

Second Regular Session
Sixty-seventh General Assembly
STATE OF COLORADO

REENGROSSED

*This Version Includes All Amendments
Adopted in the House of Introduction*

LLS NO. 10-0385.03 Duane Gall

HOUSE BILL 10-1001

HOUSE SPONSORSHIP

Tyler,

SENATE SPONSORSHIP

Schwartz and Whitehead,

House Committees

Transportation & Energy
Appropriations

Senate Committees

A BILL FOR AN ACT

101 **CONCERNING INCENTIVES FOR THE INSTALLATION OF NEW**
102 **DISTRIBUTED RENEWABLE ENERGY GENERATION FACILITIES IN**
103 **COLORADO, AND, IN CONNECTION THEREWITH, INCREASING THE**
104 **TARGET PERCENTAGES UNDER THE ELECTRIC UTILITY**
105 **PORTFOLIO STANDARD TO ENCOURAGE COLORADO UTILITIES TO**
106 **GENERATE THREE PERCENT OF THEIR RETAIL ELECTRICITY**
107 **SALES FROM DISTRIBUTED RENEWABLE SOURCES BY THE YEAR**
108 **2020, ADOPTING STANDARDS FOR THE INSTALLATION OF**
109 **DISTRIBUTED SOLAR ELECTRIC GENERATION EQUIPMENT, AND**
110 **MAKING AN APPROPRIATION THEREFOR.**

Bill Summary

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.
Capital letters indicate new material to be added to existing statute.
Dashes through the words indicate deletions from existing statute.

HOUSE
3rd Reading Unamended
February 12, 2010

HOUSE
Amended 2nd Reading
February 11, 2010

(Note: This summary applies to this bill as introduced and does not reflect any amendments that may be subsequently adopted. If this bill passes third reading in the house of introduction, a bill summary that applies to the reengrossed version of this bill will be available at <http://www.leg.state.co.us/billsummaries>.)

Existing law creates a renewable energy portfolio standard (RPS) under which certain electric utilities are required to generate an increasing percentage of their electricity from renewable sources, in a series of increments from 3% in 2007 to 20% in 2020 and thereafter. The bill boosts these RPS percentages to achieve 30% renewable generation by 2020 and requires a portion of the RPS to be met through a subset of renewable generation, "distributed generation" (DG), which does not require additional transmission facilities to connect to the grid.

Section 1 of the bill directs the Colorado public utilities commission (PUC) to consider employment and economic factors when evaluating proposed new electric generation resource acquisitions by utilities, including the use of "best value" employment metrics such as the availability of training programs and the wages, health benefits, and pensions that workers will earn.

Section 2 defines terms, increases the RPS percentages, and, within each RPS percentage, replaces an existing carve-out for solar generation with a larger carve-out for DG (which includes customer-sited solar generation). Section 2 also directs the PUC to monitor compliance with the DG carve-out by issuing a new series of renewable energy credits (RECs) and by redesignating RECs already earned, when appropriate. Finally, section 2 limits the existing 1.25 multiplier for in-state renewable electric generation to utility-scale projects only.

Section 3 gives the PUC discretion to incrementally reduce the existing standard rebate offer (which utilities must pay as an incentive for new customer-sited renewable generation facilities such as rooftop solar panels) from \$2 to some lesser amount if the PUC finds that the market no longer requires this level of subsidy. In addition, section 3 requires that the rebate offer for DG systems decline based on market conditions, as determined by the PUC, but allows the PUC to adopt performance-based incentives for DG systems.

Section 4 allows a utility to develop and own, as part of its rate base, up to 50% of the DG capacity it acquires from power purchase agreements and new construction if the cost is reasonably comparable to current market cost. Section 4 also requires the PUC to allow a utility cost recovery for the construction of new DG on a par with the cost recovery allowed for new coal-fired facilities.

For large DG facilities of one megawatt or more, section 4 directs the PUC to require registration with a regional system for tracking renewable energy generation. Effective January 1, 2012, sections 4 and

7 require new DG installations funded wholly or partly through ratepayer incentives and rebates to be installed by licensed electricians or apprentices, where appropriate, and supervised by persons who are certified by the North American board of certified energy practitioners (NABCEP) or another nationally recognized organization designated by the PUC. Finally, section 4 specifies that DG program expenditures be allocated 10% to wholesale and 90% to retail, with residential and nonresidential retail receiving a proportionate share based on the utility's customer profile. The utility may retain its costs of administering DG programs, not to exceed 5% annually.

Section 5 expressly authorizes any committee formed by executive order for the purpose of studying the desirability of regulating solar installers to submit a request for sunrise review by the department of regulatory agencies under the state's sunrise and sunset law.

Sections 5 and 6 require that for projects funded by federal or state grants or by clean energy loans made through the state's clean energy finance program, the licensing and NABCEP requirements apply beginning July 1, 2011.

Section 8 defines special terms used in sections 4 to 7.

1 *Be it enacted by the General Assembly of the State of Colorado:*

2 **SECTION 1.** The introductory portion to 40-2-124 (1) and
3 40-2-124 (1) (a), (1) (c) (I), (1) (c) (II), (1) (c) (III), (1) (c) (IV), and (1)
4 (c) (VIII), Colorado Revised Statutes, are amended to read:

5 **40-2-124. Renewable energy standard - definitions - net**
6 **metering - legislative declaration.** (1) Each provider of retail electric
7 service in the state of Colorado, other than municipally owned utilities
8 that serve forty thousand customers or ~~less~~ FEWER, shall be considered a
9 qualifying retail utility. Each qualifying retail utility, with the exception
10 of cooperative electric associations that have voted to exempt themselves
11 from commission jurisdiction pursuant to section 40-9.5-104 and
12 municipally owned utilities, shall be subject to the rules established under
13 this article by the commission. No additional regulatory authority of the
14 commission other than that specifically contained in this section is

1 provided or implied. In accordance with article 4 of title 24, C.R.S., on
2 or before October 1, 2007, the commission shall revise or clarify existing
3 rules to establish the following:

