

Renewables targets to ride out turbulence

Despite the absence of a federal renewable energy standard, many states are working to their own targets and even going beyond them. But have these targets helped to achieve growth, and has it been widespread? [Mark Anderson](#) looks at the varied landscape across the US

Most people would agree that the targets set by states for utilities to supply a certain percentage of power from renewable sources are helping to build an enormous market for green power across the US and attracting manufacturing and creating jobs in their wake. From California to Maine, 29 states and Washington DC have established their own enforceable goals, requiring utilities to significantly increase the percentage of green electricity they sell — or pay a compliance penalty.

But as individual targets ratchet upward in benchmarked increments over the next 10 to 15 years and renewable energy megawatt totals climb regardless of economic realities, a variety of related issues will cause widespread concern. These range from politically motivated tinkering and uncertainty over federal government support, to inadequate transmission and lower prices for natural gas. So while states with renewable energy standards (RES) are likely to continue to grow their wind power capacity, there are no guarantees in this unsettled US market.

Nevertheless, whether called RES or renewable portfolio standards (RPSS), state-run policies serve as a

Patchy While RES targets encourage wind power, the growth pattern across the US remains varied

safety net for much of the US wind industry. Recent statistics from the Lawrence Berkeley National Laboratory (LBNL) research group suggest that full compliance with cumulative RES policies will require 104GW of new renewable energy by 2035 — more than 91% of that compliance was met with wind power through 2010.

Wind exceeds targets

“States have done pretty well in meeting their standards,” says Ryan Wiser, staff scientist at LBNL. “In fact, the amount of growth in wind over the last number of years has well exceeded that which is strictly required under the state RPS obligations.”

In other words, many states have moved past current targets and are already on their way to satisfying future goals. Extrapolating LBNL’s numbers, Wiser says the total amount of renewables needed annually to fulfill all 30 RES goals across the US is roughly 4GW. “It wasn’t too many years ago that we added 10GW of wind in the US,” Wiser says. So RES policies in many states may become irrelevant, he adds.

Meanwhile, recent momentum towards a federal RES

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XCEL

requiring all 50 states to participate has faded, largely due to political crosswinds and shifting national priorities. And a handful of states, namely Washington, Colorado, Montana and Missouri, have even waged unsuccessful efforts to water down their renewables standards.

“RESs are working, they’re critical, they’re important — especially in a time of lower power demand and an uncertain federal policy horizon,” says Jesse Broehl, a former US editor of *Windpower Monthly* and an advisor with Make Consulting. “But I think the thing to look at, now that they actually start to matter, is whether politicians are able to keep their hands off them.”

New figures from research body Union of Concerned Scientists (UCS) reveal that RESs were created with broad cross-party support. Of the 29 states plus

Ahead Having surpassed some state renewable goals, utility Xcel is aiming for its own overall 15% target by 2012

Washington DC, along with a half-dozen states pursuing voluntary RES targets, all but nine had either a right-wing Republican governor, a Republican-controlled house of representatives or a Republican upper house when they were adopted.

“The RES is not some left-wing policy supporting renewable energy technology,” says UCS energy analyst Jeff Deyette. “It’s something that, across the country, has been a bipartisan effort. People need to step back and look at it — not just have a knee-jerk reaction against something people on the other side of the aisle are for.”

Stronger standards

Efforts to strengthen RES requirements, however, are enjoying some success. California’s new requirement of 33% by 2020 is a formidable challenge, especially as the state failed to meet its old target of 20% by last year. But as one of the world’s largest economies, California’s quest for renewables will keep itself and surrounding states busy for the rest of the decade even if it falls short.

Other states have worked to strengthen their standards as well, adding provisions like offshore requirements and solar stipulations. But not everyone sees raising or lowering RES quotas as a solution.

Minnesota-based utility Xcel has been successfully navigating RES policies in all eight states comprising its service territory. In its home state and in Colorado, the company is ahead of requirements to reach 30% renewables by 2020. Its six other states maintain quotas that are less stringent but, by the end of 2012, Xcel expects to include 4.5GW of wind across its footprint — roughly 15% of its system-wide load.

“We try to develop our wind acquisition plans so that it gives investment opportunities and still meets a

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YOU SAY RES, I SAY RPS WHAT’S IN A NAME?

The two acronyms used to describe renewable energy targets have become synonymous in US nomenclature, serving up alphabet soup along with a light side dish for experts to chew on.

Each term describes the specific goals set by individual states to achieve a required percentage of energy sold by the utilities from renewable sources.

RES, or renewable electricity (or energy) standard, is increasingly seen as the more descriptive moniker in most quarters. But RPS (renewable portfolio standard) remains far more popular.

“For the most part, the people I work with and talk to call it an RPS,” says Kari Lynn Cory, senior energy analyst with the US Department of Energy’s National

Renewable Energy Laboratory (NREL). “Renewable portfolio standard is a lot more common.”

Cory’s NREL colleague, senior staff scientist Lori Bird, concurs. “I think a lot of the industry tried to move to renewable electricity standard because it’s easier to understand,” Bird says. “But we’re used to saying RPS.”

The state-level programmes, which began in the 1990s, were first called RPSs. But several organisations, including the

Warren Leon
Hardly worth legislation change

Union of Concerned Scientists (UCS), tried to change ‘portfolio’ to ‘electricity’ to be clearer for a broad audience — including US Congress during debates that failed to establish a federal version in 2003.

