing [GHG] emissions." (Nov 20)

Abbreviations: DR - demand response; DSM - demand side management; DSR – demand-side resources; EE - energy efficiency; KCC – Kansas Corporation Commission; NERC - North American Electric Reliability Corp; RE – renewable energy; RGGI - Regional Greenhouse Gas Initiative; RPS - Renewable Portfolio Standard

Updated December 5, 2008

1126

Collaborative Greenhouse Gas (GHG) Programs

Collaborative Regional GHG Programs:

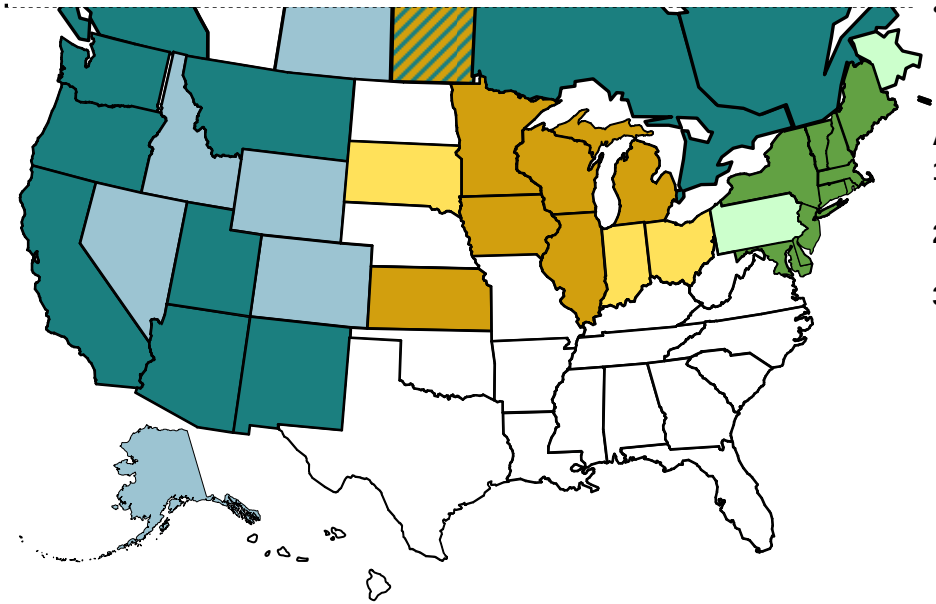
- Three North American groups with goals to lower regional GHG emissions were initiated by state Governors.
- 32 U.S. states, D.C., eight Canadian provinces, and six Mexican states are Participants or Observers.
- Observer jurisdictions do not commit to group GHG reduction goals, but participate in proceedings should they opt to join later. RGGI Observers are not on its Board.

Western Climate Initiative (WCI):

- Created February 2007
- Partners: 7 states, 4 provinces; Observers: 5 states, 1 province*
- WCI announced its design for a market-based, *multi-sector* cap-and-trade program, Sept 2008:
  - 15% CO_2 reduction below 2005 levels by 2020
  - Phase I to take effect Jan 2012

Midwest Greenhouse Gas Reduction Accord:

- Established November 2007
- Participants: 6 states, 1 province; 3 Observer states, 1 province
- Preliminary Design Recommendations issued Dec 2008: 15 - 25% reductions by 2020, 60 - 80% by 2050



Regional Greenhouse Gas Initiative (RGGI):

- Compliance period began Jan 1, 2009
- 10 Participant states; 5 Observers jurisdictions
- Market-based cap-and-trade effort to reduce *power-sector* CO_2 emissions.
- 10% CO_2 reduction by 2018 covers over 200 plants
- 188 million allowances (to be) sold in 2 pre-compliance auctions (2008) and 4 compliance auctions (2009)

Auctions:

1. **9/25/08:** 12.5 million allowances sold by 6 states cleared at $3.07/allowance
2. **12/17/08**: 31.5 million allowances sold by all 10 states cleared at $3.38/allowance
3. **3/18/09:** 1st compliance auction, 10 states to sell 31.5 million 2009 allowances and 2.2 million 2012 vintage allowances

Updates at: **http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-ghg.pdf**

Notes: Kansas is a MGGRA participant and WCI observer. Ontario and Quebec are Partners to WCI and Observers to RGGI; Ontario is also an observer to RGGI.
Sources: regional initiatives - www.rggi.org, www.midwesternaccord.org, www.westernclimateinitiative.org, trade press, Pew Center, White House - www.whitehouse.gov/agenda/energy_and_environment

Updated January 27, 2009

1108

Collaborative Greenhouse Gas Programs

White House Energy & Environment Agenda:

- President Obama has called for an economy-wide cap-and-trade program to reduce emissions to 1990 levels by 2020 and to reduce them an additional 80% by 2050.

