

Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1 MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2 MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3 MWH of electricity obtained from qualifying renewable or recycled facilities
- 4 MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

MidAmerican Energy began offering energy efficiency programs to South Dakota customers on May 1, 2009. MidAmerican offers a variety of energy efficiency programs aimed at helping residential, commercial, and industrial customers reduce energy use and save money.

In 2015 MidAmerican announced our 100% renewable vision for our customers. Since that announcement, MidAmerican has retained non obligated environmental benefits from our wind portfolio as Renewable Energy Credits (RECs) and retired those certificates on behalf of our customers across multiple jurisdictions. These REC retirements have resulted in MidAmerican exceeding the voluntary state renewable, recycled, and conserved objective in South Dakota.

If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

6 Total amount of RECs retired for CY2016 compliance across all jurisdictions

7 Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

RECs were retired in MRETS and PJM GATS

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

Adair Wind Farm (Adair / Cass county); Adams Wind Farm (Adams County); Carroll Area Wind Farm (Carroll County); Carroll Wind Farm (Carroll County); Charles City Wind Farm (Floyd County); Eclipse Wind Farm (Audubon / Guthrie County); Highland Wind Farm (O'Brien county); Ida Grove Wind Farm (Ida County); Intrepid Wind Farm (Buena Vista / Sac county); Laurel Wind Farm (Marshall county); Morning Light Wind Farm (Adair county); O'Brien Wind Farm (O'Brien county); Pomeroy Wind Farm (Pocahontas / Calhoun county) / Rolling Hills Wind Farm (Adair / Adams / Cass county); Victory Wind Farm (Crawford / Carroll county); Vienna Wind Farm (Marshall / Tama county); Walnut Wind Farm (Pottawattamie county); Century Wind Farm (Wright / Hamilton county), all located in Iowa

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

Iowa Renewable Portfolio Standard: 147,830
Iowa GreenAdvantage Objective: 10,137,082

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Iowa Renewable Portfolio Standard: Storm Lake Wind Farm (Buena Vista county); Davenport Water Pollution Control Plant (Scott county); Des Moines Waste Management (Polk county), all located in Iowa
Iowa GreenAdvantage Objective: Adair Wind Farm (Adair / Cass county); Adams Wind Farm (Adams County); Carroll Area Wind Farm (Carroll County); Carroll Wind Farm (Carroll County); Charles City Wind Farm (Floyd County); Eclipse Wind Farm (Audubon / Guthrie County); Highland Wind Farm (O'Brien county); Ida Grove Wind Farm (Ida County); Intrepid Wind Farm (Buena Vista / Sac county); Laurel Wind Farm (Marshall county); Morning Light Wind Farm (Adair county); O'Brien Wind Farm (O'Brien county); Pomeroy Wind Farm (Pocahontas / Calhoun county) / Rolling Hills Wind Farm (Adair / Adams / Cass county); Victory Wind Farm (Crawford / Carroll county); Vienna Wind Farm (Marshall / Tama county); Walnut Wind Farm (Pottawattamie county); Century Wind Farm (Wright / Hamilton county); Storm Lake Wind Farm (Buena Vista county), all located in Iowa

If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:

12 MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

MidAmerican has not completed an energy efficiency impact evaluation specific to South Dakota. Total kWh savings by measure, along with spending by measure for 2016 was provided in Exhibits A and B of MidAmerican's 2016 South Dakota energy efficiency annual report. Savings for each measure are calculated in accordance with the formulas provided in revised Appendix A of MidAmerican's 2013-2017 South Dakota energy efficiency plan filing.

14 MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

Total kWh savings for demand response programs are estimated through a load research sample that measures actual hourly loads for a sample of demand response customers and estimates from those sample results the total impact for demand response across MidAmerican's service territory based on the total number of participating customers and the total amount of load for those customers. Approximate spending on demand response programs is \$17,000 per year.

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
	40.08%	0.00%	11.90%	35.60%	1.69%	0.00%	0.00%	0.00%	0.00%	10.73%	0.00%	100.00%

Other: For any generation listed under "Other", please provide the generation source and percentage associated with each.