4 (a) Definitions of eligible energy resources that can be used to
5 meet the standards. "Eligible energy resources" means recycled energy
6 and renewable energy resources. ~~"Renewable energy resources" means~~
7 ~~solar, wind, geothermal, biomass, new hydroelectricity with a nameplate~~
8 ~~rating of ten megawatts or less, and hydroelectricity in existence on~~
9 ~~January 1, 2005, with a nameplate rating of thirty megawatts or less.~~ The
10 commission shall determine, following an evidentiary hearing, the extent
11 to which such electric generation technologies utilized in an optional
12 pricing program may be used to comply with this standard. A fuel cell
13 using hydrogen derived from an eligible energy resource is also an
14 eligible electric generation technology. Fossil and nuclear fuels and their
15 derivatives are not eligible energy resources. For purposes of this section:

16 (I) "Biomass" means:

17 (A) Nontoxic plant matter consisting of agricultural crops or their
18 byproducts, urban wood waste, mill residue, slash, or brush;

19 (B) Animal wastes and products of animal wastes; or

20 (C) Methane produced at landfills or as a by-product of the
21 treatment of wastewater residuals.

22 (II) "DISTRIBUTED RENEWABLE ELECTRIC GENERATION" OR
23 "DISTRIBUTED GENERATION" MEANS:

24 (A) RETAIL DISTRIBUTED GENERATION; AND

25 (B) WHOLESALE DISTRIBUTED GENERATION.

26 ~~(H)~~ (III) "Recycled energy" means energy produced by a
27 generation unit with a nameplate capacity of not more than fifteen

1 megawatts that converts the otherwise lost energy from the heat from
2 exhaust stacks or pipes to electricity and that does not combust additional
3 fossil fuel. "Recycled energy" does not include energy produced by any
4 system that uses energy, lost or otherwise, from a process whose primary
5 purpose is the generation of electricity, including, without limitation, any
6 process involving engine-driven generation or pumped hydroelectricity
7 generation.

8 (IV) "RENEWABLE ENERGY RESOURCES" MEANS SOLAR, WIND,
9 GEOTHERMAL, BIOMASS, NEW HYDROELECTRICITY WITH A NAMEPLATE
10 RATING OF TEN MEGAWATTS OR LESS, AND HYDROELECTRICITY IN
11 EXISTENCE ON JANUARY 1, 2005, WITH A NAMEPLATE RATING OF THIRTY
12 MEGAWATTS OR LESS.

13 (V) "RETAIL DISTRIBUTED GENERATION" MEANS A RENEWABLE
14 ENERGY RESOURCE THAT IS LOCATED ON THE SITE OF A CUSTOMER'S
15 FACILITIES AND IS INTERCONNECTED ON THE CUSTOMER'S SIDE OF THE
16 UTILITY METER. IN ADDITION, RETAIL DISTRIBUTED GENERATION SHALL
17 PROVIDE ELECTRIC ENERGY PRIMARILY TO SERVE THE CUSTOMER'S LOAD
18 AND SHALL BE SIZED TO SUPPLY NO MORE THAN ONE HUNDRED TWENTY
19 PERCENT OF THE AVERAGE ANNUAL CONSUMPTION OF ELECTRICITY BY THE
20 CUSTOMER AT THAT SITE. FOR PURPOSES OF THIS SUBPARAGRAPH (V), THE
21 CUSTOMER'S "SITE" INCLUDES ALL CONTIGUOUS PROPERTY OWNED OR
22 LEASED BY THE CUSTOMER WITHOUT REGARD TO INTERRUPTIONS IN
23 CONTIGUITY CAUSED BY EASEMENTS, PUBLIC THOROUGHFARES,
24 TRANSPORTATION RIGHTS-OF-WAY, OR UTILITY RIGHTS-OF-WAY.

25 (VI) "WHOLESALE DISTRIBUTED GENERATION" MEANS A
26 RENEWABLE ENERGY RESOURCE IN COLORADO WITH A NAMEPLATE
27 RATING OF THIRTY MEGAWATTS OR LESS AND THAT DOES NOT QUALIFY AS

1 RETAIL DISTRIBUTED GENERATION.

2 (c) Electric resource standards:

3 (I) Except as provided in subparagraph (V) of this paragraph (c),

4 the electric resource standards shall require each qualifying retail utility

5 to generate, or cause to be generated, electricity from eligible energy

6 resources in the following minimum amounts:

7 (A) Three percent of its retail electricity sales in Colorado for the

8 year 2007;

9 (B) Five percent of its retail electricity sales in Colorado for the

10 years 2008 through 2010;

11 (C) ~~Ten~~ TWELVE percent of its retail electricity sales in Colorado

12 for the years 2011 through 2014, WITH DISTRIBUTED GENERATION

13 EQUALING AT LEAST ONE PERCENT OF ITS RETAIL ELECTRICITY SALES IN

14 2011 AND 2012 AND ONE AND ONE-FOURTH PERCENT OF ITS RETAIL

15 ELECTRICITY SALES IN 2013 AND 2014;

16 (D) ~~Fifteen~~ TWENTY percent of its retail electricity sales in

17 Colorado for the years 2015 through 2019, WITH DISTRIBUTED

18 GENERATION EQUALING AT LEAST ONE AND THREE-FOURTHS PERCENT OF

19 ITS RETAIL ELECTRICITY SALES IN 2015 AND 2016 AND TWO PERCENT OF

20 ITS RETAIL ELECTRICITY SALES IN 2017, 2018, AND 2019; and

21 (E) ~~Twenty~~ THIRTY percent of its retail electricity sales in

22 Colorado for the years 2020 and thereafter, WITH DISTRIBUTED

23 GENERATION EQUALING AT LEAST THREE PERCENT OF ITS RETAIL

24 ELECTRICITY SALES.

25 (II) (A) Of the amounts OF DISTRIBUTED GENERATION in

26 SUB-SUBPARAGRAPHS (C), (D), AND (E) OF subparagraph (I) of this

27 paragraph (c), at least ~~four percent shall be derived from solar electric~~

1 ~~generation technologies. At least one-half of this four percent shall be~~
2 ~~derived from solar electric technologies located on-site at customers'~~
3 ~~facilities~~ RETAIL DISTRIBUTED GENERATION.

