State Renewable Energy Programs *Updated July 2019*



Coal mine methane (CMM) is an important resource that can help states meet their renewable portfolio standards (RPS). Of the top 15 coal-producing states in 2017,¹ 5 — Pennsylvania, Ohio, Utah, Indiana, and Colorado — include CMM in their renewable or alternative energy standards.

Efforts to capture and use or destroy CMM are technically similar to methods used to collect and destroy landfill gas. Utilization or destruction of CMM reduces greenhouse gas (GHG) emissions to the atmosphere.

States have used different approaches to incorporate CMM into their renewable or alternative energy portfolio standards. Pennsylvania and Ohio each designate CMM as an "alternative" energy resource rather than a "renewable" energy resource. Generally, renewable energy resources include sources such as solar-electric, solar thermal energy, wind power, hydropower, geothermal energy, fuel cells, and certain biomass energy and biologically derived fuels. However, the designation of alternative energy sources varies from state to state and may include sources such as waste coal, demand-side management, or energy improvement projects; and solid waste conversion technologies. Where CMM is included as part of a state's renewable or alternative energy portfolio standards, other

¹ Wyoming, West Virginia, Pennsylvania, Illinois, Kentucky, Texas, Montana, Indiana, North Dakota, Colorado, Arkansas, Virginia, New Mexico, Alabama, and Ohio. [NMA. 2018. U.S. Coal Production by State, 2006-2017. National Mining Association. Available: <u>https://nma.org/wpcontent/uploads/2017/11/coal production by state 2017p</u>.pdf]. state-level alternative energy incentives for development can also exist.

Pennsylvania

Pennsylvania was the first state to define CMM as an alternative energy fuel in its Alternative Energy Portfolio Standard (AEPS), signed into law November 30, 2004.² The AEPS does not distinguish between renewable and alternative energy resources; it designates all sources as alternative energy. Eligible technologies include demand-side management, waste coal, CMM, and coal gasification. The AEPS requires each electric distribution company and electric generation supplier that sells electricity to customers in Pennsylvania to supply 18 percent of its electricity from alternative energy resources by May 2021, with at least 8 percent from "Tier I" resources (which includes CMM) by May 31, 2021. The Pennsylvania Public Utility Commission is responsible for carrying out and enforcing the requirements of this law.

² Pennsylvania General Assembly. 2004. Alternative Energy Portfolio Standards Act – Enactment Act of Nov. 30, 2004, P.L. 1672, No. 213, Cl. 66. Available: <u>http://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cf</u> m?yr=2004&sessInd=0&act=213.

The AEPS offers a variety of incentives for recovery and use of CMM, including alternative energy credits (AECs), alternative compliance payments (ACPs), alternative energy tax credits, and state grant programs. One AEC is equal to 1 megawatt-hour (MWh) of alternative energy generated. If a utility cannot produce the required AECs for one year, it must purchase ACPs to offset the deficit. AECs are similar to traditional renewable energy certificates (RECs) except that AECs include both renewable energy resources and Pennsylvania-specific alternative resources. Energy derived from alternative energy sources inside Pennsylvania or within the Pennsylvania-New Jersey-Maryland Interconnection (PJM) Service Territory outside the state (the regional transmission group) is eligible to meet the AEPS requirements.

Ohio

Ohio's Alternative Energy Resource Standard (AERS) was created by Senate Bill (S.B.) 221 in May 2008. The AERS combines renewable energy resources and advanced energy resources into one category termed "alternative energy resources." In its current form, the AERS applies to electric utilities and electric service companies serving customers in Ohio, and requires them to provide 12.5 percent of their retail electricity supply from alternative energy sources by 2026.³

In July 2009, legislators amended the original law with Sub House Bill (H.B.) 1 to include methane gas emitted from abandoned coal mines as well as methane from operating coal mines as an alternative energy resource. The law was also amended to include projects with technologies, products, activities, and management practices or strategies that facilitate the generation or use of energy that supports reduced energy consumption or



production of clean renewable energy. Thus, CMM pipeline sales projects could qualify under the revised law.

AERS compliance is achieved by earning or purchasing gualified RECs, which have a lifetime of five years following acquisition. One REC is issued for each MWh of electricity generated by a renewable energy source. At least 50 percent of the renewable energy requirement must be met by in-state facilities, and the remaining 50 percent can be provided from renewable energy resources shown to be deliverable into the state. Only RECs generated after July 31, 2008 from a facility with a capacity of more than 6 kilowatts may be used for compliance. In order to qualify under the AERS, alternative energy and renewable energy facilities must have a placed-in-service date of January 1, 1998 or later and must be a member in good standing of the PJM, the Midcontinent Independent System Operator (the regional electric power market), or other credible tracking system.

The Nelms Mine in Ohio is one of two U.S. AMM projects that have qualified for and used REC incentives.