SDCLs

49-34A-101

State renewable, recycled, and conserved energy objective established. There is hereby established a state renewable, recycled, and conserved energy objective that [ten percent of all electricity sold at retail within the state by the year 2015](#) be obtained from renewable, recycled, and conserved energy sources. In the case of renewable and recycled energy, the objective shall be measured by [qualifying megawatt hours delivered at retail or by certificates representing credits purchased and retired to offset nonqualifying retail sales](#). In the case of conserved energy, the objective shall be measured by methods established by rules promulgated by the commission pursuant to chapter 1-26. This objective is [voluntary, and there is no penalty or sanction for a retail provider of electricity that fails to meet this objective](#). The objective applies to each retail provider of electricity in the state, regardless of the ownership status of the electricity retailer. Any municipal or cooperative utility that receives wholesale electricity through a municipal power agency or generation and transmission cooperative may aggregate the utility's renewable, recycled, and conserved energy objective resources to meet this objective.

Source: SL 2008, ch 244, § 1; SL 2009, ch 241, § 1.

49-34A-102 **Qualifications for meeting renewable, recycled, and conserved energy objective.**

Electricity qualifies for meeting the state renewable, recycled, and conserved energy objective if the source meets the requirements of [§§ 49-34A-94 to 49-34A-96](#), inclusive, and the commission's rules for tracking, recording, and verifying renewable energy certificates. Electricity also qualifies for meeting the state renewable, recycled, and conserved energy objective if the source is [conserved energy and meets the requirements established by rules promulgated by the commission](#) pursuant to chapter 1-26.

Source: SL 2008, ch 244, § 2; SL 2009, ch 241, § 2.

49-34A-103 **Calculation of amount of electricity from renewable, recycled, and conserved energy source.**

For the purpose of calculating the amount of electricity from a renewable, recycled, and conserved energy source needed to meet the state renewable and recycled energy objective, a retail provider may deduct from the [provider's baseline of total retail sales the proportion of electricity obtained from a hydroelectric facility with an inservice date](#) before July 1, 2008.

Source: SL 2008, ch 244, § 3; SL 2009, ch 241, § 3.

49-34A-104

Evaluation of use as reasonable and cost effective. Before using new renewable, recycled, and conserved energy after July 1, 2008, to meet the objective, the retail provider or the provider's generation supplier shall make an evaluation to determine if the use of new renewable, recycled, and conserved energy is reasonable and cost effective considering other electricity alternatives. After making such an evaluation and considering the state renewable, recycled, and conserved energy objective, the retail provider or the provider's generation supplier may use the electricity alternative that best meets the provider's resource or customer needs.

Source: SL 2008, ch 244, § 4; SL 2009, ch 241, § 4.

49-34A-105 Annual reports concerning renewable, recycled, and conserved energy objective. Beginning on July 1, 2009, each retail provider shall annually report to the commission on the provider's energy sales during the twelve month period ending on the preceding December thirty-first. This report shall include **information regarding qualifying electricity delivered and renewable and recycled energy certificates purchased and retired as a percentage of annual retail sales, the amount of conserved energy as a percentage of annual retail sales, and a brief narrative report that describes steps taken to meet the state renewable, recycled, and conserved energy objective over time and identifies any challenges or barriers encountered in meeting the objective.** The **last annual report shall be made on July 1, 2017.** The commission shall make the data and narrative reports available and accessible to the public on the internet. The commission shall compile the data obtained from the reports and submit the data to the Legislature by the following January first. A distribution cooperative may aggregate the cooperative's reporting through generation and transmission cooperatives and a municipal utility may aggregate the utility's reporting through a municipal power agency.

Source: SL 2008, ch 244, § 5; SL 2009, ch 241, § 5.

49-34A-106 Purchase and retirement of renewable energy and recycled energy credits. A portion or all of the renewable energy and recycled energy objective **may be met by the purchase and retirement of renewable energy and recycled energy certificates representing credits** from a qualified source and facility pursuant to §§ 49-34A-101 to 49-34A-106, inclusive. Renewable energy and recycled energy certificates **do not need to be acquired from an in-state facility.**

Source: SL 2008, ch 244, § 6.