4 (B) Solar generating equipment located on-site at customers'
5 facilities shall be sized to supply no more than one hundred twenty
6 percent of the average annual consumption of electricity by the consumer
7 at that site. For purposes of this sub-subparagraph (B), the consumer's
8 "site" shall include all contiguous property owned or leased by the
9 consumer, without regard to interruptions in contiguity caused by
10 easements, public thoroughfares, transportation rights-of-way, or utility
11 rights-of-way.

12 (C) DISTRIBUTED GENERATION AMOUNTS IN THE ELECTRIC
13 RESOURCE STANDARD FOR THE YEARS 2015 AND THEREAFTER MAY BE
14 CHANGED BY THE COMMISSION FOR THE PERIOD AFTER DECEMBER 31,
15 2014, IF THE COMMISSION FINDS, UPON APPLICATION BY A QUALIFYING
16 RETAIL UTILITY, THAT THESE PERCENTAGE REQUIREMENTS ARE NO LONGER
17 IN THE PUBLIC INTEREST. IF SUCH A FINDING IS MADE, THE COMMISSION
18 MAY SET THE LOWER DISTRIBUTED GENERATION REQUIREMENTS, IF ANY,
19 THAT SHALL APPLY AFTER DECEMBER 31, 2014. IF THE COMMISSION FINDS
20 THAT THE PUBLIC INTEREST REQUIRES AN INCREASE IN THE DISTRIBUTED
21 GENERATION REQUIREMENTS, THE COMMISSION SHALL REPORT ITS
22 FINDINGS TO THE GENERAL ASSEMBLY.

23 (III) Each kilowatt-hour of electricity generated from eligible
24 energy resources in Colorado, OTHER THAN RETAIL DISTRIBUTED
25 GENERATION, shall be counted as one and one-quarter kilowatt-hours for
26 the purposes of compliance with this standard.

27 (IV) To the extent that the ability of a qualifying retail utility to

1 acquire eligible energy resources is limited by a requirements contract
2 with a wholesale electric supplier, the qualifying retail utility shall acquire
3 the maximum amount allowed by the contract. For any shortfalls to the
4 amounts established by the commission pursuant to subparagraph (I) of
5 this paragraph (c), the qualifying retail utility shall acquire an equivalent
6 amount of either renewable energy credits; documented and verified
7 energy savings through energy efficiency and conservation programs; or
8 a combination of both. Any contract entered into by a qualifying retail
9 utility after December 1, 2004, shall not conflict with this article SECTION.

10 (VIII) ~~Each kilowatt-hour of~~ Electricity from eligible energy
11 resources ~~may take advantage of~~ SHALL BE SUBJECT TO only one of the
12 methods for counting kilowatt-hours set forth in subparagraphs (III), (VI),
13 and (VII) of this paragraph (c).

14 **SECTION 2.** The introductory portion to 40-2-124 (1) and
15 40-2-124 (1) (e) (I), Colorado Revised Statutes, are amended, and the said
16 40-2-124 (1) (e) is further amended BY THE ADDITION OF THE
17 FOLLOWING NEW SUBPARAGRAPHS, to read:

18 **40-2-124. Renewable energy standard - definitions - net**
19 **metering - legislative declaration.** (1) Each provider of retail electric
20 service in the state of Colorado, other than municipally owned utilities
21 that serve forty thousand customers or less FEWER, shall be considered a
22 qualifying retail utility. Each qualifying retail utility, with the exception
23 of cooperative electric associations that have voted to exempt themselves
24 from commission jurisdiction pursuant to section 40-9.5-104 and
25 municipally owned utilities, shall be subject to the rules established under
26 this article by the commission. No additional regulatory authority of the
27 commission other than that specifically contained in this section is

1 provided or implied. In accordance with article 4 of title 24, C.R.S., ~~on~~
2 ~~or before October 1, 2007~~, the commission shall revise or clarify existing
3 rules to establish the following:

4 (e) A standard rebate offer program, under which:

5 (I) (A) Each qualifying retail utility, except for cooperative
6 electric associations and municipally owned utilities, shall make available
7 to its retail electricity customers a standard rebate offer of a ~~minimum of~~
8 ~~two dollars~~ SPECIFIED AMOUNT per watt for the installation of eligible
9 solar electric generation on customers' premises up to a maximum of one
10 hundred kilowatts per installation.

11 (B) ~~Such~~ THE STANDARD REBATE offer shall allow the customer's
12 retail electricity consumption to be offset by the solar electricity
13 generated. To the extent that solar electricity generation exceeds the
14 customer's consumption during a billing month, such excess electricity
15 shall be carried forward as a credit to the following month's consumption.
16 To the extent that solar electricity generation exceeds the customer's
17 consumption during a calendar year, the customer shall be reimbursed by
18 the qualifying retail utility at its average hourly incremental cost of
19 electricity supply over the prior twelve-month period unless the customer
20 makes a one-time election, in writing, to request that the excess electricity
21 be carried forward as a credit from month to month indefinitely until the
22 customer terminates service with the qualifying retail utility, at which
23 time no payment shall be required from the qualifying retail utility for any
24 remaining excess electricity supplied by the customer. The qualifying
25 retail utility shall not apply unreasonably burdensome interconnection
26 requirements in connection with this standard rebate offer. Electricity
27 generated under this program shall be eligible for the qualifying retail

1 utility's compliance with this article.

2 (I.5) THE AMOUNT OF THE STANDARD REBATE OFFER SHALL BE
3 TWO DOLLARS PER WATT; EXCEPT THAT THE COMMISSION MAY SET THE
4 REBATE AT A LOWER AMOUNT IF THE COMMISSION DETERMINES, BASED
5 UPON A QUALIFYING RETAIL UTILITY'S RENEWABLE RESOURCE PLAN OR
6 APPLICATION, THAT MARKET CHANGES SUPPORT THE CHANGE.

