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22 States have Energy Efficiency Resource Standards (EERS)
9 have Efficiency Goals

WA: all cost-effective conservation (~10%) by 2025

OR: 1% annual savings, 2013-14

CA: save 1,500 MW, 7,000 GWh; reduce peak 1,537 MW: 2010-12

NV: 0.6% annual savings (~ 5%) to 2015; EE to 25% of RPS

CO: save 3,984 GWh, 2012 – 20; reduce peak 5% by 2018

AZ: 22% cumulative savings by 2020; peak credits

NM: 10% electric savings by 2020

OK: EE to 25% of renewable goal

TX: reduce 30% annual growth; 0.4% winter and summer peaks beginning 2013

HI: 4,300 GWh electricity reduction (~40% of 2007 sales) by 2030

IA: 1.5% annual, 5.4% cumulative savings by 2020

IL: 2% energy reduction by 2015; 1.1% from 2008 peak by 2018

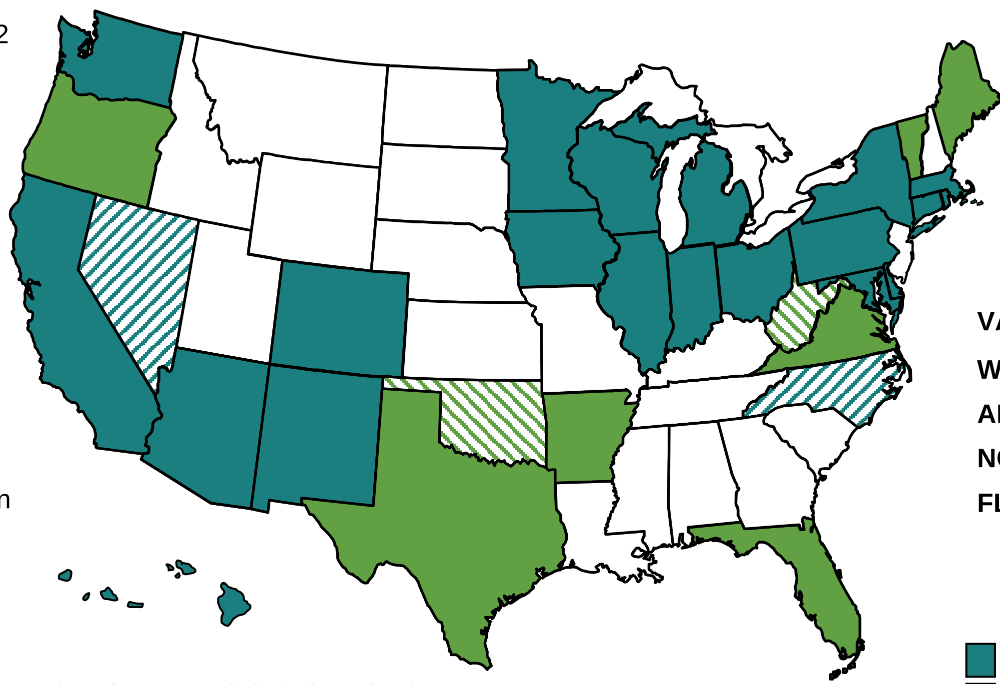
IN: 2% annual electricity savings by 2019

MI: 1% annual savings by 2012

MN: 1.5% annual savings to 2015

OH: 22% energy savings by 2025; 7% peak reduction by 2018

WI: 1.5% electric savings and peak reduction by 2014



ME: 30% electric sales reduction and 100 MW peak by 2013

VT: ~6.75% cumulative savings, 2009-11; summer and winter peak reduction targets

MA: 2.4% annual electric savings by 2012

NY: 15% reduction from projected electric use by 2015

CT: 1.5% annual savings, 2008-11

RI: cut consumption 10% by 2022

DE: cut electricity use and peak 15% from 2007 by 2015

PA: 3% cut from projected electric use and 4.5% peak by 2013

MD: 15% per capita energy reduction and peak demand by 2015

VA: reduce electric use 10% by 2022

WV: EE & DR earn credits in A&RES

AR: 0.75% electric savings by 2013

NC: EE up to 25% of RPS to 2011

FL: 3.5% energy savings; summer and winter peak reductions by 2019

- EERS by regulation or law (stand-alone)
- Hybrid EERS-RPS
- Energy efficiency in voluntary goal
- Hybrid efficiency - renewable goal

Updates at: http://www.ferc.gov/market-oversight/othr-mkts/renew.asp

Abbreviations: A&RES – Alternative & Renewable Energy Standard; DR - demand response; EE – Energy Efficiency; RPS – Renewable Portfolio Standard

Sources: American Council for an Energy Efficient Economy, database of State Incentives for Renewables & Efficiency (dSIRE), Institute for Electric Efficiency, State regulatory and legislative sites, and state efficiency agency reports

Continued on page 2

Updated September 13,2011

Energy Efficiency Resource Standards (EERS)

- An Energy Efficiency Resource (or Portfolio) Standard (**EERS)** aims to reduce or flatten electric and gas load growth using energy efficiency (EE). It *requires* distribution utilities to achieve annual savings levels. An EERS may specify reductions for energy use (MWh or therms), peak demand (MW), or both.
- **Energy Efficiency** uses less fuel to produce the same or greater amount of *usable* energy from a given energy source. Reductions normally create multi-year effects over an investment's useful life. Alternatively, conservation can be temporary reductions in energy *use*.
- States have adopted fixed cost-recovery structures to promote the use of energy efficiency programs by utilities. The most common are decoupling or lost revenue recovery mechanisms.

