

Current State of Renewable Portfolio Standards

U.S. Power and Gas Weekly

Morningstar Commodities Research
24 July 2019

Dan Grunwald
Associate, Power and Gas
+1 312 244-7135
daniel.grunwald@morningstar.com

Data Sources Used in This Publication
EIA

To discover more about the data sources used, [click here](#).

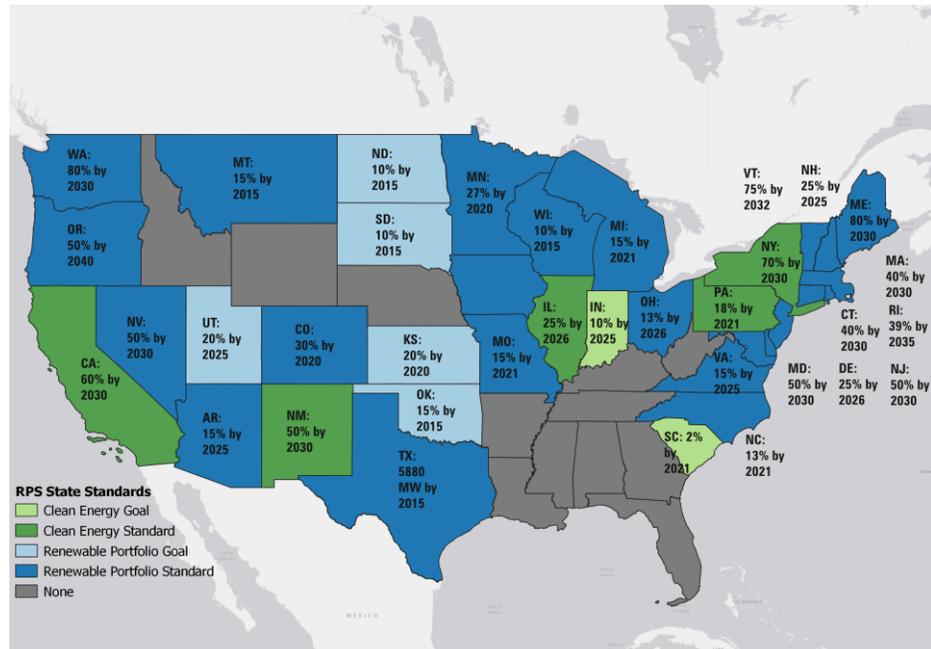
Renewable Portfolio Standards

The past couple of decades saw the emergence of state-level policy addressing climate change in relation to generation fuel mix, with a handful of states enacting renewable standards. Most of this legislation was developed in the 2000s and hasn't been updated. In the meantime, the majority of states have passed some form of renewable standard. Most states have met or surpassed prior goals and this year and last have been busy updating timelines and pushing for 100% carbon-free generation, if not fully renewable. This is despite federal inaction, policy reversals favoring fossil fuels, and President Donald Trump pulling out of the Paris Climate Agreement. This note looks at the current state of renewable portfolio and clean energy standards in the U.S. and their impact on the fuel mix in coming years.

The Current State

Twenty-nine states have passed a renewable or clean energy standard with an additional eight having a voluntary target or goal. The distinguishing factor between the two is that renewable portfolio standards, or RPS, relate only to renewable fuels while clean energy standards allow for carbon capture and nuclear technologies that are carbon-neutral but not renewable. For this note only nuclear is considered for CES in addition to renewables. Exhibit 1 shows the current state-by-state breakdown.