7 **SECTION 3.** The introductory portion to 40-2-124 (1) and
8 40-2-124 (1) (f) (IV), (1) (g) (I), (1) (g) (III), (1) (g) (IV), and (1) (i),
9 Colorado Revised Statutes, are amended, and the said 40-2-124 (1) (f) is
10 further amended BY THE ADDITION OF A NEW SUBPARAGRAPH,
11 to read:

12 **40-2-124. Renewable energy standard - definitions - net**
13 **metering - legislative declaration.** (1) Each provider of retail electric
14 service in the state of Colorado, other than municipally owned utilities
15 that serve forty thousand customers or less FEWER, shall be considered a
16 qualifying retail utility. Each qualifying retail utility, with the exception
17 of cooperative electric associations that have voted to exempt themselves
18 from commission jurisdiction pursuant to section 40-9.5-104 and
19 municipally owned utilities, shall be subject to the rules established under
20 this article by the commission. No additional regulatory authority of the
21 commission other than that specifically contained in this section is
22 provided or implied. In accordance with article 4 of title 24, C.R.S., ~~on~~
23 ~~or before October 1, 2007~~, the commission shall revise or clarify existing
24 rules to establish the following:

25 (f) Policies for the recovery of costs incurred with respect to these
26 standards for qualifying retail utilities that are subject to rate regulation
27 by the commission. These policies shall provide incentives to qualifying

1 retail utilities to invest in eligible energy resources in the state of
2 Colorado. Such policies shall include:

3 (IV) Considering, when the qualifying retail utility applies for a
4 certificate of public convenience and necessity under section 40-5-101,
5 rate recovery mechanisms that provide for earlier and timely recovery of
6 costs prudently and reasonably incurred by the qualifying retail utility in
7 developing, constructing, and operating the eligible energy resource,
8 including:

9 (A) Rate adjustment clauses until the costs of the eligible energy
10 resource can be included in the utility's base rates; and

11 (B) A current return on the utility's capital expenditures during
12 construction at the utility's weighted average cost of capital, including its
13 most recently authorized rate of return on equity, during the construction,
14 startup, and operation phases of the eligible energy resource;

15 (VII) A REQUIREMENT THAT ALL DISTRIBUTED RENEWABLE
16 ELECTRIC GENERATION FACILITIES WITH A NAMEPLATE RATING OF ONE
17 MEGAWATT OR MORE BE REGISTERED WITH A RENEWABLE ENERGY
18 GENERATION INFORMATION TRACKING SYSTEM DESIGNATED BY THE
19 COMMISSION.

20 (g) Retail rate impact rule:

21 (I) (A) Except as otherwise provided in subparagraph (IV) of this
22 paragraph (g), for each qualifying utility, the commission shall establish
23 a maximum retail rate impact for this section of two percent of the total
24 electric bill annually for each customer. The retail rate impact shall be
25 determined net of new alternative sources of electricity supply from
26 noneligible energy resources that are reasonably available at the time of
27 the determination.

1 (B) If the retail rate impact does not exceed the maximum impact
2 permitted by this paragraph (g), the qualifying utility may acquire more
3 than the minimum amount of eligible energy resources and renewable
4 energy credits required by this section. AT THE REQUEST OF THE
5 QUALIFYING RETAIL UTILITY AND UPON THE COMMISSION'S APPROVAL, THE
6 QUALIFYING RETAIL UTILITY MAY ADVANCE FUNDS FROM YEAR TO YEAR
7 TO AUGMENT THE AMOUNTS COLLECTED FROM RETAIL CUSTOMERS UNDER
8 THIS PARAGRAPH (g) FOR THE ACQUISITION OF MORE ELIGIBLE ENERGY
9 RESOURCES. SUCH FUNDS SHALL BE REPAID FROM FUTURE RETAIL RATE
10 COLLECTIONS, WITH INTEREST CALCULATED AT THE QUALIFYING RETAIL
11 UTILITY'S AFTER-TAX WEIGHTED AVERAGE COST OF CAPITAL, SO LONG AS
12 THE RETAIL RATE IMPACT DOES NOT EXCEED TWO PERCENT OF THE TOTAL
13 ANNUAL ELECTRIC BILL FOR EACH CUSTOMER.

14 (C) AS BETWEEN RESIDENTIAL AND NONRESIDENTIAL RETAIL
15 DISTRIBUTED GENERATION, THE COMMISSION SHALL DIRECT THE UTILITY
16 TO ALLOCATE ITS EXPENDITURES ACCORDING TO THE PROPORTION OF THE
17 UTILITY'S REVENUE DERIVED FROM EACH OF THESE CUSTOMER GROUPS;
18 EXCEPT THAT THE UTILITY MAY ACQUIRE RETAIL DISTRIBUTED
19 GENERATION AT LEVELS THAT DIFFER FROM THESE GROUP ALLOCATIONS
20 BASED UPON MARKET RESPONSE TO THE UTILITY'S PROGRAMS.

21 (III) Subject to the maximum retail rate impact permitted by this
22 paragraph (g), the qualifying retail utility shall have the discretion to
23 determine, in a nondiscriminatory manner, the price it will pay for
24 renewable energy credits from on-site customer facilities that are no
25 larger than ~~one~~ FIVE hundred kilowatts.

26 (IV) (A) For cooperative electric associations, the maximum retail
27 rate impact for this section is one percent of the total electric bill annually

1 for each customer.

2 (B) NOTWITHSTANDING SUBPARAGRAPH (I) OF THIS PARAGRAPH
3 (g), THE COMMISSION MAY ENSURE THAT CUSTOMERS WHO INSTALL
4 DISTRIBUTED GENERATION CONTINUE TO CONTRIBUTE, IN A
5 NONDISCRIMINATORY FASHION, THEIR FAIR SHARE TO THEIR UTILITY'S
6 RENEWABLE ENERGY PROGRAM FUND OR EQUIVALENT RENEWABLE
7 ENERGY SUPPORT MECHANISM EVEN IF SUCH CONTRIBUTION RESULTS IN A
8 CHARGE THAT EXCEEDS TWO PERCENT OF SUCH CUSTOMERS' ANNUAL
9 ELECTRIC BILLS.