Energy Efficiency Policy and Incentive Summary by State
18 states with standards (EERS): AZ, CA, CO, CT, DE, HI, IA, IN, MA, MD, MI, MN, NC, NM, NY, PA, RI, VT, WA
10 states with non-binding efficiency goals: AK, AR, FL, ME, OK, OR, TX, VA, VT, WV
15 states and one power authority have peak reduction targets in a standard or goal or award extra RECs for peak reductions
20 States established or expanded an EERS or EE goal since 2008
34 states with an EERS, pending regulations, or an EE goal

Incentives or Rewards for Electric Utility Efficiency Reductions
13 states approved decoupling mechanisms
9 states approved lost-revenue recovery mechanisms
11 states have pending cost-recovery mechanisms
3 states allow a 'virtual power plant' model as an avoided cost charge
21 states use incentives or reward utilities that meet savings targets

STATE ENERGY EFFICIENCY ACTIVITIES:

- **Texas** increased its targets for state IOUs from 20% of projected load growth, based on an average of the prior 5 years, to 30% in 2013 and beyond. (May 2011)
- **Colorado** increased its savings target to 130% of its 2008 goal. Its new goal is 3,984 GWh saved from 2012 to 2020. (May 2011)
- **Arkansas** established an energy savings goal with a target of 0.75% electric savings by 2013. (Dec 2010)
- **Wisconsin** established an EERS when its PSC approved targets of 1.5% of electricity consumption and 1.5% peak demand savings by 2014 and thereafter. Reduction targets are based on the prior three year's sales times a 1% growth rate. (Nov 2010)
- **Maine** law targets 30% energy savings and 100 MW peak electric reduction by 2020. The PUC approved the triennial plan of Efficiency Maine Trust. (June 2010)
- **Oklahoma** enacted a renewable energy goal of 15% by 2015. EE savings are eligible to meet 25% of the target. (May 2010)
- **Oregon** set a goal for 2010 to 2014. It targeted 256 average MW saved between 2010-14, or 2,243 GWh, at a levelized cost of less than $0.035/kWh. (Dec 2009)
- **Florida**'s PUC established a 3.5% energy savings goal for the state's 7 IOUS from 2010 – 2019. It set peak reduction targets of 1,937 MW in winter and 2,024 MW in summer. (Dec 2009)
- At least **five** states employ a state-wide "energy efficiency utility" model, where an independent agency supports or establishes savings targets and runs the state's efficiency and educational programs, including Delaware, Hawaii, Maine, Oregon, and Vermont.

Abbreviations: PSC / PUC – Public Service / Utility Commission; RECs – renewable energy credits; RPS – Renewable Portfolio Standard

Updated: September 13, 2011

Renewable Portfolio Standards (RPS) and Goals

29 states and D.C. have RPS policies; 9 states and 3 power authorities have nonbinding goals

AK: 50% by 2025

WA: 15% by 2020

OR: 25% by 2025;
5 -10% – smaller utilities

CA: 33% by 2020

MT: 15% by 2015

NV: 25% by 2025

UT: 20% by 2025

CO: 30% by 2020;
10% – co-ops, munis

AZ: 15% by 2025

NM: 20% by 2020;
10% – co-ops

TX: 5,880 MW by 2015;
500 MW non-wind goal

HI: 40% by 2030

ND: 10% by 2010

SD: 10% by 2015

NE Public Power Districts
10% by 2020

KS: 20% by 2020

OK: 15% by 2015

MN: 25% by 2025;
30% by 2020 – Xcel

IA: 105 MW;
1 GW wind goal by 2010

MO: 15% by 2021

LA: 350 MW by 2012-13

MI: 10% MWh and
1,100 MW by 2015

WI: 10% by 2015

IL: 25% by 2025;
wind 75% of RPS

IN: 10% by 2025

OH: 12.5% by 2025

ME: 30% by 2010 and 10% new by
2017; 8 GW wind goal by 2030

NH: 23.8% by 2025

VT: 20% by 2017; all growth to
2012 from RE and EE

MA:15% new by 2020;
2 GW wind goal by 2020

RI: 16% by 2020

CT: 23% by 2020

NY: 30% by 2015

NJ: 22.5% by 2020

PA: 18% by 2020

DE: 25% by 2025

DC: 20% by 2020

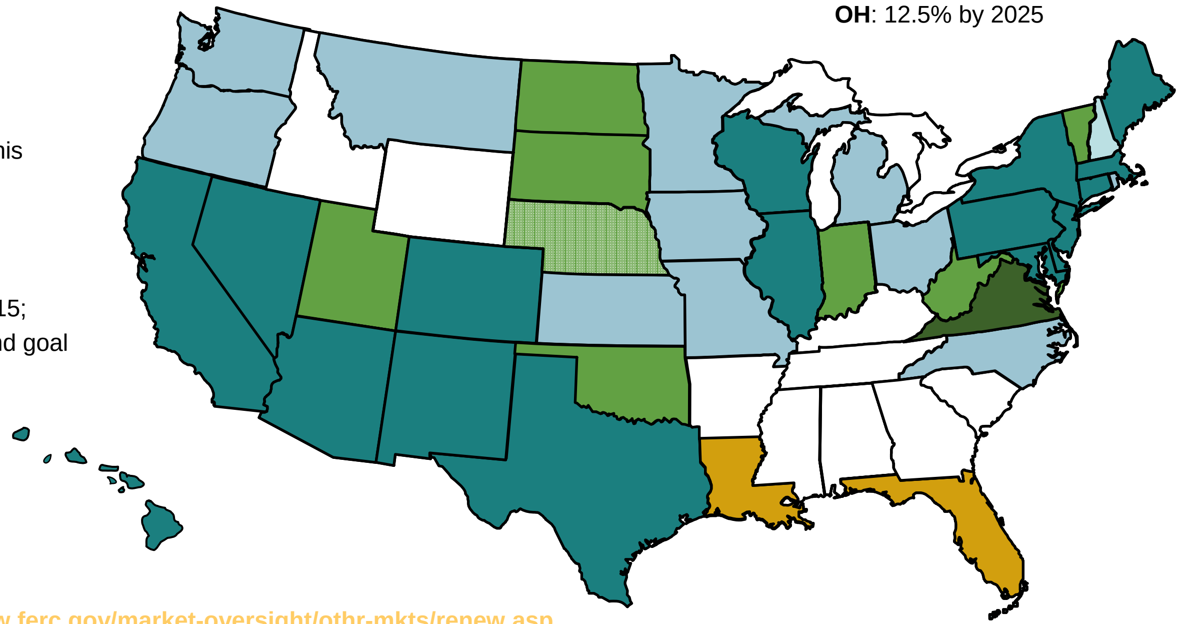
MD: 20% by 2022

WV: 25% by 2025

VA: 15% by 2025; goal with
production incentives

NC: 12.5% by 2021;
10% by 2018 – co-ops, munis

FL: solar pilot 2010 - 2014



Updates at: http://www.ferc.gov/market-oversight/othr-mkts/renew.asp

- RPS
- Accelerated or strengthened RPS
- Voluntary state or utility standards or goals
- Strengthened voluntary standard
- Pilot or study