Utah

Utah established a renewable portfolio goal in the "Energy Resource and Carbon Emission Reduction Initiative" (S.B. 202) enacted in March 2008 (similar to renewable portfolio standards in other states). Under this act, to the extent that it is cost-effective to do so, retail electric sales of each electrical corporation and municipal electric utility shall consist of "qualifying electricity" or RECs, equal to

³ The Public Utilities Commission of Ohio. 2019. Ohio's Renewable Energy Portfolio Standard. Available: <u>http://www.puco.ohio.gov/puco/index.cfm/industry-</u> information/industry-topics/ohioe28099s-renewable-andadvanced-energy-portfoliostandard/#sthash.xNb2QpXc.dpbs.

20 percent of the entity's adjusted retail electricity sales by 2025. Utilities may meet their targets by producing electricity with an eligible form of renewable energy or by purchasing RECs, which do not expire. Utah's policy does not include any interim targets prior to 2025, unlike other state RPS policies.

In early 2010, the Utah legislature passed H.B. 192 "Renewable Energy – Methane Gas," which amended the definition of "renewable energy source" to include "methane gas from an abandoned coal mine or a coal degassing operation associated with a state-approved mine permit" as part of waste gas or waste heat captured or recovered for use as an energy source for an electric generation facility.⁴ Initially, the bill included methane gas from abandoned and working coal mines; however, the Senate Transportation and Public Utilities and Technology Committee's proposed Amendment 01 removed the term "working" in front of coal mines as a potential methane gas resource that might qualify as renewable energy. The amendment was approved by the Senate and House, effective May 11, 2010.

Indiana

In May 2011, Indiana passed the Clean Energy Law (S.B. 251), which established the Clean Energy Portfolio Standard, also known as the Comprehensive Hoosier Option to Incentivize Cleaner Energy (CHOICE) program.⁵ Regulated by the Indiana Utility Regulatory Commission (IURC), the program creates incentives for the state's utilities to voluntarily increase the amount of clean energy resources in their electricity portfolios, and is available to electricity suppliers approved by the IURC. The voluntary goal set forth by the CHOICE program requires that 10 percent of electricity produced be generated from qualifying clean energy sources by 2025. The Clean Energy Law names 21 clean energy sources qualifying under the standard, including coal bed methane.

Electricity suppliers who choose to participate in CHOICE must apply to and be approved by their IURC, and submit a plan to meet the goals, including a detailed business plan and identification of specific projects and resources, as well as proof of compliance with the program's requirements. Similar to Utah, utilities in Indiana can meet this target by producing electricity from an eligible form of renewable energy or by purchasing "Clean Energy Credits," which are defined as 1 MWh of clean energy or 3,412,000 British thermal units (BTU).

Colorado

Colorado became the first state to adopt an RPS by ballot initiative, when voters approved Amendment 37, the "Colorado Renewable Energy Requirement Initiative," in November 2004. More recently, the passing of S.B. 13-252 in 2013 added CMM as an eligible energy resource for utility providers.⁶ As a requirement under the Renewable Energy Standard (RES), electricity generated from CMM must also be shown to be GHG-neutral over a five-year period. The state's RES requires utilities to generate varying percentages of power from eligible energy resources, based on their sector type. By 2020, each sector must generate electricity from eligible energy sources in the following proportions of their retail sales: 30 percent for investor-owned utilities, 20 percent for electric cooperatives serving 100,000 or more meters, 10 percent for electric cooperatives serving fewer than 100,000 meters and 10 percent for

⁴ Utah State Legislature. 2010. H.B. 192 Enrolled. Renewable Energy – Methane Gas. Available: <u>https://le.utah.gov/~2010/bills/static/</u> <u>HB0192.html</u>.

⁵ Indiana Office of Energy Development. 2019. Indiana CHOICE Program. Available: <u>http://www.in.gov/oed/2649.htm</u>.

⁶ Colorado S.B. 13-252. 2013. Concerning Measures to Increase Colorado's Renewable Energy Standard so as to Encourage the Deployment of Methane Capture Technologies. June 5. Available:

http://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcon t3/D1B329AEB8681D4D87257B3900716761?Open&file=25 2_enr.pdf.

municipal utilities serving more than 40,000 customers.

Colorado utilities comply with the RES by obtaining and retiring RECs. One REC is issued for each megawatt-hour of electricity generated by a renewable energy source. An REC is good until the end of the fifth calendar year following the year in which it was generated, and a utility can buy, sell, or trade RECs given that it obtains and retires sufficient RECs to comply with the RES requirements.

Colorado's Elk Creek Mine, operated by Vessels Coal Gas, Inc., has generated and delivered 3 megawatts of electricity to Holy Cross Energy since 2012.⁷ This project is notable because it is the first facility in the United States west of the Mississippi River to generate electricity from methane venting from an active coal mine. In December 2018, the project was certified as a renewable energy resource by Colorado's Public Utility Commission.

⁷ Vessels. 2019. 3 MW LLC. Vessels Carbon Solutions, Inc.

Available: http://vesselscoalgas.com/projects/3mw-llc/.