10 (i) Rules necessary for the administration of this article including
11 enforcement mechanisms necessary to ensure that each qualifying retail
12 utility complies with this standard, and provisions governing the
13 imposition of administrative penalties assessed after a hearing held by the
14 commission pursuant to section 40-6-109. The commission shall exempt
15 a qualifying retail utility from administrative penalties for an individual
16 compliance year if the utility demonstrates that the retail rate impact cap
17 described in paragraph (g) of this subsection (1) has been reached and the
18 utility has not achieved full compliance with paragraph (c) of this
19 subsection (1). THE QUALIFYING RETAIL UTILITY'S ACTIONS UNDER AN
20 APPROVED COMPLIANCE PLAN SHALL CARRY A REBUTTABLE PRESUMPTION
21 OF PRUDENCE. Under no circumstances shall the costs of administrative
22 penalties be recovered from Colorado retail customers.

23 **SECTION 4.** Article 2 of title 40, Colorado Revised Statutes, is
24 amended BY THE ADDITION OF THE FOLLOWING NEW
25 SECTIONS to read:

26 **40-2-128. Solar photovoltaic installations - supervision by**
27 **certified practitioners - qualifications of electrical contractors.**

1 (1) EFFECTIVE JANUARY 1, 2012, FOR ALL PHOTOVOLTAIC INSTALLATIONS
2 FUNDED WHOLLY OR PARTIALLY THROUGH RATEPAYER-FUNDED
3 INCENTIVES AS PART OF THE RENEWABLE ENERGY STANDARD ADJUSTMENT
4 ALLOWED UNDER SECTION 40-2-124:

5 (a) (I) THE PERFORMANCE OF ALL PHOTOVOLTAIC ELECTRICAL
6 WORK, THE INSTALLATION OF PHOTOVOLTAIC MODULES, AND THE
7 INSTALLATION OF PHOTOVOLTAIC MODULE MOUNTING EQUIPMENT SHALL
8 BE SUBJECT TO ON-SITE SUPERVISION BY A CERTIFIED PHOTOVOLTAIC
9 ENERGY PRACTITIONER AS DESIGNATED BY THE NORTH AMERICAN BOARD
10 OF CERTIFIED ENERGY PRACTITIONERS (NABCEP) OR ANOTHER
11 NATIONALLY RECOGNIZED PROFESSIONAL ORGANIZATION DESIGNATED BY
12 THE COLORADO STATE ELECTRICAL BOARD BY RULE. UPON THE INITIAL
13 APPLICATION FOR FUNDING OR IN THE INITIAL CONTRACT PROPOSAL, THE
14 APPLICANT SHALL ASSUME RESPONSIBILITY FOR EMPLOYING OR
15 CONTRACTING WITH ONE OR MORE CERTIFIED ENERGY PRACTITIONERS TO
16 SUPERVISE THE INSTALLATION AND AS NECESSARY TO MAINTAIN THE
17 THREE-TO-ONE RATIO REQUIRED BY PARAGRAPHS (b) AND (c) OF THIS
18 SUBSECTION (1), INCLUDING DURING ANY OFF-SITE, PRE-INSTALLATION
19 ASSEMBLY. APPROVAL OF THE PAYMENT OF ANY INCENTIVES FOR THE
20 WORK SHALL BE CONDITIONED UPON THE APPLICANT'S SUPPLYING THE
21 NAME AND CERTIFICATION NUMBER OF EACH CERTIFIED ENERGY
22 PRACTITIONER WHO ACTUALLY PROVIDED ON-SITE SUPERVISION OR WAS
23 PRESENT TO MAINTAIN THE THREE-TO-ONE RATIO REQUIRED BY
24 PARAGRAPHS (c) AND (d) OF THIS SUBSECTION (1).

25 (II) NEITHER THE COMMISSION NOR THE UTILITY SHALL HAVE
26 RESPONSIBILITY FOR MONITORING OR ENFORCING COMPLIANCE WITH THIS
27 SECTION. IT SHALL BE THE RESPONSIBILITY OF THE APPLICANT TO OBTAIN

1 THE INFORMATION REQUIRED BY SUBPARAGRAPH (I) OF THIS PARAGRAPH
2 (a), AND IT SHALL BE THE RESPONSIBILITY OF THE QUALIFYING RETAIL
3 UTILITY TO OBTAIN FROM THE APPLICANT AND RETAIN, FOR AT LEAST ONE
4 YEAR AFTER COMPLETION OF THE INSTALLATION, COPIES OF ALL
5 DOCUMENTATION SUBMITTED BY THE APPLICANT IN CONNECTION WITH
6 THE INSTALLATION.

7 (b) ALL WORK PERFORMED ON THE ALTERNATING-CURRENT SIDE
8 OF THE INVERTER WILL BE PERFORMED BY AN ELECTRICAL CONTRACTOR
9 WHO EMPLOYS A LICENSED JOURNEYMAN ELECTRICIAN OR A LICENSED
10 RESIDENTIAL WIREMAN WHO WILL PERFORM THE WORK. ALL ELECTRICAL
11 WORK THAT PERTAINS TO ARTICLE 23 OF TITLE 12, C.R.S., WILL BE
12 PERFORMED BY AN ELECTRICAL APPRENTICE REGISTERED WITH THE
13 APPROPRIATE STATE REGULATORY AGENCY, A LICENSED JOURNEYMAN
14 ELECTRICIAN, OR A LICENSED RESIDENTIAL WIREMAN. THE APPROPRIATE
15 RATIO OF NO LESS THAN ONE JOURNEYMAN OR RESIDENTIAL WIREMAN FOR
16 EVERY THREE ELECTRICAL APPRENTICES WILL BE MAINTAINED.