Notes: A Renewable Standard 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. Nebraska's two largest public power districts, which serve close to two-thirds of its load, have renewable goals. The Tennessee Valley Authority's (TVA) goal across its 7-state territory is 50% zero- or low-carbon generation by 2020.
Sources: derived from data from: Lawrence Berkeley Labs, state Public Utility Commission (PUC) and state legislative tracking services, Pew Center. Details, including timelines, are in the *Database of State Incentives for Renewables and Energy Efficiency*: http://www.dsireusa.org

Updated May 3, 2011

34002

Renewable Energy Portfolio Standards

A Renewable Portfolio Standard (RPS) or **Renewable Energy Standard (RES)** 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 a later target. The map on the front shows ultimate targets.

- Renewable energy certificates or credits (RECs) allow states to verify RPS compliance. Utilities may comply either by generating or purchasing renewables under contract, or by buying RECs. Most states set an alternative compliance payment (ACP) for shortfalls. Each state's ACP is different.
- **29** states plus D.C. have renewable mandates. **Nine** have renewable goals without financial penalties. Nebraska's two largest public power districts have renewable goals. The Tennessee Valley Authority has a goal for its 7-state region.
- **In 2010: 2** states enacted renewable goals: AK, OK; **4** increased or extended existing renewable targets: CO, DE, NJ, NY; and **2** expanded the definition of eligible resources (VT, WI). Nebraska, a public power state, passed legislation to permit renewable capacity to be built to export power.
- **5** states use capacity (MW) as the basis for an RPS: IA, KS, ME, MI, and TX. The rest use a percent of retail sales (MWh).

Final Target	Number of States	States with Renewable Mandates or [Renewable Goals]
10% - 14%	7; [4]	IA, ME, MI, NC, OH, TX, WI ; [IN, ND, NE, SD]
15% - 19%	7; [2]	AZ, MA, MO, MT, PA, RI, WA ; [OK, VA]
20%	4; [2]	DC, KS, MD, NM; [UT, VT]
21% - 24%	2	NH, NJ
25% - 29%	6; [1]	CT, DE, IL, MN, NV, OR; [WV]
30% - 39%	3	CA, CO, NY
40% +	1; [1]	HI; [AK]

Note: numbers and states shown in brackets indicate those with goals, not an RPS.
Abbreviations: DG – distributed generation; REC – renewable energy certificate / credit; SREC – solar REC; TREC – tradable REC

State Renewable Actions:

- **Indiana** passed a renewable goal that begins at 4% in 2013 (from the amount in base year 2010) and rises to 10% by 2025. The Governor is expected to sign this bill. Like Virginia's goal, Indiana's includes financial incentives for utilities that meet the targets. (April 26)
- **California** enacted a 33% by 2020 RPS. Utilities can meet 25% of their target in 2011-2013 using tradable credits (TRECs) where the credit and energy are unbundled. The percent that can be met by TRECs will decline to 10% by 2014 – 2016. The law also creates mandates for publicly owned utilities. (April 12)
- **Texas** opened a rulemaking to modify its RPS that would create a mandate for renewable technologies, including solar, biomass, and geothermal now covered by a 500 MW non-wind goal. The PUCT is evaluating comments submitted through March 7, 2011.
- **Massachusetts** revised its solar carve-out, applicable to all retail suppliers. Changes permit out-of-state projects contracted prior to January 2010 and lowered 2010 shortfall compliance payments. Eligible customer-sited solar projects, up to 6 MW, must now be in-state. It established a clearing-house auction for surplus SRECs until its 400 MW solar target is met. (Dec 2010)
- **Missouri's** PSC adopted regulations for its RPS, which passed by ballot in Nov 2008. It includes a solar carve-out of 2% of incremental RPS obligations, which translates to 0.3% of retail sales by 2021. (July 2010) The PSC later suspended overall RPS geographic sourcing requirements while it re-examines them. (Sept 2010)
- **16 states** have solar or distributed generation (DG) set-asides in their RPS to encourage development of these higher-cost technologies so they can move closer to cost-parity with other resources. Details are available at: http://www.ferc.gov/market-oversight/othr-mkts/renew/othr-rnw-rps-solar-DG.pdf