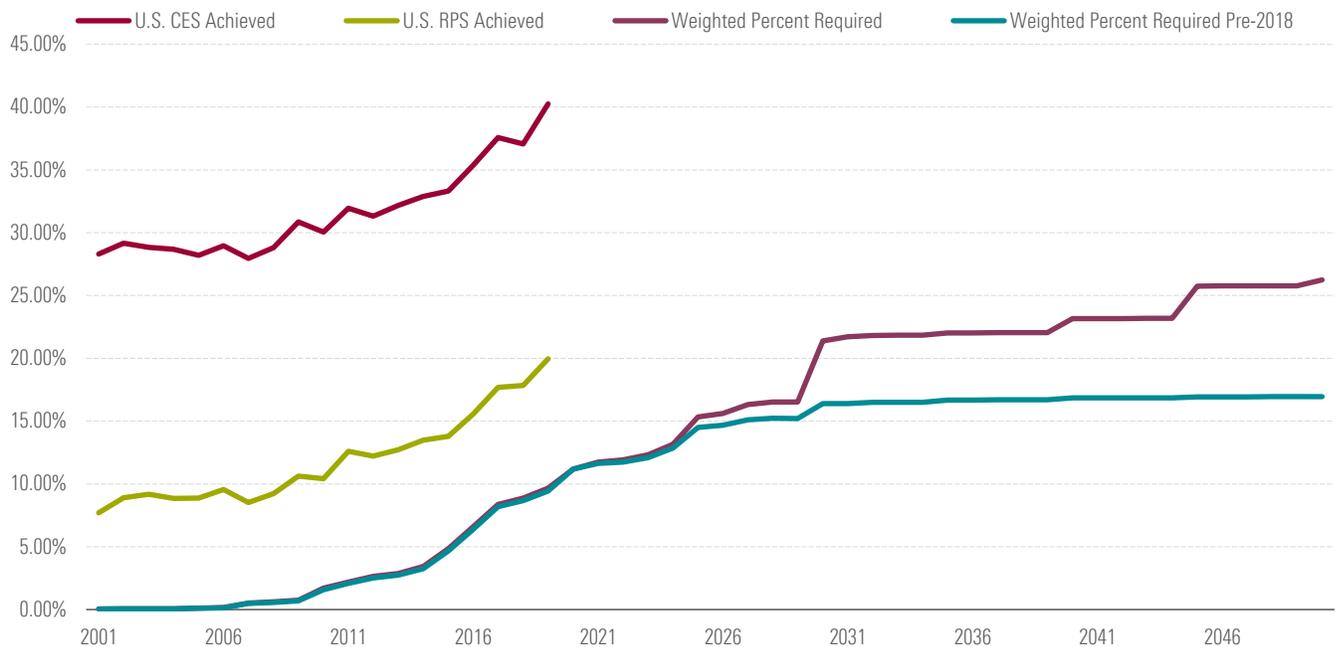
Exhibit 1 Renewable Requirements by State



Source: Morningstar.

Exhibit 2 shows overall U.S. RPS and CES historical goals as well as how much these requirements have shifted in the past two years. The requirements are weighted by percentage of state generation for those states with standards to get an effective U.S. equivalent percentage of required generation. While some states have missed or are on the verge of missing their standard, overall, states are outperforming. In part that is because previous standards were mostly targeted into the mid-2020s and were modest. The newest rounds of standards timelines are extending targets and setting higher goals to go 100% clean or renewable by 2045-50. Even so U.S. totals achieved to date are easily outstripping the overall state goals, as can be seen in Exhibit 2.