RGGI's Auction 2 held on December 17, 2008:

- Six states from 1st auction sell 1/6 of 2008-09 allowances in Auctions 1-6: CT, MA, ME, MD, RI, VT.
- DE, NH, NJ, and NY passed legislation necessary to participate in auctions; they sell 20% of allowances in each of Auctions 2-6.
- 69 entities bid for 3.5 times the available 31.5 million allowances in Auction 2, raising $106.5 million.
- Of 46 winning entities, 85% were compliance entities (generators), and 12% were financial institutions or traders.
- Shares cleared at $3.38/allowance, 31¢ higher than Auction 1, although the base price remained at $1.86/allowance.

RGGI Updates:

- The 1st compliance auction is scheduled for March 18.
- Ten states will sell 31.5 million 2009 vintage allowances and 2.2 million 2012 vintage allowances.
- Ten participating RGGI states and Pennsylvania signed a Letter of Intent that commits them to develop a regional Low-Carbon Fuel Standard (LCFS) they describe as a market-based, technology-neutral policy (Dec 31). It requires reductions in the average lifecycle GHG emissions per unit of energy. Signatories from environment and energy agencies committed to a draft MOU on a regional program to be forwarded to the 11 governors by December 31, 2009.

Midwest Greenhouse Gas Regional Accord:

- Signed at Midwestern Governors Association Energy Summit to establish GHG reduction targets (Nov 2007).
  - Participants: IA,IL, KS, Manitoba, MI, MN, WI
  - Observers: IN, OH, Ontario, SD
- Preliminary Design Recommendations issued (Dec 2008)
  - Target reductions from 2005 levels:
    - 15% - 25% reductions by 2020
    - 60% - 80% reductions by 2050
  - Cap-and-trade should cover multiple sectors:
    - electric generation and imports (power plants)
    - Industrial combustion sources (factories)
    - Industrial processes, if measurable and verifiable
    - Transportation fuels, subject to modeling results
  - Each jurisdiction to control allowance distribution methods.
  - Final design pending results of further ICF modeling.
- MGGRA anticipates Model Rule by August 2009.

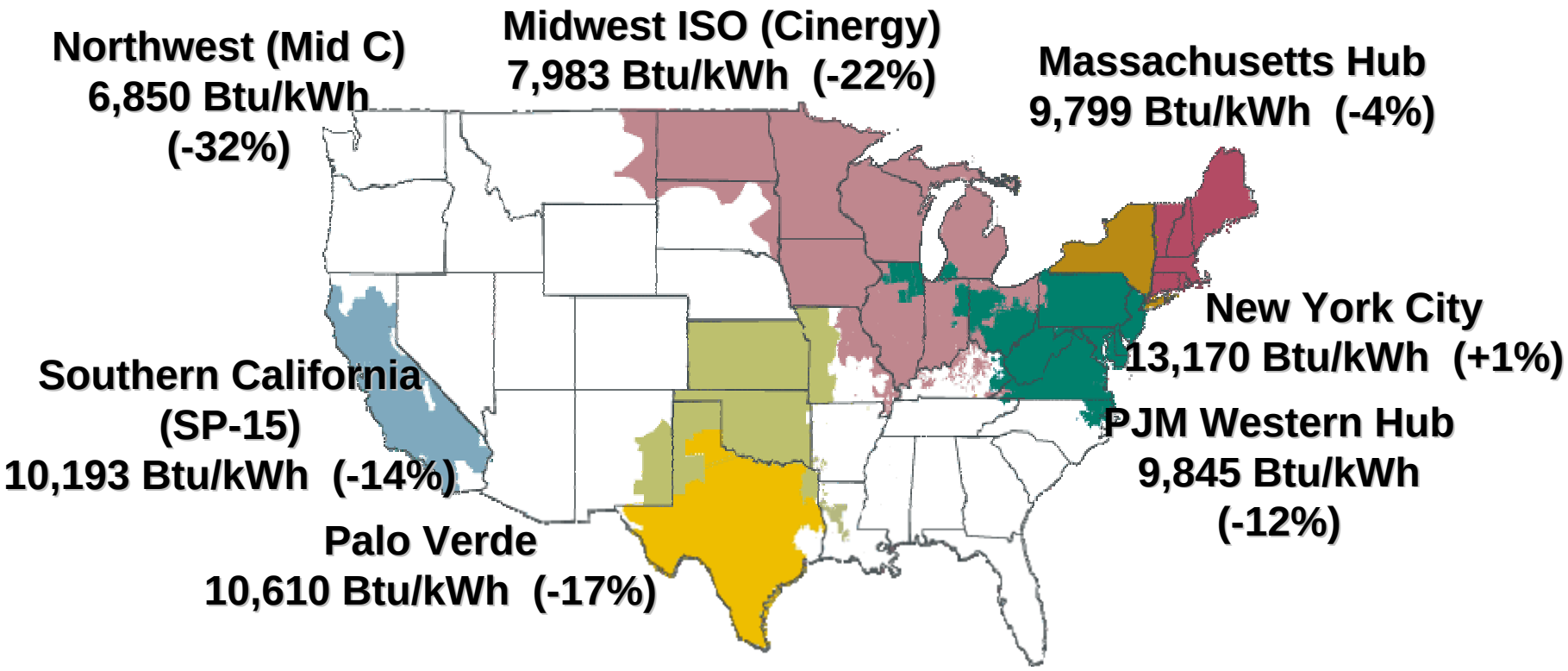
Western Climate Initiative (WCI):

