

First Regular Session
Seventy-fourth General Assembly
STATE OF COLORADO

INTRODUCED

LLS NO. 23-0894.01 Sarah Lozano x3858

HOUSE BILL 23-1281

HOUSE SPONSORSHIP

Titone and Vigil,

SENATE SPONSORSHIP

(None),

House Committees
Energy & Environment

Senate Committees

A BILL FOR AN ACT

101 CONCERNING MEASURES TO ADVANCE THE USE OF CLEAN HYDROGEN
102 IN THE STATE.

Bill Summary

(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://leg.colorado.gov>.)

Section 2 of the bill defines clean hydrogen (clean hydrogen) as hydrogen that is:

- Derived from a clean energy resource that uses water as the source of hydrogen; or
- Produced through a process that results in lifecycle greenhouse gas emissions rates that are less than 1.5

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.
Capital letters or bold & italic numbers indicate new material to be added to existing law.
Dashes through the words or numbers indicate deletions from existing law.

kilograms of carbon dioxide equivalent per kilogram of hydrogen, as set forth in applicable federal law.

Section 2 also directs the public utilities commission (commission) to establish a stand-alone application, review, and approval process for investor-owned utility projects that result in the production of clean hydrogen (clean hydrogen project). For a clean hydrogen project to be approved by the commission, an investor-owned utility must submit an application to the commission demonstrating that the clean hydrogen project involves collaboration between the investor-owned utility and a state or federal agency. Any application for a clean hydrogen project must include:

- Best practices utilized by the investor-owned utility to reduce air emissions and environmental impacts, conduct leak detection monitoring, and increase public safety;
- If the investor-owned utility's clean hydrogen production facilities are located in a disproportionately impacted community, a cumulative impact analysis that evaluates past, present, and future impacts; and
- An assessment of the annual volume of water used in electrolysis of water to produce clean hydrogen for the clean hydrogen project.

Section 2 also requires the commission to allow an investor-owned utility to sell clean hydrogen to third parties under a clean hydrogen tariff.

For income tax years commencing on or after January 1, 2024, but before January 1, 2033, **section 3** creates a state income tax credit in specified amounts per kilogram of clean hydrogen used for industrial operations, for operating a heavy-duty vehicle, or for aviation (tax credit). Any taxpayer seeking to claim the tax credit must first apply for and receive a tax credit certificate from the Colorado energy office.

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

2 **SECTION 1. Legislative declaration.** (1) The general assembly
3 finds and declares that:

4 (a) In 2019, Colorado adopted the following goals for the
5 statewide reduction of greenhouse gas pollution from a 2005 baseline:

6 (I) Reducing greenhouse gas pollution by more than twenty-six
7 percent by 2025;

8 (II) Reducing greenhouse gas pollution by more than fifty percent

1 by 2030; and

2 (III) Reducing greenhouse gas pollution by more than ninety
3 percent by 2050;

4 (b) The Colorado Greenhouse Gas Pollution Reduction Roadmap,
5 published by the Colorado energy office and dated January 14, 2021,
6 recognizes that:

7 (I) Achieving the state's greenhouse gas pollution reduction goals
8 will require further technical innovation and economies of scale to bring
9 costs down to generate energy through innovative methods such as clean
10 hydrogen; and

11 (II) Clean hydrogen may be an important resource to lower
12 greenhouse gas emissions from sectors that are harder to decarbonize,
13 such as heavy-duty transportation and heavy industry;

14 (c) The federal government enacted the "Inflation Reduction Act
15 of 2022", Pub.L. 117-169, which recognizes the importance of clean
16 energy production in the fight against climate change and creates
17 important incentives that make investments in clean hydrogen more
18 affordable and attainable;

19 (d) To support diversification of the state's energy production and
20 create well-paid clean energy jobs, Colorado has joined three other
21 regional states in a partnership to pursue funding from the United States
22 department of energy for a regional hydrogen hub; and

23 (e) As Colorado diversifies and decarbonizes its energy economy
24 with clean energy sources, clean hydrogen may play an important role in
25 the resilience of the state's electric grid and for dispatchable electricity
26 generation that complements the use of wind and solar resources, while
27 also helping achieve Governor Polis's goal of one hundred percent

1 renewable electricity generation in the state by 2040.

2 (2) The general assembly therefore declares that state law should:

3 (a) Provide for various methods to advance the use of clean
4 hydrogen in the state;

5 (b) Allow for agencies of the state and users of clean hydrogen in
6 the state to coordinate with each other to take advantage of available
7 federal funding and tax credits; and

8 (c) Ensure that the use of clean hydrogen in the state is in
9 alignment with the state's greenhouse gas emission reduction goals.