Updated May 3, 2011

Renewable Portfolio Provisions for Solar and Distributed Generation

16 States and D.C. use set-asides, 3 use multipliers to encourage these technologies

WA: double credit for DG

OR: 20 MW PV by 2020;
* 2 utility PV credit

CA: 3 GW, of which 1,940 MW distributed solar by 2016

NV: 1.5% solar by 2025
* 2.4 central PV;
* 2.45 distributed PV

UT: * 2.4 solar-electric

CO: DG as 3% of retail sales by 2020; ½ customer-sited

AZ: 4.5% DG by 2025; half residential

NM: 4% solar-electric, 0.6% DG by 2020

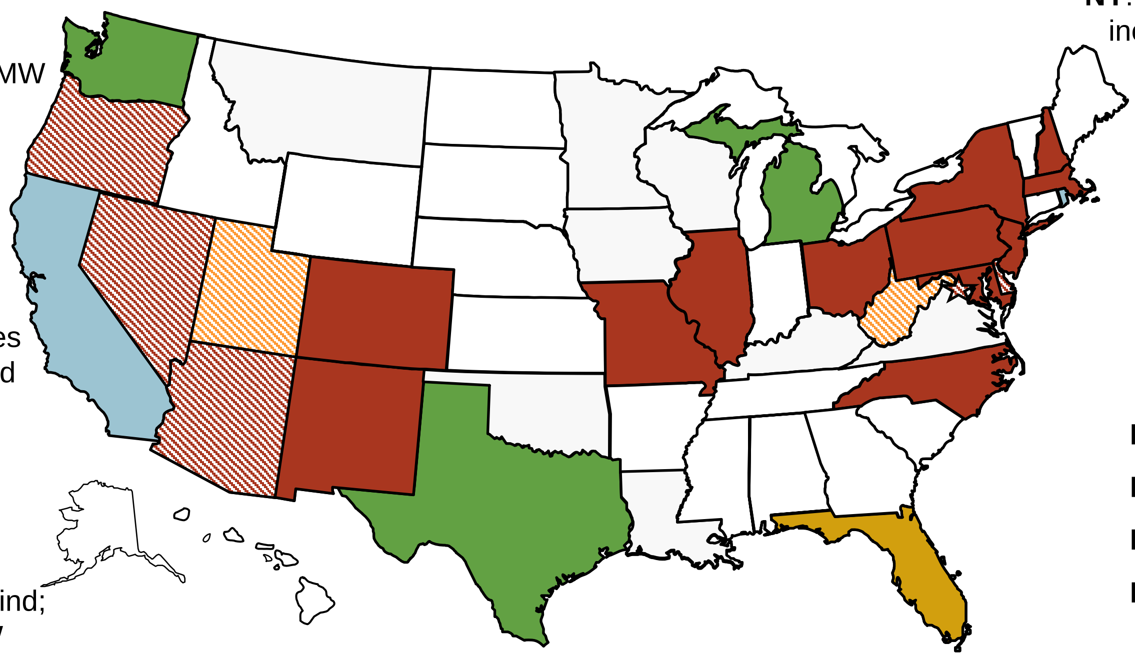
TX: double credit for non-wind; non-wind goal: 500 MW

MO: 0.3% solar-electric by 2021

IL: 1.5% solar PV by 2025

MI: triple credit for solar-electric

OH: 0.5% solar-electric by 2025



NH: 0.3% solar-electric by 2014

NY: customer-sited is 7% of RPS increments, 0.5% of 2015 sales

MA: 400 MW PV by 2020

RI: 3 MW solar by 2013

NJ: 5,316 GWh solar-electric by 2026

PA: 0.5% PV by 2020

WV: various multipliers

DE: 3.5% PV by 2026

DC: 0.4% solar by 2021

MD: 2% solar-electric in 2022

NC: 0.2% solar by 2018

FL: solar pilot 2010 - 2014

- MI, TX, and WA use RPS multipliers only
- AZ, DC, DE, NV, and OR have RPS set-asides and multipliers
- CA, RI, UT, and WV have solar targets outside an RPS

Solar / DG set-aside in RPS
Solar / DG in other renewable program
RPS credit multiplier for solar / DG
Multiplier and set-aside in an RPS
Multiplier and set-aside in renewable goal
Pilot or study

Updates at: http://www.ferc.gov/market-oversight/othr-mkts/renew/othr-rnw-rps-solar-DG.pdf

Notes: Multipliers (*) receive extra credit towards RPS compliance. Set-asides specify technology targets in an RPS.
Abbreviations: DG – distributed generation; PV – solar photovoltaic; RPS – Renewable Portfolio Standard
Sources: Derived from data in: LBNL, State Legislative and Public Utility web sites, California Solar Initiative, and the Database of State Incentives for Renewables and Energy Efficiency: http://www.dsireusa.org

Updated April 7, 2011 34003

2010 Review of RPS Provisions for Solar and Distributed Generation

Policies incent solar and DG development:

• **16 states** and D.C. have solar or distributed generation (DG) set-asides in their Renewable Portfolio Standards (RPS), to encourage higher-cost technologies so they can move closer to cost parity with other renewable resources.

• **Set-asides** specify what portion of an RPS should come from a specific technology. **Multipliers** increase the value of renewable energy certificates (RECs) awarded for each MWh produced by eligible technologies. Some states have separate solar RECs (SRECs) that can be traded.

• **Three states** have solar targets or programs outside an RPS or renewable goal: California, Florida, and Rhode Island.

• Lawrence Berkeley (LNBL) projected that existing solar carve-outs require 560 MW of solar through 2010 and 8,447 MW by 2025. That development is exclusive of non-RPS goals, such as California's "million roofs" program. LBNL found that multipliers have been less effective in stimulating solar development than set-asides.

2010 results and status:

• Photovoltaic (PV) solar additions were double those in 2009. 883 MW of grid-connected PV were added compared to 435 MW. Solar set-asides played a role in that capacity growth.

• **64%** of 2010 PV additions were in five states: California, New Jersey, Nevada, Arizona, and Colorado. Each of the top 10 states (85% of additions) has a solar policy (as depicted on the solar provisions map).

• **Seven** states added, accelerated or expanded solar policies.

• **43** states, D.C., Puerto Rico and the Virgin Islands offer financial incentives for solar PV. These include tax credits or deductions, rebates, and cash incentives, or property-tax incentives.

State Activities:

• **Texas' PUC** proposed a rule to set targets for renewable technologies, now covered in its RPS by a 500 MW non-wind goal. It includes a solar carve-out that starts at 5 MW in 2014 and rises to 187 MW in 2018. It would also set targets for new biomass and geothermal technologies. (Dec 2010) The PUCT is evaluating comments submitted through March 7, 2011.

• **Massachusetts** revised its solar carve-out, applicable to all retail suppliers. The changes permit out-of-state projects contracted prior to January 2010 and lowered 2010 shortfall compliance payments. Eligible customer-sited projects up to 6 MW must be in-state. MA will hold a clearinghouse auction for surplus SRECs until its 400 MW solar target is met. (Dec 2010)

• **Missouri**'s PSC adopted RPS regulations, which passed by ballot in Nov 2008. The solar carve-out is 2% of incremental RPS obligations, which translates to 0.3% of retail sales by 2021. Utilities must offer minimum rebates of $2/watt for customer-sited solar systems up to 25 kW. (July 2010). Regulations allow, but no longer require, utilities to offer standard-offer contracts for SRECs. (Sept 2010)

• **Delaware** extended and increased its RPS to 25% by 2025, from 20% by 2019. The law raised the solar PV carve-out to 3.5% by 2025, or about 250 new MW. (July 2010)

• **Florida's PSC** established solar pilots in the 2009 proceedings that set long-term energy savings and peak reduction targets for seven utilities. Compliance utilities submitted plans for solar hot water and PV pilot programs, which will run from 2010 to 2014. (March 2010)