- Launched by WGA to reduce regional GHG collectively and cooperatively (Feb 2007).
  - Partners: AZ, British Columbia, CA, Manitoba, MT, NM, Ontario, OR, Quebec, UT, WA
  - Observers: AK, CO, ID, KS, NV, Sask., WY
- WCI announced design for a market-based, *multi-sector* cap-and-trade program (Sept 2008):
  - 15% CO_2 reduction below 2005 levels by 2020
  - Covers 90% of regional emissions
  - Phase I to take effect Jan 2012
  - Phase II will begin 2015

Updated January 27, 2009

1108

June-August Implied Heat Rates, 2008 vs. 2007



Source: Implied heat rates derived from Platts *Megawatt Daily* data.

Updated September 9, 2008

1206

Electric Market Overview: On-Peak Spot Electric Prices

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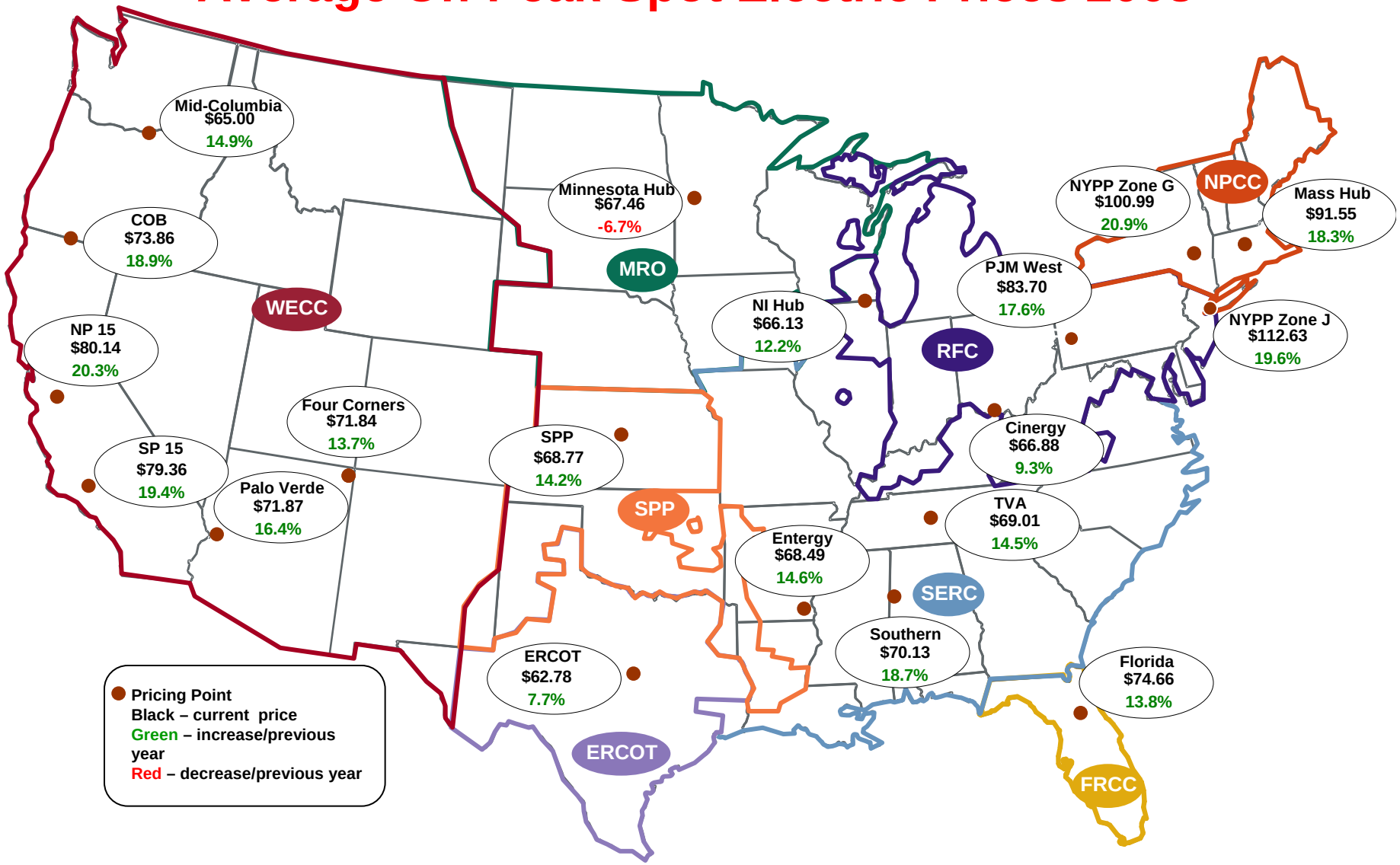
Average On-Peak Spot Electric Prices 2008