10 **SECTION 2.** In Colorado Revised Statutes, **add** 40-2-138 as
11 follows:

12 **40-2-138. Projects for the production of clean hydrogen -**
13 **application process - rules - definitions.** (1) AS USED IN THIS SECTION,
14 UNLESS THE CONTEXT OTHERWISE REQUIRES:

15 (a) "CLEAN HYDROGEN" MEANS:

16 (I) GREEN HYDROGEN, AS DEFINED IN SECTION 40-3.2-108 (2)(j);

17 OR

18 (II) HYDROGEN THAT IS PRODUCED THROUGH A PROCESS THAT
19 RESULTS IN LIFECYCLE GREENHOUSE GAS EMISSIONS RATES THAT ARE
20 WITHIN THE LIFECYCLE GREENHOUSE GAS EMISSIONS RATE RANGES SET
21 FORTH IN 26 U.S.C. SECS. 45V (b)(2)(C) AND 45V (b)(2)(D), AS
22 AMENDED.

23 (b) (I) "CLEAN HYDROGEN PROJECT" MEANS A PROJECT THAT
24 RESULTS IN THE PRODUCTION OF CLEAN HYDROGEN.

25 (II) "CLEAN HYDROGEN PROJECT" INCLUDES ALL PIPELINES,
26 ELECTROLYZERS, TURBINE UPGRADES, ENVIRONMENTAL CONTROLS,
27 MONITORING EQUIPMENT, DEDICATED RENEWABLE ENERGY SOURCES FOR

1 ELECTROLYSIS, AND THE PURCHASE OF CLEAN HYDROGEN FROM THIRD
2 PARTIES.

3 (c) "LIFECYCLE GREENHOUSE GAS EMISSIONS RATE" MEANS
4 LIFECYCLE GREENHOUSE GAS EMISSIONS, AS DEFINED IN 26 U.S.C. SEC.
5 45V (c)(1)(A), AS AMENDED, MEASURED IN ACCORDANCE WITH ANY
6 APPLICABLE FEDERAL INTERNAL REVENUE SERVICE REGULATIONS OR
7 GUIDANCE, SUBJECT TO SUBSECTION (7) OF THIS SECTION.

8 (2) TO FACILITATE THE PRODUCTION OF A CLEAN HYDROGEN
9 ECONOMY IN THE STATE AND TO BEST POSITION THE STATE AND
10 INVESTOR-OWNED UTILITIES IN THE STATE TO CAPTURE ANY AVAILABLE
11 FEDERAL FUNDING AND TAX BENEFITS FOR THE PRODUCTION OF CLEAN
12 HYDROGEN, THE COMMISSION SHALL ESTABLISH A STAND-ALONE
13 APPLICATION, REVIEW, AND APPROVAL PROCESS FOR CLEAN HYDROGEN
14 PROJECTS. FOR A CLEAN HYDROGEN PROJECT TO BE APPROVED BY THE
15 COMMISSION, AN INVESTOR-OWNED UTILITY MUST SUBMIT AN
16 APPLICATION TO THE COMMISSION, AND THE PROJECT MUST INVOLVE
17 COLLABORATION BETWEEN THE INVESTOR-OWNED UTILITY AND A STATE
18 OR FEDERAL AGENCY.

19 (3) IN EVALUATING AN APPLICATION FOR A CLEAN HYDROGEN
20 PROJECT, THE COMMISSION SHALL CONSIDER:

21 (a) IMPACTS ON THE UTILITY WORKFORCE LOCATED IN THE STATE
22 AS PART OF A JUST TRANSITION;

23 (b) THE "BEST VALUE" EMPLOYMENT METRICS REQUIREMENTS
24 DESCRIBED IN SECTION 40-2-129 (1)(b); AND

25 (c) ANY POTENTIAL RATE AND BILL IMPACTS THAT ANY PROPOSED
26 COST-RECOVERY MECHANISM OR STRUCTURE MAY HAVE ON AN
27 INVESTOR-OWNED UTILITY'S CUSTOMERS, INCLUDING POTENTIAL IMPACTS

1 ON RATE STABILITY.

2 (4) ANY APPLICATION FOR A CLEAN HYDROGEN PROJECT MUST
3 INCLUDE:

4 (a) A DESCRIPTION OF BEST PRACTICES UTILIZED BY THE
5 INVESTOR-OWNED UTILITY TO REDUCE AIR EMISSIONS AND
6 ENVIRONMENTAL IMPACTS, CONDUCT LEAK DETECTION MONITORING, AND
7 INCREASE PUBLIC SAFETY;

8 (b) IF THE INVESTOR-OWNED UTILITY'S CLEAN HYDROGEN
9 PRODUCTION FACILITIES ARE LOCATED IN A DISPROPORTIONATELY
10 IMPACTED COMMUNITY, AS DEFINED IN SECTION 24-4-109 (2)(b)(II), A
11 CUMULATIVE IMPACT ANALYSIS THAT EVALUATES PAST, PRESENT, AND
12 FUTURE IMPACTS; AND

13 (c) AN ASSESSMENT OF THE ANNUAL VOLUME OF WATER USED IN
14 ELECTROLYSIS OF WATER TO PRODUCE CLEAN HYDROGEN FOR THE CLEAN
15 HYDROGEN PROJECT.