17 (c) ON A SYSTEM WITH A DIRECT CURRENT DESIGN CAPACITY OF
18 MORE THAN FIVE HUNDRED KILOWATTS:

19 (I) DURING ANY PHOTOVOLTAIC ELECTRICAL WORK, THE RATIO OF
20 THE NUMBER OF PERSONS WHO ARE ASSISTING WITH THE WORK AND WHO
21 ARE NEITHER LICENSED ELECTRICIANS NOR REGISTERED ELECTRICAL
22 APPRENTICES TO THE NUMBER OF PERSONS WHO ARE CERTIFIED AS
23 PROVIDED IN PARAGRAPH (a) OF THIS SUBSECTION (1) SHALL NEVER
24 EXCEED THREE TO ONE, AND A PERSON WHO IS BOTH LICENSED AND
25 CERTIFIED SHALL NOT COUNT DOUBLE FOR PURPOSES OF MEASURING THIS
26 RATIO; AND

27 (II) THERE SHALL BE AT LEAST ONE ON-SITE SUPERVISOR WHO IS

1 CERTIFIED AS PROVIDED IN PARAGRAPH (a) OF THIS SUBSECTION (1)
2 DURING THE FOLLOWING STAGES; EXCEPT THAT, IF AT ANY TIME DURING
3 ANY OF THE FOLLOWING STAGES, THERE ARE MORE THAN TWELVE PERSONS
4 ON THE WORK SITE WHO ARE NEITHER LICENSED ELECTRICIANS NOR
5 REGISTERED ELECTRICAL APPRENTICES AND WHO ARE NOT CERTIFIED AS
6 PROVIDED IN PARAGRAPH (a) OF THIS SUBSECTION (1), THERE SHALL BE AT
7 LEAST TWO PERSONS WHO ARE CERTIFIED AS PROVIDED IN PARAGRAPH (a)
8 OF THIS SUBSECTION (1) PRESENT ON THE WORK SITE AND PROVIDING
9 DIRECT SUPERVISION:

- 10 (A) THE INSTALLATION OF PHOTOVOLTAIC MODULES;
- 11 (B) THE INSTALLATION OF PHOTOVOLTAIC MODULE MOUNTING
12 EQUIPMENT; AND
- 13 (C) ANY PHOTOVOLTAIC ELECTRICAL WORK.

14 (d) ON A SYSTEM WITH A DIRECT CURRENT DESIGN CAPACITY OF
15 FIVE HUNDRED KILOWATTS OR LESS:

16 (I) THE RATIO OF THE NUMBER OF PERSONS WHO ARE ASSISTING
17 WITH THE WORK AND WHO ARE NEITHER LICENSED ELECTRICIANS NOR
18 REGISTERED ELECTRICAL APPRENTICES TO THE NUMBER OF PERSONS WHO
19 ARE CERTIFIED AS PROVIDED IN PARAGRAPH (a) OF THIS SUBSECTION (1)
20 SHALL NEVER EXCEED THREE TO ONE, AND A PERSON WHO IS BOTH
21 LICENSED AND CERTIFIED SHALL NOT COUNT DOUBLE FOR PURPOSES OF
22 MEASURING THIS RATIO, DURING THE FOLLOWING STAGES:

- 23 (A) THE INSTALLATION OF PHOTOVOLTAIC MODULES;
- 24 (B) THE INSTALLATION OF PHOTOVOLTAIC MODULE MOUNTING
25 EQUIPMENT; AND
- 26 (C) ANY PHOTOVOLTAIC ELECTRICAL WORK; AND

27 (II) THERE SHALL BE, AT ALL TIMES, AT LEAST ONE ON-SITE

1 SUPERVISOR WHO IS CERTIFIED AS PROVIDED IN PARAGRAPH (a) OF THIS
2 SUBSECTION (1).

3 (2) AS USED IN THIS SECTION, UNLESS THE CONTEXT OTHERWISE
4 REQUIRES:

5 (a) (I) "PHOTOVOLTAIC ELECTRICAL WORK" MEANS WIRING,
6 GROUNDING, OR REPAIRING ELECTRICAL APPARATUS AND EQUIPMENT IN
7 A PHOTOVOLTAIC DISTRIBUTED GENERATION SYSTEM.

8 (II) "PHOTOVOLTAIC ELECTRICAL WORK" INCLUDES THE
9 PRE-INSTALLATION ASSEMBLY OF PHOTOVOLTAIC MODULES TO
10 PHOTOVOLTAIC MODULE MOUNTING EQUIPMENT FOR INSTALLATION
11 ON-SITE.

12 (III) "PHOTOVOLTAIC ELECTRICAL WORK" DOES NOT INCLUDE SITE
13 PREPARATION, TRENCHING OR EXCAVATING, HAULING, OR OTHER WORK
14 THAT IS NOT SPECIFICALLY DESCRIBED IN SUBPARAGRAPH (I) OR (II) OF
15 THIS PARAGRAPH (a).

16 (b) "PHOTOVOLTAIC MODULE" MEANS THE MODULE OR PANEL
17 THAT GENERATES ELECTRICITY THROUGH A PHOTOVOLTAIC PROCESS.

18 (c) "PHOTOVOLTAIC MODULE MOUNTING EQUIPMENT" MEANS THE
19 RACKING, MOUNTING, APPARATUS, EQUIPMENT, OR STRUCTURE THAT
20 PHYSICALLY SUPPORTS AND SECURES ONE OR MORE PHOTOVOLTAIC
21 MODULES IN PLACE OR TO A ROOF, WALL, FOUNDATION, OR PEDESTAL.

22 **40-2-129. New resource acquisitions - factors in determination**
23 **- local employment - "best value" metrics.** WHEN EVALUATING
24 ELECTRIC RESOURCE ACQUISITIONS, THE COMMISSION SHALL CONSIDER, ON
25 A QUALITATIVE BASIS, FACTORS THAT AFFECT EMPLOYMENT AND THE
26 LONG-TERM ECONOMIC VIABILITY OF COLORADO COMMUNITIES. TO THIS
27 END, THE COMMISSION SHALL REQUIRE UTILITIES TO REQUEST THE

1 FOLLOWING INFORMATION REGARDING "BEST VALUE" EMPLOYMENT
2 METRICS: THE AVAILABILITY OF TRAINING PROGRAMS, INCLUDING
3 TRAINING THROUGH APPRENTICESHIP PROGRAMS REGISTERED WITH THE
4 UNITED STATES DEPARTMENT OF LABOR, OFFICE OF APPRENTICESHIP AND
5 TRAINING; EMPLOYMENT OF COLORADO WORKERS AS COMPARED TO
6 IMPORTATION OF OUT-OF-STATE WORKERS; LONG-TERM CAREER
7 OPPORTUNITIES; AND INDUSTRY- STANDARD WAGES, HEALTH CARE, AND
8 PENSION BENEFITS. WHEN A UTILITY PROPOSES TO CONSTRUCT NEW
9 FACILITIES OF ITS OWN, THE UTILITY SHALL SUPPLY SIMILAR INFORMATION
10 TO THE COMMISSION.