Exhibit 2 Present CES Plus RPS Goals and Achievement



Source: EIA, Morningstar

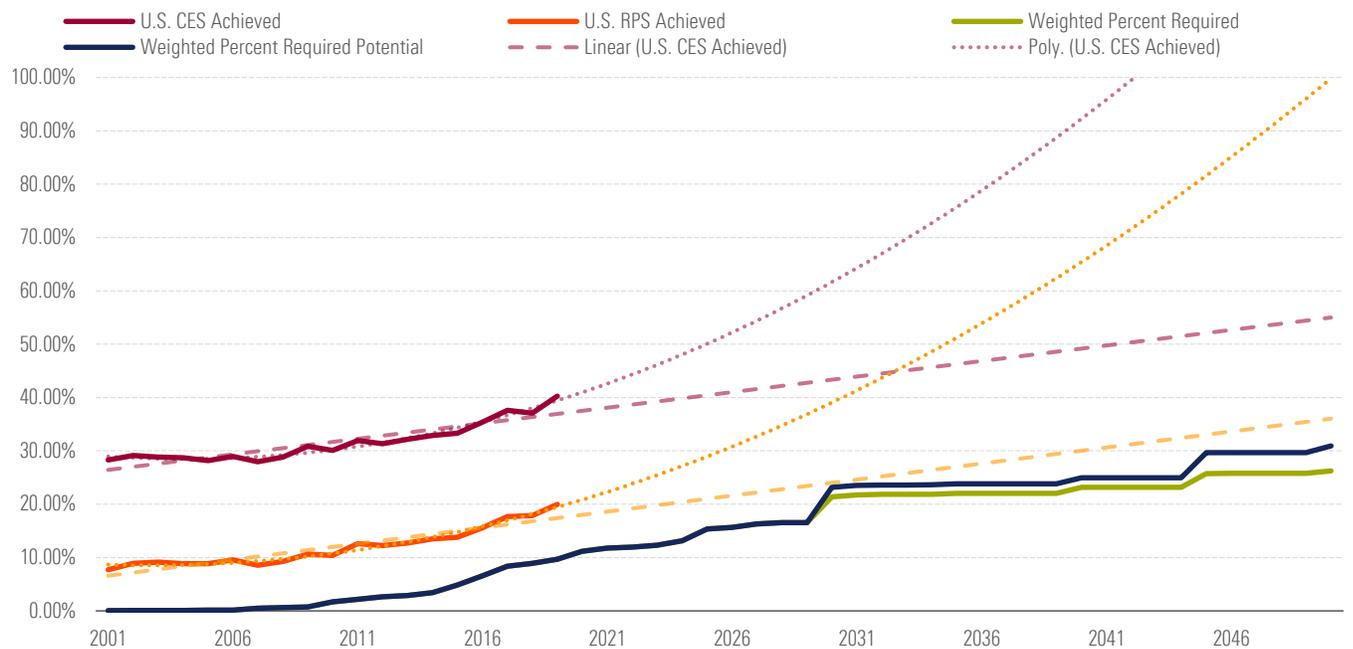
Recent Action

In 2018 and so far in 2019 we have seen a plenty of activity in the standards space. Last year, Connecticut, New Jersey, Massachusetts, and California updated and increased their goals and so far, this year New Mexico, Nevada, Washington, Maryland, Maine, and New York, (last week), have done so. Among them, seven states have now enacted 100% standards or goals. Those are New York by 2040, then Hawaii. California, New Mexico, Nevada, and Washington by 2045, and finally Maine by 2050. The new targets provide the substantial boost to requirements seen in Exhibit 2. So recent legislation is no longer setting the modest goals of the past that helped to get the renewable industry off the ground, but rather is taking the nation's booming wind and solar industries to the next level.

Upcoming State Action Potential

There are a few more states currently considering 100% requirements that have yet to enact them. Minnesota, with House bill HF 2208, would require 100% by 2050. It failed this year in the Minnesota Senate but is a priority for Gov. Tim Walz and will be tried again in the next legislative session. Illinois' Clean Energy Jobs Act is coming to a vote this fall and would target 100% by 2045. Exhibit 3 shows that the addition of Minnesota and Illinois to the mix breaks the 30% overall margin for required clean generation. Michigan has attempted to update its standard recently as well but has had some issues. Even so, utilities consumers and DTE faced off against an environmental coalition earlier this year and agreed to commit to 30% by 2030 and 50% by 2050. Both Colorado and Pennsylvania also show potential to push for legislation increasing their standards. These shifts will add another sizable jump in the forward required clean energy requirements.

Exhibit 3 Potential CES Plus RPS Goals and Achievement



Source: Morningstar.

The Non-States

Of the states that do not have a standard, coal-heavy West Virginia is the lone state to ever have repealed one. Other states like Idaho or Florida that don't have a standard are making sizable switches to renewables anyway. Florida already has some nuclear power that represents clean energy but has been adding considerable solar power. Idaho is already generating considerable wind power without a standard. So even without standards, a shift in the U.S. fuel mix is underway. This is in no small part due

to shifting costs. These saving incentives from lower renewable generation costs add to the state regulated mandates to speed the movement toward renewable fuel generation in the electric markets.

Federal Action

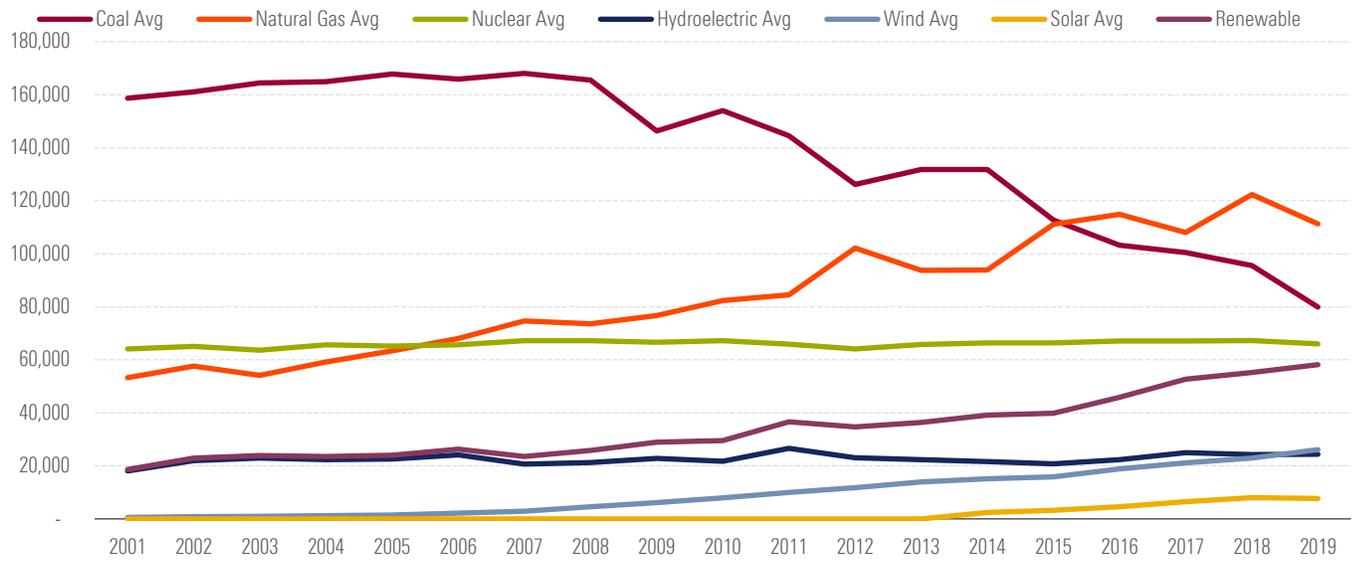
While Trump pulled out of the Paris Agreement and has removed environmental regulations for fossil fuels, the Senate just introduced a national standard last week. That legislation introduced last Wednesday by Sen. Tom Udall would set a national renewable energy standard (RES) of 50% by 2035 and zero-carbon by 2050. The legislation includes targets for larger utilities as soon as 2020. In the end even if it passes the Senate and House, its unlikely the Senate has enough votes for the bill to survive an almost certain Trump veto. So, until after the next Presidential and Senate elections this legislation is dead in the water.