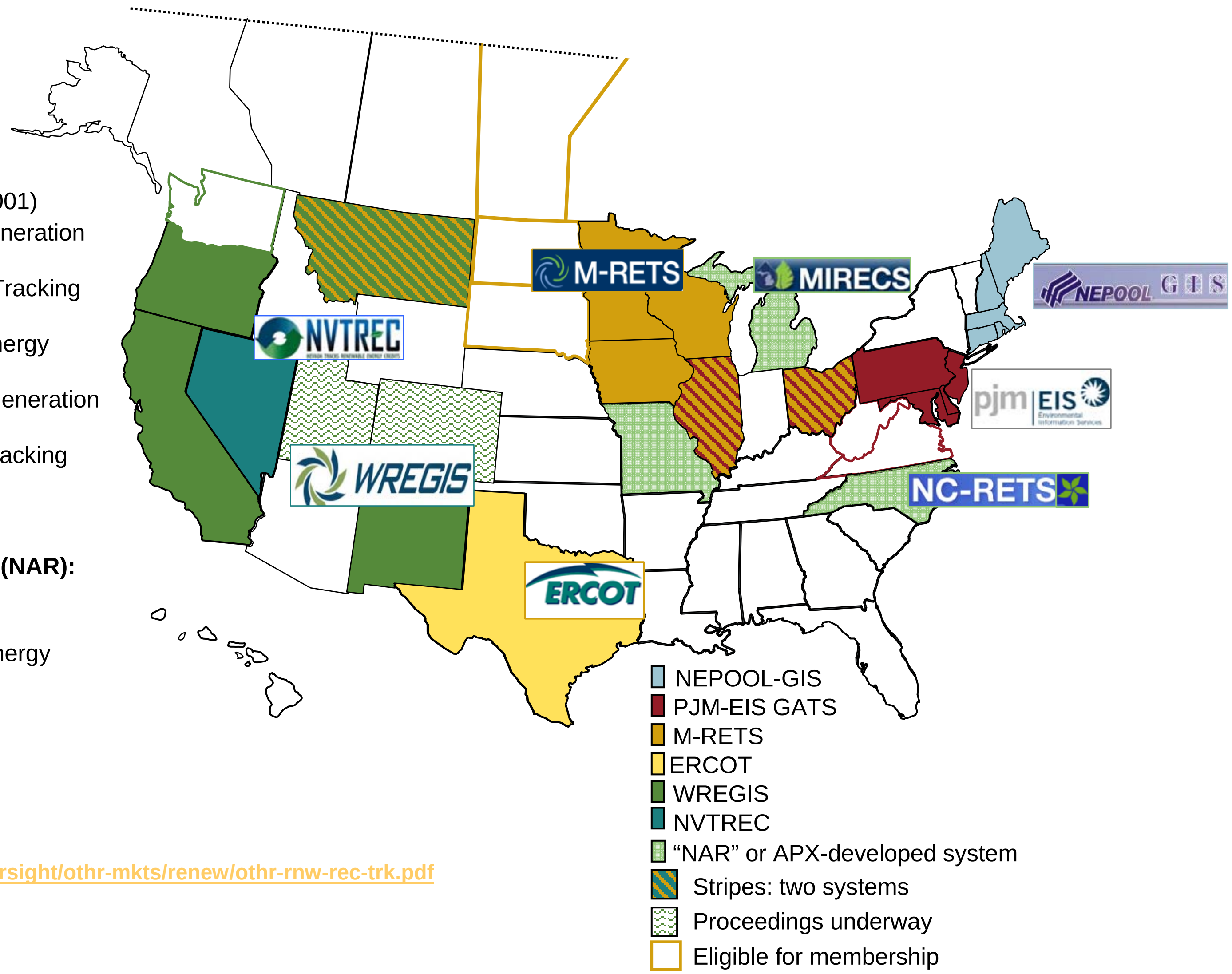
• **New Jersey** restructured its solar carve-out, changing it from a percent of the total energy to a set megawatt-hours target. The intent is to not have future solar capacity decline as conservation policies lower total energy use. (Jan 2010)

Abbreviations: DG – distributed generation; PUC/PSC – Public Utility/Service Commission; PV – photovoltaic; RPS – Renewable Portfolio Standard; SREC – solar renewable energy certificate.

Renewable Energy Tracking Systems Operating in North America

Tracking Systems: (year operational)

- **ERCOT:** Texas REC Trading System (2001)
- **NEPOOL – GIS:** New England Pool - Generation Information System (2002)
- **PJM – GATS:** PJM-Generator Attribute Tracking System (2005)
- **NVTREC:** Nevada Tracks Renewable Energy Credits (2007)
- **WREGIS:** Western Renewable Energy Generation Information System (2007)
- **M-RETS:** Midwest Renewable Energy Tracking System (2007)
- **MIRECS:** Michigan Renewable Energy Certification System (2009)
- **North American Renewables Registry (NAR):** non-market facilities or states (2009)
  - Missouri (2010)
- **NC-RETS:** North Carolina Renewable Energy Tracking System (2010)



Updates at: http://www.ferc.gov/market-oversight/othr-mkts/renew/othr-rnw-rec-trk.pdf

Sources: Tracking system administrators and websites; State Commissions, trade press

Continued on Page 2. Updated January 10, 2011 34004

Renewable Energy Certificate (REC) Tracking Systems

Operating Systems Track RECs:

- Renewable Energy Certificate (REC) tracking systems began as quasi-governmental regional entities. They were created as accounting systems to issue, track, and retire RECs, or certificates of renewable generation, within their jurisdiction in accordance with state's Renewable Portfolio Standard (RPS) rules.
- RECs allow regulators to track compliance with mandatory RPS targets and to verify progress in voluntary state renewable programs.
- Each reported megawatt-hour (MWh) of eligible generation results in a system-issued REC with a unique identification number to prevent double-counting.
- Each REC includes attributes such as generator location, capacity, fuel-type and source, owner, and date operational. Records are tagged by program eligibility.
- Differences in intra-regional rules include whether RECs can be banked for use in future years and for how long; which renewable technologies are eligible; and whether some fuels or technologies are granted multiple credits.
- Compliance entities, such as retail suppliers, can meet RPS targets by purchasing RECs in lieu of generating renewable electricity.
- Where necessary, systems track conservation or energy efficiency credits in states with a combined RPS and Energy Efficiency Resource Standard (EERS).
- Most systems have added attributes to support other state, provincial, or regional programs or requirements such as solar set-asides, voluntary utility green-power programs, or emissions tracking.