ARSDs

- 20:10:38:01** Definitions. Terms defined in SDCL 49-34A-1 have the same meaning when used in this chapter. In addition, terms used in this chapter mean:
- (1) "Conserved energy," the reduction of energy or capacity usage achieved through energy efficiency measures and demand response measures;
 - (2) "Demand response," temporary changes in energy use by end use customers from their normal consumption patterns in response to changes in the price of energy over time, in response to periods of high energy use, or in response to incentive payments designed to induce lower energy use at times of high wholesale market prices, high energy use, or when system reliability is jeopardized;
 - (3) "Demand response baseline energy use," an estimate of the electricity that would have been consumed in the absence of the implementation of a demand response measure;
 - (4) "Demand response impact evaluation," the performance of studies and activities intended to determine demand response reduction;
 - (5) "Demand response measure," any measure designed, intended, or used to implement demand response;
 - (6) "Demand response reduction," the reduction of electrical consumption achieved during the time a demand response measure was implemented as compared to the demand response baseline energy use;
 - (7) "Energy efficiency," the decrease in electricity requirements of specific customers during any selected period with end-use services of such customers held constant;
 - (8) "Energy efficiency baseline energy use," the energy consumption estimated to have occurred before the energy efficiency measure was implemented and is representative of normal operations;
 - (9) "Energy efficiency impact evaluation," the performance of studies and activities intended to determine the actual savings and other effects from energy efficiency measures;
 - (10) "Energy efficiency measure," any measure designed, intended, or used to improve energy efficiency;

- (11) "Location," the county and state where the facility is located;
- (12) "Post-installation energy use," energy consumption that occurs after an energy efficiency measure is implemented;
- (13) "Reported conserved energy savings," the capability of installed energy efficiency and demand response measures to result in conserved energy. Reported conserved energy savings are an estimate of electricity savings from individual projects where engineering or other calculations were submitted with project proposals for specific energy conservation projects or where deemed savings are used.

Source: 38 SDR 116, effective January 10, 2012.

General Authority: SDCL 49-34A-27, 49-34A-96, 49-34A-101.

Law Implemented: SDCL 49-34A-96, 49-34A-101, 49-34A-102, 49-34A-105, 49-34A-106.

20:10:38:02 Applicability of rules. The provisions of §§ 20:10:38:03 through 20:10:38:06, inclusive, [apply only to retail providers who use conserved energy sources to meet the renewable, recycled, and conserved energy objective](#) established by § 49-34A-101. Municipal and cooperative retail providers may aggregate the conserved energy with their wholesale municipal power agency or generation and transmission cooperative suppliers. The retail providers [shall follow the requirements in this chapter to determine the amount of conserved energy](#)

Source: 38 SDR 116, effective January 10, 2012.

General Authority: SDCL 49-34A-27, 49-34A-96, 49-34A-101.

Law Implemented: SDCL 49-34A-96, 49-34A-101, 49-34A-102, 49-34A-105, 49-34A-106.

20:10:38:03 Measurement and verification of energy efficiency measures. A retail provider of electricity [shall use a deemed savings approach or a measured savings approach](#), as appropriate, to estimate or determine the amount of conserved energy achieved through an energy efficiency measure. The [amount of conserved energy achieved through energy efficiency measures shall be validated by the use of an energy efficiency impact evaluation](#). An [energy efficiency impact evaluation shall be performed at appropriate periodic intervals](#) that may be no more frequent than once every three years and shall be consistent with generally accepted industry guidelines for measurement and verification. As necessary, an energy efficiency impact evaluation shall include adjustments to account for factors that are beyond the control of the retail provider of electricity or energy consumer in order to bring baseline energy use and post-installation energy use subject to the same or similar conditions. Adjustments may include weather corrections, occupancy levels and hours, change of building or facility use, and production levels. [The retail provider shall provide a general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year.](#)

If an energy efficiency impact evaluation has not been completed at the time the retail provider's annual report is due, the retail provider may use reported conserved energy savings for the time period the energy efficiency measure was in effect. If the energy efficiency impact evaluation has been completed at the time the retail provider's annual report is due, the retail provider shall report the amount of conserved energy achieved through energy efficiency measures as found in the evaluation.