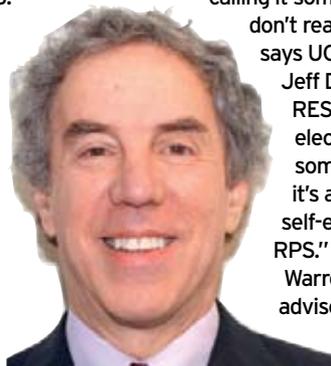
“It’s a tough sell trying to communicate a complex policy by calling it something that people don’t really understand,” says UCS energy analyst Jeff Deyette. “Not that RES or renewable electricity standard is some great name. But it’s a bit more self-explanatory than RPS.”

Warren Leon, a senior advisor to Clean States Energy Alliance, agrees

with Deyette in theory. “But the term RPS is now a historical artefact. Once it gets set up that way, a state is not going to go to the legislature and say, ‘Could you pass legislation to change the name from RPS to RES?’,” he says.

Ryan Wiser, staff scientist at the Lawrence Berkeley National Laboratory, believes the terms are synonymous but appreciates UCS’s argument. “Basically, UCS tried to focus attention on electricity,” he says. “They realised normal people don’t seem to like ‘portfolio’ — it makes them think about stocks and nasty financial people.”

Deyette seems resigned to compromise. “I think we’ve been successful in changing it at the federal level,” he says, “but not as much from state to state.”



reasonable cost threshold," says Kurt Haeger, Xcel's managing director of resource planning. "That can be difficult sometimes, just depending on which states the wind projects are in, because they're all fighting for investment in their own state."

Haeger believes a key issue is the fall in natural gas prices, now around \$40/MWh, while wind projects can reach \$65/MWh or more. That price disparity, combined with the prospect that federal government tax credits and cash grants worth roughly 30% of wind project costs will lapse at the end of 2012 without an extension, may spell trouble for RES targets.

"For projects to come online by the end of 2012, they pretty much have to be moving through the process now," he says. "As for 2013 and 2014, everybody's got to wait to see what happens with the subsidies."

Little effect

Ironically, the two leading states in wind power installation, Texas and Iowa, maintain obsolete RES policies. Texas has achieved more than 10GW and enjoys forward-thinking policy that includes abundant new transmission lines and streamlined approvals.

Iowa, on the other hand, has grown to 3.6GW mainly by selling its wind power, in the form of renewable credits, to help neighbours reach their RES targets. "Iowa's resource is phenomenal but it's driven by the state standards around it," says Deyette. "It would be good to have a stronger policy in Iowa so they could use up more of their in-state generation to meet that target, which would require even more generation from the other states to catch up."

Regardless of all else, debate over the virtues of



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Leading nonetheless

Despite an outdated renewables standard, Texas wind power has thrived from new grid and simple approvals

policies for renewable energy targets is likely to continue. Will they cause electricity prices to rise? Will they foster wind and other renewables projects that otherwise would not have been built? Will they continue to keep the industry afloat in times of low demand for electricity and an uncertain economy?

"It's really a question of what is meant by success," says Warren Leon, senior advisor to Clean Energy States Alliance. "Do you mean meeting a target, or do you mean the biggest difference in terms of bringing the most renewables online that wouldn't have otherwise come online? Those are two different things."

As for the question of RESs raising electricity prices, Leon is equally measured. "The increase in prices, where it has occurred, has been quite modest," he says. "But there are some electricity consumers who view any increase — even 30 cents a month — as significant." ■■■

WINNING THROUGH ADVERSITY MASSACHUSETTS GETS ITS STANDARDS UNDER CONTROL

Massachusetts survived early struggles and got its renewable energy standards (RES) on track after passing legislation in 2002. Now, with offshore prospects including the 468MW Cape Wind, the populous New England state is primed to blow past its goal of 15% renewable energy by 2020.

The Massachusetts renewables requirement climbs by 1% each year, reaching 6% for 2011, with well over a third coming from wind. This proportion is growing despite the fact that the 15MW Berkshire wind project on Brodie Mountain is its only utility-scale wind project. The state largely complies by purchasing renewable energy credits (RECs) from wind projects in New York, Canada and the rest of New England.

"In 2009, wind became the largest contributor to our programme for the first time,"

says Dwayne Breger, director of renewable and alternative energy development at the Massachusetts Department of Energy Resources. "But as much as we're trying to build out wind generation, it's a relatively small state and we have limited onshore resources."

Penalty v purchase

Massachusetts utilities experienced problems at the programme's outset because out-of-state RECs were scarce and expensive, easily reaching \$50/MWh during the early compliance years of 2004-06. But the state's non-compliance penalty fee — \$50/MWh — put a cap on RECs. "Yes, Massachusetts was not meeting its targets," says Warren Leon, senior advisor to Clean Energy States Alliance. "But those

compliance payments were used to fund initial renewable energy development."

Prospects for onshore wind in Massachusetts still remain limited. Good resources on the coast are negated by dense population. And the windy Berkshire Mountains are riddled with community scrutiny. "We're working on some wind-siting reform legislation," Breger says.



Small Most wind plants in the state are not utility scale

"We need a bit more of a straightforward process that developers go through to get permits."

Offshore, meanwhile, is clearly the future for Massachusetts. When Governor Deval Patrick declared a voluntary goal of reaching 2GW of wind power by 2020, no one thought he meant the Berkshires. "We are very keen on meeting that goal," Breger says. "We've taken steps to establish zoning within our state waters to attract wind development."

Nowadays Massachusetts is totally in control of its RES programme. RECs trade at around \$15-20, and the stage is set for an offshore boom. "We anticipated it would be a while before projects got out of the pipeline," Breger says. "But we've been quite impressed with how the market