Recent Credit and Tracking Activities:

- **California:** The Public Utilities Commission (CPUC) ruled that load-serving entities can use Tradable Renewable Energy Credits (TRECs) to meet up to 25% of their annual RPS obligation. It defined TRECs as either a renewable energy credit (REC) unbundled from its associated energy OR a transaction for energy (bundled with RECs) that does not meet one of two CPUC deliverability requirements. The ruling decision lifted a stay of its March 2010 decision.

  Generators must be registered in WREGIS to be TREC eligible. The unbundled TRECs can be traded until they are retired for compliance in WREGIS. To protect customers from price volatility in a new market, the CPUC set a $50 price cap on TRECs. The price cap and 25% limit are set through December 2013. Allowing compliance entities to contract for out-of-state renewables supports resource development in nearby states and helps California IOUs meet RPS targets of 33% by 2020. (January 13)
- **Kansas**
- **Minnesota**
- **Missouri**

Abbreviations: CPUC – California Public Utilities Commission; NCUC – North Carolina Utilities Commission; REC - Renewable Energy Certificate or credit; RPS / RES – Renewable Portfolio/ Electricity) Standard; TREC – Tradable Renewable Energy Certificate

Renewable Energy Certificate (REC) Tracking Systems

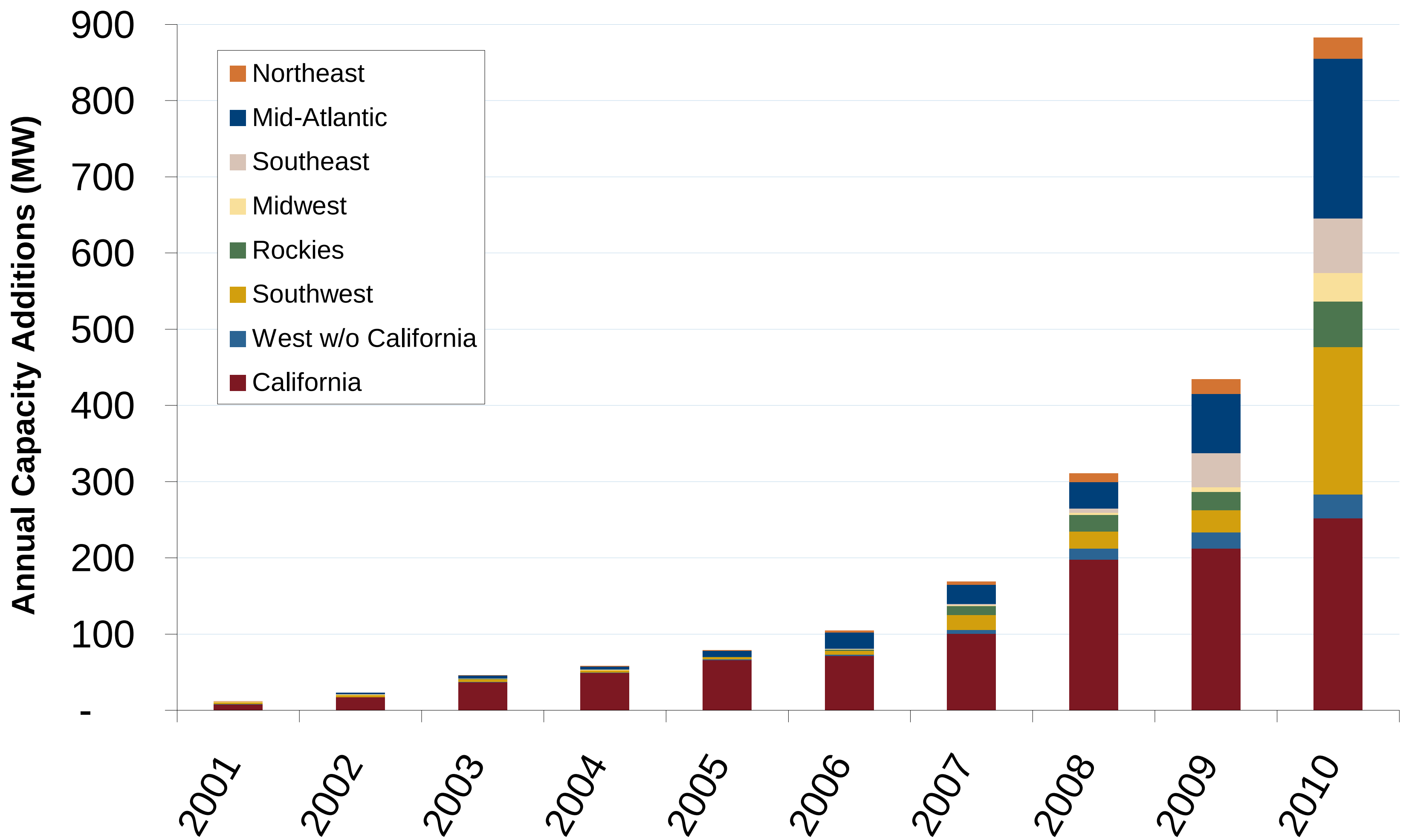
Tracking System Summary:

- **Five** regional tracking systems geographical area is based on market footprints for ERCOT, NEPOOL-GIS (ISO-NE), PJM-GATS, WREGIS (CAISO and WECC), and M-RETS (MISO).
- **23** states plus D.C. use REC tracking systems to monitor compliance with an RPS.
- **Four** state tracking systems operate independently or as part of a national registry in MI, MO, NC and NV.
- **APX, Inc.** designed the infrastructure for all regional operating systems. It administers the systems for NEPOOL-GIS, MIRECS, M-RETS, and NC-RETS.
- APX also developed the **North American Renewables Registry** (**NAR**) to create, track, and retire RECs for facilities and regions not covered by existing market systems.
  - Missouri was the first RPS-compliant state to use NAR rather than a regional system co-incident with a market footprint
  - Kansas is likely to follow suit, although it has not yet chosen a tracking system
  - Generators in any state, regardless of whether there is a local renewable requirement, can register in APX's NAR.