Source: Derived from *Platts* data.

Updated February 6, 2009

1207

Regional Spot Prices: 2006-2008

	On-peak Spot Prices					Off-peak Spot Prices				
	2006	2007	2008	% Change 06-07	% Change 07-08	2006	2007	2008	% Change 06-07	% Change 07-08
Northeast										
Mass Hub	69.85	77.39	91.55	10.8%	18.3%	47.93	54.73	66.50	14.2%	17.7%
Ny Zone G*	75.95	83.51	100.99	10.0%	20.9%		48.86	67.32		27.4%
NY Zone J*	85.96	94.15	112.63	9.5%	19.6%		53.66	70.29		23.7%
NY Zone A*	58.70	64.02	68.34	9.1%	6.7%		41.26	50.68		18.6%
PJM West	61.90	71.15	83.70	14.9%	17.6%	37.45	42.23	51.21	12.8%	17.5%
Southeast										
VACAR	56.34	60.52	70.86	7.4%	17.1%	34.98	33.67	39.36	-3.7%	14.4%
Southern	55.50	59.10	70.13	6.5%	18.7%	34.02	33.03	39.82	-2.9%	17.1%
TVA	53.48	60.28	69.01	12.7%	14.5%	33.08	33.56	38.61	1.5%	13.1%
Florida	64.02	65.59	74.66	2.5%	13.8%	39.79	35.80	41.35	-10.0%	13.4%
Entergy	56.28	59.74	68.49	6.2%	14.6%	34.20	31.88	35.26	-6.8%	9.6%
Midwest										
Cinergy	51.81	61.20	66.88	18.1%	9.3%	27.66	28.94	31.14	4.6%	7.1%
Michigan Hub	55.29	64.43	69.15	16.5%	7.3%	30.20	31.04	31.81	2.8%	2.4%
Minnesota Hub	59.47	72.32	67.46	21.6%	-6.7%	27.57	29.32	25.76	6.4%	-13.8%
NI Hub	52.52	58.93	66.13	12.2%	12.2%	29.09	29.32	31.24	0.8%	6.1%
Illinois Hub	51.32	59.88	62.52	16.7%	4.4%	26.41	27.40	26.29	3.8%	-4.3%
MAPP South	55.11	61.18	69.18	11.0%	13.1%	32.73	30.80	34.00	-5.9%	9.4%
South Central										
SPP North	55.84	60.21	68.77	7.8%	14.2%	33.96	31.24	33.66	-8.0%	7.2%
ERCOT	57.83	58.27	62.78	0.8%	7.7%	39.03	38.83	38.36	-0.5%	-1.2%
Southwest										
Four Corners	58.52	63.21	71.84	8.0%	13.7%	37.91	40.19	49.40	6.0%	18.7%
Palo Verde	57.59	61.74	71.87	7.2%	16.4%	38.21	41.94	52.16	9.8%	19.6%
Mead	59.93	64.49	75.63	7.6%	17.3%	39.92	44.15	54.90	10.6%	19.6%
Northwest										
Mid-C	50.18	56.57	65.00	12.7%	14.9%	38.71	44.00	53.70	13.7%	18.1%
COB	55.58	62.14	73.86	11.8%	18.9%	40.71	46.38	55.81	13.9%	16.9%
California										
NP15	61.08	66.59	80.14	9.0%	20.3%	40.77	47.10	59.22	15.5%	20.5%
SP15	61.95	66.48	79.36	7.3%	19.4%	41.62	46.76	57.86	12.4%	19.2%