16 (5) THE COMMISSION SHALL POST ANY APPLICATION FOR A CLEAN
17 HYDROGEN PROJECT RECEIVED PURSUANT TO THIS SECTION ON THE
18 COMMISSION'S WEBSITE.

19 (6) (a) THE COMMISSION SHALL ALLOW AN INVESTOR-OWNED
20 UTILITY TO SELL CLEAN HYDROGEN TO THIRD PARTIES, INCLUDING
21 COMMERCIAL, INDUSTRIAL, AND TRANSPORTATION CUSTOMERS, UNDER A
22 CLEAN HYDROGEN TARIFF. THE AMOUNT OF THE TARIFF MAY INCLUDE
23 COSTS TO DEVELOP CLEAN HYDROGEN THROUGH ELECTROLYSIS.

24 (b) THE COMMISSION SHALL PROMULGATE RULES TO IMPLEMENT
25 AND ADMINISTER THE REQUIREMENTS OF SUBSECTION (6)(a) OF THIS
26 SECTION.

27 (7) IF THE FEDERAL INTERNAL REVENUE SERVICE DOES NOT ADOPT

1 REGULATIONS OR GUIDANCE FOR THE MEASUREMENT OF LIFECYCLE
2 GREENHOUSE GAS EMISSIONS RATES ON AN HOURLY BASIS BEFORE
3 JANUARY 1, 2031, THE COMMISSION SHALL ADOPT GUIDANCE FOR THE
4 MEASUREMENT OF LIFECYCLE GREENHOUSE GAS EMISSIONS RATES ON AN
5 HOURLY BASIS.

6 **SECTION 3.** In Colorado Revised Statutes, **add** 39-22-549 as
7 follows:

8 **39-22-549. Clean hydrogen tax credit - qualified uses - tax**
9 **preference performance statement - definitions - legislative**
10 **declaration - repeal.** (1) (a) IN ACCORDANCE WITH SECTION 39-21-304
11 (1), WHICH REQUIRES EACH BILL THAT CREATES A NEW TAX EXPENDITURE
12 TO INCLUDE A TAX PREFERENCE PERFORMANCE STATEMENT AS PART OF A
13 STATUTORY LEGISLATIVE DECLARATION, THE GENERAL ASSEMBLY FINDS
14 AND DECLARES THAT THE PURPOSE OF THE TAX CREDIT PROVIDED IN THIS
15 SECTION IS TO INDUCE CERTAIN DESIGNATED BEHAVIOR BY TAXPAYERS.
16 SPECIFICALLY, THE TAX EXPENDITURE IS INTENDED TO PROVIDE TAX
17 RELIEF FOR CERTAIN BUSINESSES OR INDIVIDUALS FOR PURPOSES OF
18 ENCOURAGING THEM TO ENGAGE IN CERTAIN QUALIFIED USES OF CLEAN
19 HYDROGEN.

20 (b) THE GENERAL ASSEMBLY AND THE STATE AUDITOR SHALL
21 MEASURE THE EFFECTIVENESS OF THE CREDIT IN ACHIEVING THE PURPOSE
22 SPECIFIED IN SUBSECTION (1)(a) OF THIS SECTION BASED ON THE
23 INFORMATION REQUIRED TO BE MAINTAINED BY AND REPORTED TO THE
24 STATE AUDITOR BY THE OFFICE PURSUANT TO SUBSECTION (4)(b) OF THIS
25 SECTION.

26 (2) AS USED IN THIS SECTION, UNLESS THE CONTEXT OTHERWISE
27 REQUIRES:

1 (a) "CLEAN HYDROGEN" HAS THE MEANING SET FORTH IN SECTION
2 40-2-138 (1)(a).

3 (b) "DEPARTMENT" MEANS THE DEPARTMENT OF REVENUE.