Abbreviations: CPUC – California Public Utilities Commission; NCUC – North Carolina Utilities Commission; REC - Renewable Energy Certificate or credit; RPS / RES – Renewable Portfolio/ Electricity) Standard; TREC – Tradable Renewable Energy Certificate

Updated September 7, 2010 34004

Regional Grid-Connected Photovoltaic Capacity Growth



Northeast: CT, ME, MA, NH, RI, VT
Southeast: AL, AR, FL, GA, LA, MS, NC, SC, TN, VA
Rockies: CO, ID, MT, UT, WY
West w/o California: HI, OR, WA

Mid-Atlantic: DE, DC, MD, NJ, NY, PA
Midwest: IL, IN, IA, KY, MI, MN, MO, OH, OK, WI
Southwest: AZ, NV, NM, TX

Source: Interstate Renewable Energy Council (IREC)
September 2011

Updated April 5, 2011

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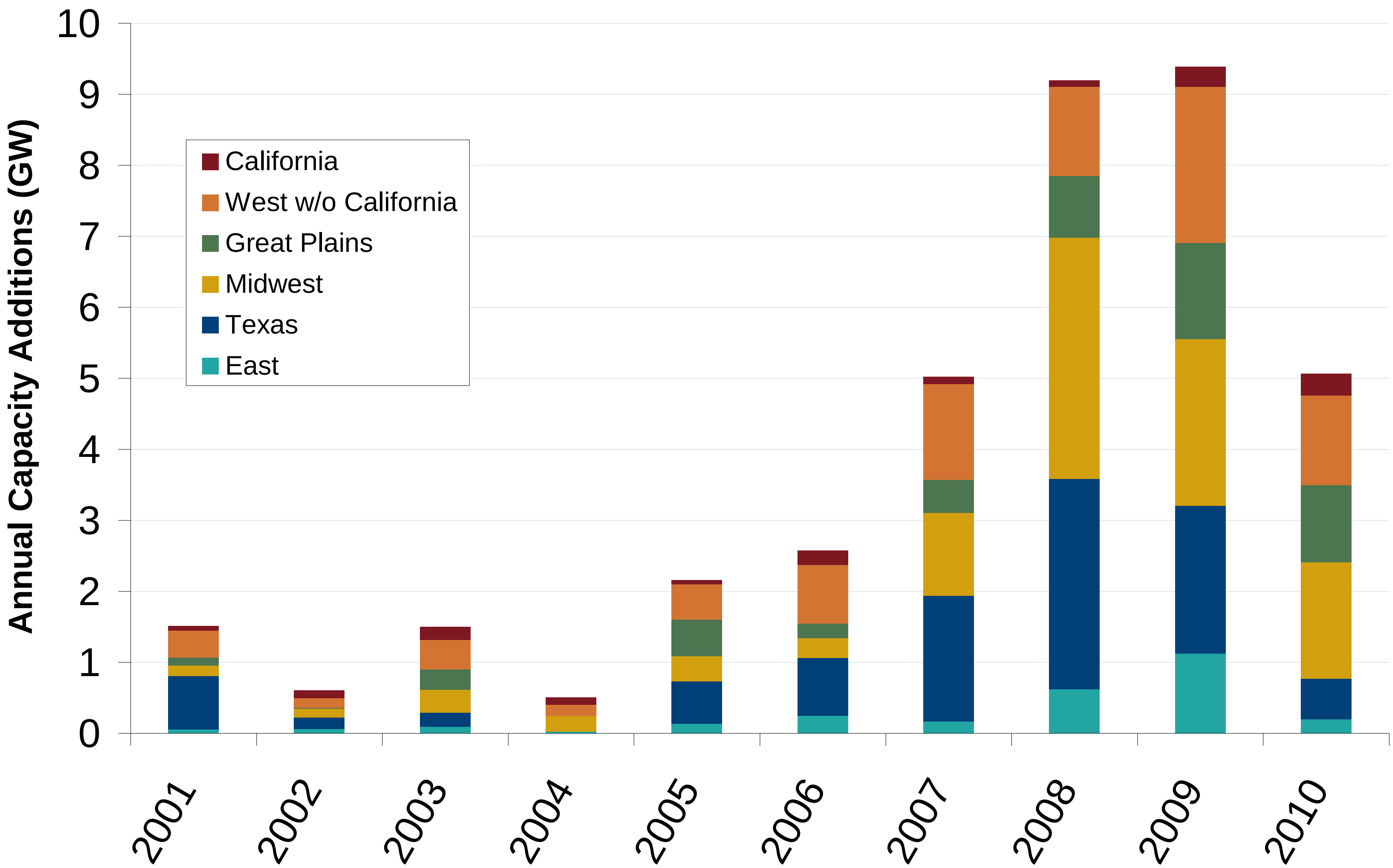
Regional Wind Capacity Growth



West w/o CA: CO, HI, ID, MT, NM, OR, UT, WA, WY
Great Plains: KS, NE, ND, OK, SD
Midwest: IL, IN, IA, MI, MN, MO, OH, WI
East: DE, ME, MA, NH, NJ, NY, PA, RI, TN, VT, WV
Source: Energy Velocity Generating Unit Capacity Dataset

Updated April 5, 2011

2010 Review of Wind Capacity and Generation

- Installed wind capacity grew 8,358 MW to 25,170 MW in 2008 from 16,818 MW in 2007, a 50% increase. Wind power was 43% of new U.S. new electric capacity in 2008, surpassing gas-fired generation.
- Installed capacity grew at a compound annual growth rate (CAGR) of 39% from 2004-08, compared to 28% for 2003-07

National wind policy and developments included:

- Congress extended the production tax credit (PTC) through Dec 2009. Indexed to inflation, it is now worth 2.1¢ per kWh for the first ten years a project operates.
- In Feb. 2009, Congress extended the credit through 2012, its longest renewal ever. This extension provides developers and equipment companies better long-term assurance to invest in projects and manufacturing facilities. The three times the PTC lapsed this decade were followed by declines in new capacity in subsequent years: 2000, 2002, and 2004 (see next chart, "Growth in Installed U.S. Capacity").
- Foreign turbine, tower, and component manufacturers have opened U.S. facilities with the PTC's steady renewal, lowering equipment transportation costs. In 2008, 30 facilities were announced, 10 opened, and 18 existing facilities expanded; 9 came online and 11 were announced in 2007.
- The economic turndown has led to some facility cutbacks, employee layoffs, project delays, and equipment order postponements.