Note: * Off Peak as of April 2, 2007.

Source: Derived from *Platts* data.

Updated February 6, 2009

1208

Regional Electric and Input Prices: 2006-2008

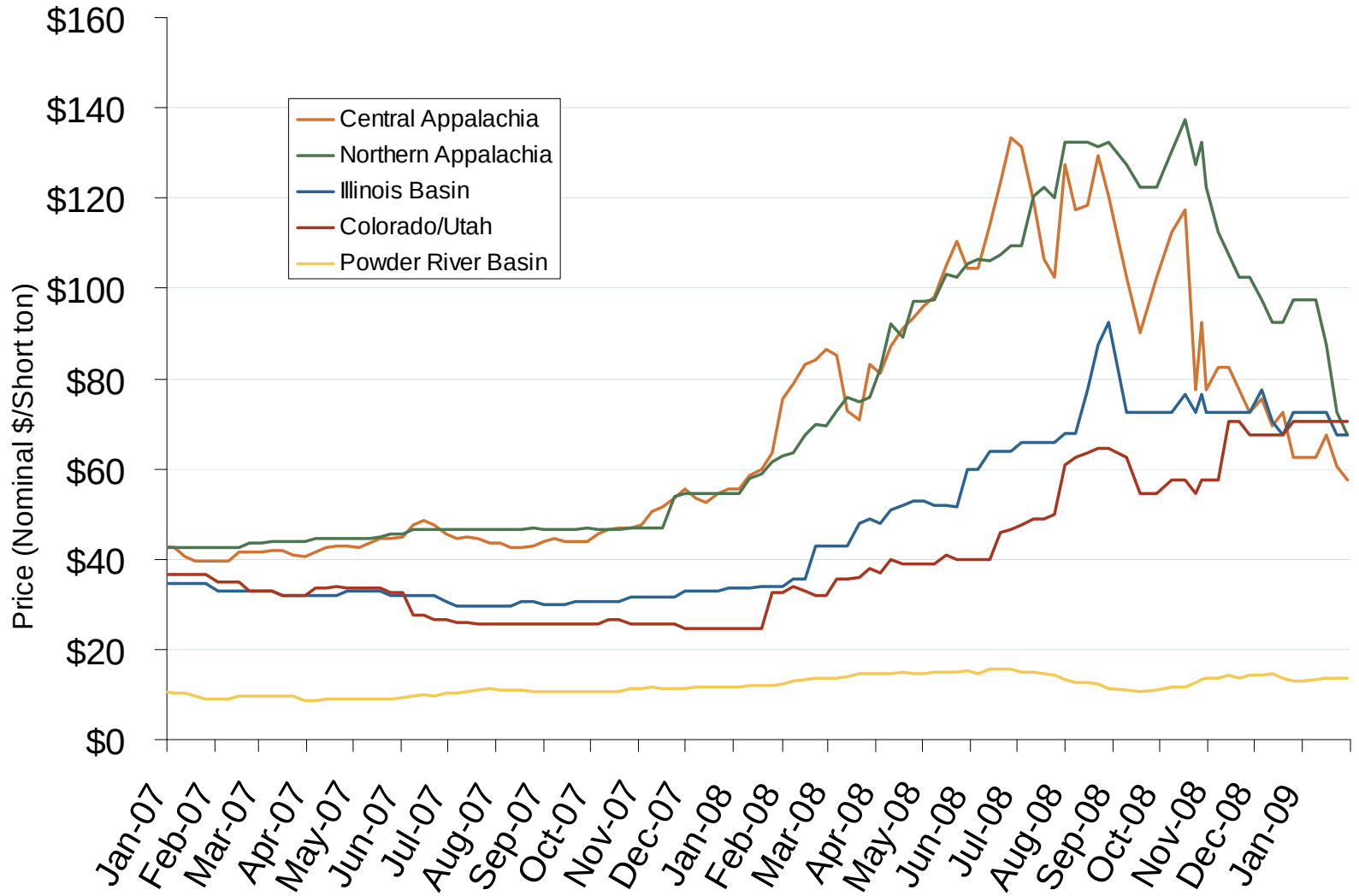
Electricity and Input Prices, 2006-08			
	2006	2007	2008
Electric Spot Prices (On-Peak $ per MWh)			
Mass Hub	$69.85	$77.39	$91.55
Cinergy	$51.81	$61.20	$66.88
SP-15	$61.95	$66.48	$79.36
Input Prices			
Natural Gas ($ per MMBtu)			
Henry Hub	$6.74	$6.94	$8.85
New York	$7.37	$8.46	$10.13
Southern California	$6.10	$6.41	$7.80
Coal ($ per ton)			
Central Appalachian (Eastern)	$51.64	$45.00	$92.37
Powder River Basin (Western)	$13.21	$10.24	$13.62
Emissions ($ per ton)			
SO_2 Allowances	$738.12	$527.58	$280.43
NO_x allowances	$1,862.03	$815.87	$786.64
Oil			
WTI (Crude - $ per barrel)	$66.12	$72.45	$99.63
Residual Fuel, New York ($ per barrel)	$55.07	$64.35	$91.94
Distillate Fuel, New York ($ per gallon)	$2.04	$2.22	$3.08