11 **SECTION 5.** Article 38.5 of title 24, Colorado Revised Statutes,
12 is amended BY THE ADDITION OF A NEW SECTION to read:

13 **24-38.5-104. Photovoltaic installer qualifications - cooperation**
14 **with department of regulatory agencies.** (1) EFFECTIVE JULY 1, 2011,
15 ALL PHOTOVOLTAIC INSTALLATIONS FUNDED WHOLLY OR PARTIALLY
16 THROUGH STATE OR FEDERAL GRANTS, INCLUDING GRANTS UNDER THE
17 FEDERAL "AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009",
18 PUB.L. 111-5, SHALL BE SUBJECT TO THE REQUIREMENTS SET FORTH IN
19 SECTION 40-2-128, C.R.S.

20 (2) IF THE GOVERNOR, BY EXECUTIVE ORDER, APPOINTS A
21 COMMITTEE TO STUDY THE DESIRABILITY OF CREDENTIALING OF SOLAR
22 INSTALLERS, THE COMMITTEE, OR THE GOVERNOR'S ENERGY OFFICE ON THE
23 COMMITTEE'S BEHALF, IS SPECIFICALLY AUTHORIZED TO SUBMIT A
24 PROPOSAL FOR SUCH CREDENTIALING TO THE DEPARTMENT OF
25 REGULATORY AGENCIES PURSUANT TO SECTION 24-34-104.1 (2). IN
26 ADDITION, THE COMMITTEE MAY STUDY AND MAKE RECOMMENDATIONS
27 CONCERNING THE SCOPE-OF-WORK PROVISIONS OF SECTION 40-2-128,

1 SPECIFICALLY INCLUDING ENFORCEMENT OF THE SUPERVISION AND
2 WORKER RATIO REQUIREMENTS OF SECTION 40-2-128 (1) (c) AND (1) (d).

3 **SECTION 6.** 24-38.7-104, Colorado Revised Statutes, is
4 amended BY THE ADDITION OF A NEW SUBSECTION to read:

5 **24-38.7-104. Program administrator - training and**
6 **certification of contractors - reporting.** (2.5) (a) EFFECTIVE JULY 1,
7 2011, THE ISSUANCE OF A CLEAN ENERGY LOAN UNDER THIS ARTICLE FOR
8 THE INSTALLATION OF SOLAR PHOTOVOLTAIC EQUIPMENT SHALL BE
9 CONDITIONED UPON THE BORROWER'S CERTIFICATION THAT:

10 (I) THE PERFORMANCE OF ALL PHOTOVOLTAIC ELECTRICAL WORK,
11 THE INSTALLATION OF PHOTOVOLTAIC MODULES, AND THE INSTALLATION
12 OF PHOTOVOLTAIC MODULE MOUNTING EQUIPMENT SHALL BE SUBJECT TO
13 ON-SITE SUPERVISION BY A CERTIFIED PHOTOVOLTAIC ENERGY
14 PRACTITIONER AS DESIGNATED BY THE NORTH AMERICAN BOARD OF
15 CERTIFIED ENERGY PRACTITIONERS (NABCEP) OR ANOTHER NATIONALLY
16 RECOGNIZED PROFESSIONAL ORGANIZATION DESIGNATED BY THE
17 COLORADO STATE ELECTRICAL BOARD BY RULE. UPON THE INITIAL
18 APPLICATION FOR FUNDING OR IN THE INITIAL CONTRACT PROPOSAL, THE
19 APPLICANT SHALL ASSUME RESPONSIBILITY FOR EMPLOYING OR
20 CONTRACTING WITH ONE OR MORE CERTIFIED ENERGY PRACTITIONERS TO
21 SUPERVISE THE INSTALLATION AND AS NECESSARY TO MAINTAIN THE
22 THREE-TO-ONE RATIO REQUIRED BY SUBPARAGRAPHS (II) AND (III) OF THIS
23 PARAGRAPH (a), INCLUDING DURING ANY OFF-SITE, PRE-INSTALLATION
24 ASSEMBLY. FINAL PAYMENT FOR THE WORK SHALL BE CONDITIONED UPON
25 THE APPLICANT'S SUPPLYING THE NAME AND CERTIFICATION NUMBER OF
26 EACH CERTIFIED ENERGY PRACTITIONER WHO ACTUALLY PROVIDED
27 ON-SITE SUPERVISION OR WAS PRESENT TO MAINTAIN THE THREE-TO-ONE

1 RATIO REQUIRED BY SUBPARAGRAPHS(III) AND (IV) OF THIS SUBSECTION
2 (1).

3 (II) ALL WORK PERFORMED ON THE ALTERNATING-CURRENT SIDE
4 OF THE INVERTER WILL BE PERFORMED BY AN ELECTRICAL CONTRACTOR
5 WHO EMPLOYS A LICENSED JOURNEYMAN ELECTRICIAN OR A LICENSED
6 RESIDENTIAL WIREMAN WHO WILL PERFORM THE WORK. ALL ELECTRICAL
7 WORK THAT PERTAINS TO ARTICLE 23 OF TITLE 12, C.R.S., WILL BE
8 PERFORMED BY AN ELECTRICAL APPRENTICE REGISTERED WITH THE
9 APPROPRIATE STATE REGULATORY AGENCY, A LICENSED JOURNEYMAN
10 ELECTRICIAN, OR A LICENSED RESIDENTIAL WIREMAN. THE APPROPRIATE
11 RATIO OF NO LESS THAN ONE JOURNEYMAN OR RESIDENTIAL WIREMAN FOR
12 EVERY THREE ELECTRICAL APPRENTICES WILL BE MAINTAINED.