State policies encouraged wind's growth:

- 16 of the top 25 states by cumulative MW had an RPS (14 in 2007), 3 had renewable goals (3 in 2007) while 6 had neither.
- 34% of 2008 capacity additions – 7,454 MW – were in the 20 states with the highest wind potential; 86% of total U.S. wind capacity – 21,741 MW – is in those states.

State policies (continued):

- 80% of total U.S. wind is in the top ten states. The top 5 states by installed capacity (new 2008 MW) are:
  - Texas: 7,116 MW (2,670)
  - Iowa: 2,790 MW (1,519)
  - California: 2,517 MW (78)
  - Minnesota: 1,752 MW (454)
  - Washington: 1,375 MW (212)
- Texas kept its lead as the state with the most wind capacity; Iowa passed California for 2nd place. Oregon and Colorado each have more than 1,000 MW installed.

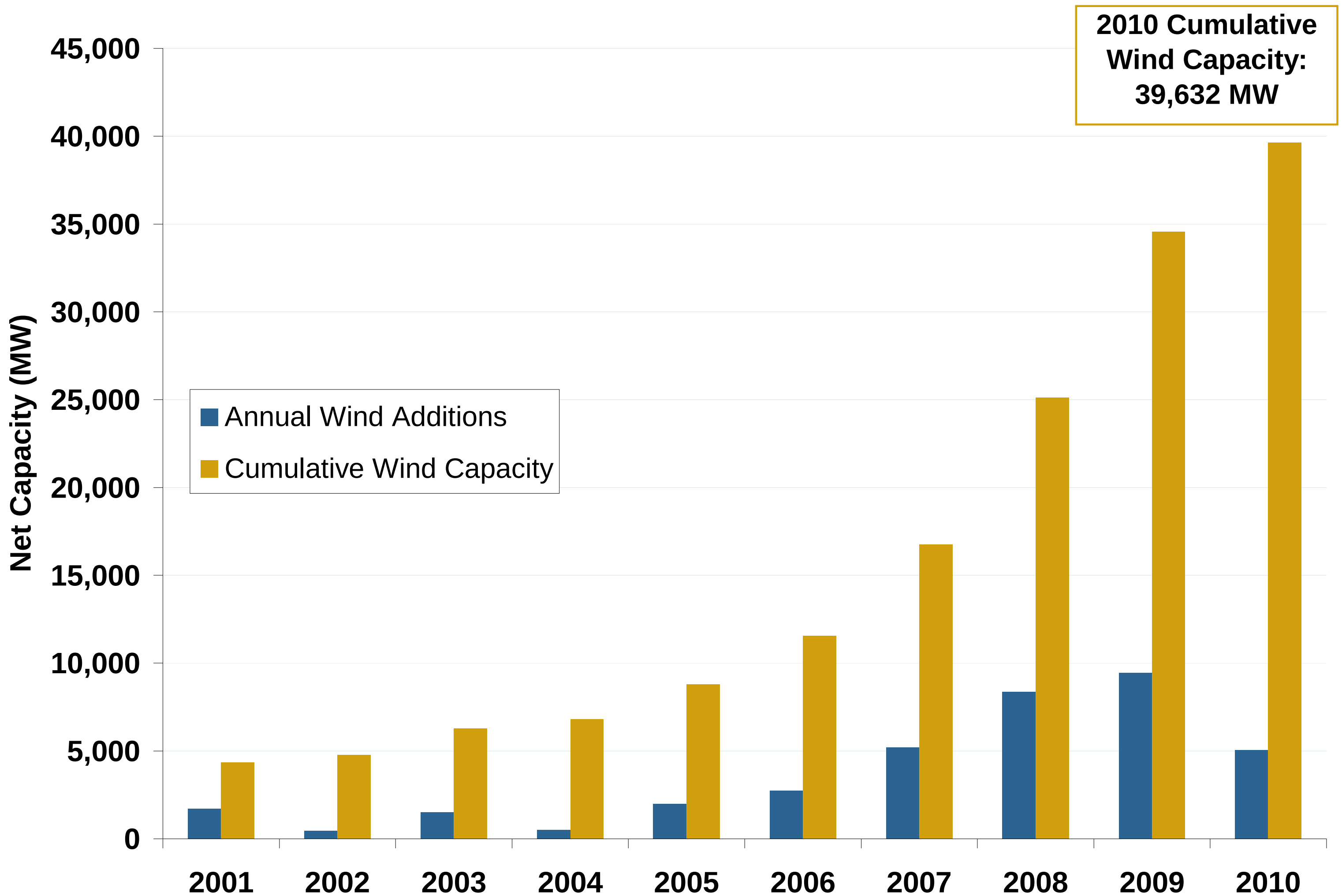
The Commission acted to improve wind interconnection:

- Wind's rapid capacity growth created a backlog in many interconnection queues. FERC held a technical conference in December 2007 (AD08-2) to re-examine its Large Generator Interconnection Rule (Order 2003). ISOs and RTOs reported that queuing procedures specified in the Order impeded their timely interconnection of wind resources.
- In March 2008, FERC directed RTOs and ISOs to report on the status of their efforts to improve the processing of projects in their queues; it offered guidance on reforms including increased staffing, more efficient modeling, or clustering requests.** Queue reform Orders were subsequently approved for the Midwest ISO (2008), California (2008), and ISO-New England (2009).
- FERC accepted the tariff provisions NYISO proposed, which allowed it to implement a centralized program to incorporate wind output into its day-ahead and real-time energy markets. Ongoing costs are recovered from wind plant operators.***

* CAGR is a better indicator of growth rates over time than a straight percent.
** *Interconnection Queuing Practices,* 122 FERC ¶ 61,252 (2008)
*** *New York Independent System Operator, 123 FERC* ¶ 61,267 (2008)
Source: OE analysis, derived from data in Commission filings; American Wind Energy Association (AWEA); DOE, *Annual Report on U.S. Wind Power*; Energy Velocity; Lawrence Berkeley National Laboratory; and trade press.

Updated February 7, 2011

U.S. Wind Capacity Growth, 2001 – 2010



Source: Energy Velocity Generating Unit Capacity Dataset