Current Trajectory

The current trajectory of clean and renewable generation is growing at an increasingly rapid pace. At current trends the EIA is forecasting that around 31% of generation will come from renewables by 2030. This would line up right between a linear and exponential growth trend extrapolating from the last 20 years. With solar interconnection queue requests where they are today, we expect a coming solar boom over the next few years. Couple that with continued wind growth onshore and a newcomer on the block of sizable offshore coming from the east, as we have discussed previously see [Offshore Wind on the Horizon](#), the growth trend is assured. If anything, the EIA forecast is likely on the lower side as renewable growth keeps outpacing.

2018 saw annual average renewable generation near 17.8% and so far, we are tracking over 20% in 2019. Fossil fuel displacement seen in coal over the last decade will likely be nearly complete by 2030 given the current trajectory although extremely unlikely to be complete. Looking to Exhibit 4, the last 10 years is a story of coal generation loss is largely being replaced by natural gas, but this may change. Given the push from state initiatives to favor renewables the growth of natural gas is also looking in peril over the next 10 years. Public utility commissions are already hinting this as they deny natural gas generation proposals from utilities in favor of renewables and storage solutions. While natural gas reigns supreme now, the next 10 years we're likely to see the crowning of a new king as combined renewables surpass natural gas.

Exhibit 4 Potential CES Plus RPS Goals and Achievement



Source: Morningstar.

The End Effect

A clear picture is forming that the fuel mix over the next decade is going to be all about wind and solar growth. Along with that growth the coal decline seen in the past decade will continue but the beginning of a decline in natural gas will likely also be coming by the mid-2020s. State actions to shift the electricity fuel mix to cleaner fuels despite federal reversals have had a sizable impact on this trajectory and are adding even more speed as they rapidly advance the change. While continued state and even federal action may come in the next few years the current landscape is already set to drive bearish pressure on both electricity prices as well as natural gas demand. ■■■

About Morningstar® Commodities Research™

Morningstar Commodities Research provides independent, fundamental research differentiated by a consistent focus on the competitive dynamics in worldwide commodities markets. This joint effort between Morningstar's Research and Commodities & Energy groups leverages the expertise of Morningstar's 23 energy, utilities, basic materials, and commodities analysts as well as Morningstar's extensive data platform. Morningstar Commodities Research initially will focus on North American power and natural gas markets with plans to expand coverage of other markets worldwide.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. The company offers an extensive line of products and services for individuals, financial advisors, and institutions. Morningstar's Commodities & Energy group provides superior quality market data and analytical products for energy data management systems, financial and agricultural data management, historical analysis, trading, risk management, and forecasting.

For More Information

+1 800 546-9646 North America

+44 20 3194 1455 Europe

commoditydata-sales@morningstar.com



22 West Washington Street
Chicago, IL 60602 USA

©2019 Morningstar. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses, and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete, or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages, or other losses resulting from, or related to, the information, data, analyses, or opinions or their use. References to "Morningstar Credit Ratings" refer to ratings issued by Morningstar Credit Ratings, LLC, a credit rating agency registered with the Securities and Exchange Commission as a nationally recognized statistical rating organization ("NRSRO"). Under its NRSRO registration, Morningstar Credit Ratings issues credit ratings on financial institutions (e.g., banks), corporate issuers, and asset-backed securities. While Morningstar Credit Ratings issues credit ratings on insurance companies, those ratings are not issued under its NRSRO registration. All Morningstar credit ratings and related analysis are solely statements of opinion and not statements of fact or recommendations to purchase, hold, or sell any securities or make any other investment decisions. Morningstar credit ratings and related analysis should not be considered without an understanding and review of our methodologies, disclaimers, disclosures, and other important information found at <https://ratingagency.morningstar.com>. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. To license the research, call +1 312 696-6869.