13 (III) ON A SYSTEM WITH A DIRECT CURRENT DESIGN CAPACITY OF
14 MORE THAN FIVE HUNDRED KILOWATTS:

15 (A) DURING ANY PHOTOVOLTAIC ELECTRICAL WORK, THE RATIO OF
16 THE NUMBER OF PERSONS WHO ARE ASSISTING WITH THE WORK AND WHO
17 ARE NEITHER LICENSED ELECTRICIANS NOR REGISTERED ELECTRICAL
18 APPRENTICES TO THE NUMBER OF PERSONS WHO ARE CERTIFIED AS
19 PROVIDED IN SUBPARAGRAPH (I) OF THIS PARAGRAPH (a) SHALL NEVER
20 EXCEED THREE TO ONE, AND A PERSON WHO IS BOTH LICENSED AND
21 CERTIFIED SHALL NOT COUNT DOUBLE FOR PURPOSES OF MEASURING THIS
22 RATIO; AND

23 (B) THERE SHALL BE AT LEAST ONE ON-SITE SUPERVISOR WHO IS
24 CERTIFIED AS PROVIDED IN SUBPARAGRAPH (I) OF THIS PARAGRAPH (a)
25 DURING THE INSTALLATION OF PHOTOVOLTAIC MODULES, THE
26 INSTALLATION OF PHOTOVOLTAIC MODULE MOUNTING EQUIPMENT, AND
27 ANY PHOTOVOLTAIC ELECTRICAL WORK; EXCEPT THAT, IF AT ANY TIME

1 DURING ANY OF THESE STAGES, THERE ARE MORE THAN TWELVE PERSONS
2 ON THE WORK SITE WHO ARE NEITHER LICENSED ELECTRICIANS NOR
3 REGISTERED ELECTRICAL APPRENTICES AND WHO ARE NOT CERTIFIED AS
4 PROVIDED IN SUBPARAGRAPH (I) OF THIS PARAGRAPH (a), THERE SHALL BE
5 AT LEAST TWO PERSONS WHO ARE CERTIFIED AS PROVIDED IN
6 SUBPARAGRAPH (I) OF THIS PARAGRAPH (a) PRESENT ON THE WORK SITE
7 AND PROVIDING DIRECT SUPERVISION:

8 (IV) ON A SYSTEM WITH A DIRECT CURRENT DESIGN CAPACITY OF
9 FIVE HUNDRED KILOWATTS OR LESS:

10 (A) DURING THE INSTALLATION OF PHOTOVOLTAIC MODULES, THE
11 INSTALLATION OF PHOTOVOLTAIC MODULE MOUNTING EQUIPMENT, AND
12 ANY PHOTOVOLTAIC ELECTRICAL WORK, THE RATIO OF THE NUMBER OF
13 PERSONS WHO ARE ASSISTING WITH THE WORK AND WHO ARE NEITHER
14 LICENSED ELECTRICIANS NOR REGISTERED ELECTRICAL APPRENTICES TO
15 THE NUMBER OF PERSONS WHO ARE CERTIFIED AS PROVIDED IN PARAGRAPH
16 (a) OF THIS SUBSECTION (1) SHALL NEVER EXCEED THREE TO ONE, AND A
17 PERSON WHO IS BOTH LICENSED AND CERTIFIED SHALL NOT COUNT DOUBLE
18 FOR PURPOSES OF MEASURING THIS RATIO; AND

19 (B) THERE SHALL BE, AT ALL TIMES, AT LEAST ONE ON-SITE
20 SUPERVISOR WHO IS CERTIFIED AS PROVIDED IN SUBPARAGRAPH (I) OF THIS
21 PARAGRAPH (a).

22 (b) AS USED IN THIS SUBSECTION (2.5), THE TERMS
23 "PHOTOVOLTAIC ELECTRICAL WORK" AND "PHOTOVOLTAIC MODULE
24 MOUNTING EQUIPMENT" SHALL HAVE THE MEANINGS SET FORTH IN
25 SECTION 40-2-128, C.R.S.

26 **SECTION 7.** 40-2-109.5, Colorado Revised Statutes, is amended
27 BY THE ADDITION OF A NEW SUBSECTION to read:

1 **40-2-109.5. Incentives for distributed generation - definition.**

2 (3) EFFECTIVE JANUARY 1, 2012, ALL PHOTOVOLTAIC INSTALLATIONS
3 FUNDED WHOLLY OR PARTIALLY THROUGH FINANCIAL INCENTIVES UNDER
4 THIS SECTION SHALL BE SUBJECT TO THE REQUIREMENTS SET FORTH IN
5 SECTION 40-2-128.

6 **SECTION 8. Appropriation.** In addition to any other
7 appropriation, there is hereby appropriated, out of any moneys in the
8 fixed utility fund created in section 40-2-114, Colorado Revised Statutes,
9 not otherwise appropriated, to the department of regulatory agencies, for
10 allocation to the public utilities commission, for the fiscal year beginning
11 July 1, 2010, the sum of fifty-one thousand six hundred fifty-six dollars
12 (\$51,656) cash funds and 0.5 FTE, or so much thereof as may be
13 necessary, for the implementation of this act.

14 **SECTION 9. Act subject to petition - effective date.** This act
15 shall take effect at 12:01 a.m. on the day following the expiration of the
16 ninety-day period after final adjournment of the general assembly (August
17 11, 2010, if adjournment sine die is on May 12, 2010); except that, if a
18 referendum petition is filed pursuant to section 1 (3) of article V of the
19 state constitution against this act or an item, section, or part of this act
20 within such period, then the act, item, section, or part shall not take effect
21 unless approved by the people at the general election to be held in
22 November 2010 and shall take effect on the date of the official
23 declaration of the vote thereon by the governor.