Source: 38 SDR 116, effective January 10, 2012.

General Authority: SDCL 49-34A-27, 49-34A-96, 49-34A-101.

Law Implemented: SDCL 49-34A-96, 49-34A-101, 49-34A-102, 49-34A-105, 49-34A-106.

20:10:38:04 Deemed savings approach. A deemed savings approach uses pre-determined, validated estimates of energy savings attributable to a particular energy efficiency measure based upon engineering calculations, baseline studies, or reasonable assumptions. A retail provider of electricity may use a deemed savings approach for projects that involve simple energy efficiency measures with documented per-measure values.

Source: 38 SDR 116, effective January 10, 2012.
General Authority: SDCL 49-34A-27, 49-34A-96, 49-34A-101.
Law Implemented: SDCL 49-34A-96, 49-34A-101, 49-34A-102, 49-34A-105, 49-34A-106.

20:10:38:05 Measured savings approaches. A measured savings approach shall be based on one or more of the following methods:

- (1) The use of direct metering and monitoring to measure baseline energy use and post-installation energy use;
- (2) The use of engineering methods that use standard formulas and assumptions to calculate the energy use of baseline and post-installation energy systems;
- (3) The use of statistical analyses to estimate baseline energy use and post-installation energy use; or
- (4) The use of computer models to predict the change in energy use after energy efficiency measures are implemented.

Source: 38 SDR 116, effective January 10, 2012.
General Authority: SDCL 49-34A-4(2), 49-34A-27, 49-34A-101.
Law Implemented: SDCL 49-34A-96, 49-34A-101, 49-34A-102, 49-34A-105, 49-34A-106.

20:10:38:06 Measurement and verification of demand response measures. A retail provider of electricity shall use metering data collection and analyses, statistical estimations, engineering analyses, or a combination of these methods to estimate or determine the amount of conserved energy achieved through a demand response measure. The amount of conserved energy achieved through demand response measures shall be validated by the use of a demand response impact evaluation. A demand response impact evaluation shall be performed at appropriate periodic intervals consistent with generally accepted industry guidelines for measurement and verification. The retail provider shall provide a general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year.

If a demand response impact evaluation has not been completed at the time the retail provider's annual report is due, the retail provider may use reported conserved energy savings for the time period the demand response measure was in effect. If the demand response impact evaluation has been completed at the time the retail provider's annual report is due, the retail provider shall report the amount of conserved energy achieved through demand response measures as found in the evaluation.

Source: 38 SDR 116, effective January 10, 2012.
General Authority: SDCL 49-34A-4(2), 49-34A-27, 49-34A-101.
Law Implemented: SDCL 49-34A-96, 49-34A-101, 49-34A-102, 49-34A-105, 49-34A-106.

20:10:38:07 Renewable energy credit requirements. A provider of electricity that generates electricity from renewable electricity or recycled energy and that retires renewable energy credits to meet the renewable, recycled, and conserved energy objective shall provide to the commission:

- (1) The amount of renewable energy credits that the provider retired, the amount of renewable energy credits that the provider retired to meet South Dakota's renewable energy objective, the tracking system the renewable energy credits were retired under, and the name and location of each facility that produced the retired renewable energy credits; and
- (2) The amount of renewable energy credits that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services, and the name and location of each facility that produced the retired renewable energy credits.

The information shall be provided for the preceding calendar year by July first.

Source: 38 SDR 116, effective January 10, 2012.
General Authority: SDCL 49-34A-4(2), 49-34A-27, 49-34A-96.
Law Implemented: SDCL 49-34A-27, 49-34A-94, 49-34A-95, 49-34A-96, 49-34A-101, 49-34A-102.