Source: Derived from *Platts* & *Bloomberg* data.

Updated February 6, 2009

1209

Central Appalachian and Powder River Basin Coal Prices



Source: Derived from *Bloomberg* data.

Updated February 6, 2009

1148

SO_2 Allowance Spot Prices and NOx Seasonal Allowance Spot Prices

Source: Derived from *Cantor Fitzgerald* data.

* Earliest year an allowance may be applied against emissions.

Updated February 6, 2009

1149

Brief Overview of the SO2 and NOx Emissions Markets

The electric power industry is a major source of sulfur dioxide emissions (SO2) and nitrogen dioxide emissions (NOx) – both precursors of acid rain and smog. According to the Environmental Protection Agency's (EPA) 2006 Acid Rain Progress Report, the power sector is responsible for 70% of SO2 emissions and 20% of NOx emissions.

Currently US policy encourages reduction in SO2 and NOx emissions which can be achieved through a cap and trade program. This market based model also allows for relative flexibility in compliance options. An emitting source may choose pollution control technology such as add-on controls like flue gas desulfurization (FGD) for SO2 and selective catalytic reduction (SCR) for NOx, fuel switching, and/or participation in the respective cap and trade markets. The decision is primarily driven by the regulatory environment, fuel input type, the level of emission output, and compliance costs, the latter of which affects wholesale and retail prices.

The Acid Rain Program

http://www.epa.gov/airmarkets/progsregs/arp/index.html

EPA's Acid Rain Program (ARP), established under the 1990 Clean Air Act Amendments, requires reductions of SO2 and NOx emissions from the electric power industry. The Acid Rain Program was the first cap and trade program implemented nationwide to reduce SO2 emissions.[1] The SO2 program set a permanent cap on the total amount of SO2 that can be emitted by fossil fuel-fired generating units and allows allowance trading so affected sources have some flexibility in their compliance method. Currently, SO2 sources must surrender one allowance to emit one ton of SO2. If a source falls short on the number of allowances it needs to comply with its individual cap, it can purchase allowances from another source that has a surplus of allowances. An emitting source may have a surplus of allowances for several reasons. For example, if it chose to install and/or run scrubbers, it can "bank" those unused allowances for future use or sell the leftover allowances to other emitting sources.

The NOx Budget Trading Program

http://www.epa.gov/airmarkets/cap-trade/docs/nox.pdf

In 2003, the cap-and-trade method was also implemented to reduce seasonal (primarily summer) NOx emissions from fossil fuel-fired plants. While the EPA administers the program, states are required to share the responsibility for allowance allocation and enforcement. Currently, NOx sources must surrender one allowance to emit one ton of NOx.

[1] The Acid Rain Program also required NOx emission reductions by select coal units but under a rate-based regulatory program [http://www.epa.gov/airmarkets/progsregs/arp/nox.html].

Source – EPA

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