4 (c) "INDUSTRIAL OPERATIONS" INCLUDES THE OPERATION OF MEAT
5 PACKING PLANTS, DAIRIES, IRON AND STEEL MILLS, CEMENT PLANTS,
6 CONCRETE MANUFACTURING FACILITIES, FOUNDRIES, PULP PAPER
7 MANUFACTURING FACILITIES, PAPERBOARD MILLS, AND MINING
8 OPERATIONS.

9 (d) "LIFECYCLE GREENHOUSE GAS EMISSIONS RATE" MEANS
10 LIFECYCLE GREENHOUSE GAS EMISSIONS, AS DEFINED IN 26 U.S.C. SEC.
11 45V (c)(1)(A), AS AMENDED, MEASURED IN ACCORDANCE WITH ANY
12 APPLICABLE FEDERAL INTERNAL REVENUE SERVICE REGULATIONS OR
13 GUIDANCE, SUBJECT TO SUBSECTION (7) OF THIS SECTION.

14 (e) "OFFICE" MEANS THE COLORADO ENERGY OFFICE CREATED IN
15 SECTION 24-38.5-101.

16 (f) "QUALIFIED USE" MEANS THE USE OF CLEAN HYDROGEN IN THE
17 STATE FOR:

18 (I) INDUSTRIAL OPERATIONS;

19 (II) THE OPERATION OF A HEAVY-DUTY MOTOR VEHICLE, AS
20 DEFINED IN SECTION 25-7.5-102 (11); AND

21 (III) AVIATION.

22 (g) "TAXPAYER" MEANS A PERSON SUBJECT TO TAX PURSUANT TO
23 THIS ARTICLE 22 OR A PERSON OR POLITICAL SUBDIVISION OF THE STATE
24 THAT IS EXEMPT FROM TAX PURSUANT TO SECTION 39-22-112 (1).

25 (h) "TIER ONE GREENHOUSE GAS EMISSIONS RATE" MEANS A
26 QUALIFIED USE OF HYDROGEN THAT RESULTS IN LIFECYCLE GREENHOUSE
27 GAS EMISSIONS RATES THAT ARE WITHIN THE RANGE SET FORTH IN 26

1 U.S.C. SEC. 45V (b)(2)(D), AS AMENDED.

2 (i) "TIER TWO GREENHOUSE GAS EMISSIONS RATE" MEANS A
3 QUALIFIED USE OF HYDROGEN THAT RESULTS IN LIFECYCLE GREENHOUSE
4 GAS EMISSIONS RATES THAT ARE WITHIN THE RANGE SET FORTH IN 26
5 U.S.C. SEC. 45V (b)(2)(C), AS AMENDED.

6 (3) (a) SUBJECT TO THE LIMITATIONS SET FORTH IN SUBSECTION
7 (3)(b) OF THIS SECTION, FOR INCOME TAX YEARS COMMENCING ON OR
8 AFTER JANUARY 1, 2024, BUT BEFORE JANUARY 1, 2033, A TAXPAYER IS
9 ALLOWED A CREDIT AGAINST THE INCOME TAXES IMPOSED BY THIS
10 ARTICLE 22 IN AN AMOUNT EQUAL TO:

11 (I) ONE DOLLAR PER KILOGRAM OF CLEAN HYDROGEN USED FOR A
12 QUALIFIED USE THAT RESULTS IN A TIER ONE GREENHOUSE GAS EMISSIONS
13 RATE IN THE INCOME TAX YEAR; OR

14 (II) FIFTY CENTS PER KILOGRAM OF CLEAN HYDROGEN USED FOR
15 A QUALIFIED USE THAT RESULTS IN A TIER TWO GREENHOUSE GAS
16 EMISSIONS RATE IN THE INCOME TAX YEAR.

17 (b) IN ORDER TO CLAIM THE CREDIT, THE TAXPAYER MUST
18 ANNUALLY APPLY FOR AND RECEIVE A TAX CREDIT CERTIFICATE FROM THE
19 OFFICE PURSUANT TO SUBSECTION (4) OF THIS SECTION. IF THE OFFICE
20 DETERMINES THAT AN APPLICANT IS NOT ENTITLED TO A TAX CREDIT
21 CERTIFICATE UNDER THIS SECTION, THE OFFICE SHALL NOTIFY THE
22 APPLICANT OF ITS DISAPPROVAL IN WRITING.

23 (c) (I) FOR INCOME TAX YEARS COMMENCING ON AND AFTER
24 JANUARY 1, 2024, BUT BEFORE JANUARY 1, 2026, THE OFFICE SHALL NOT
25 ISSUE A TAX CREDIT CERTIFICATE TO A TAXPAYER INDICATING ELIGIBILITY
26 FOR A TAX CREDIT FOR AN AMOUNT EXCEEDING ONE MILLION DOLLARS IN
27 A TAX YEAR.

1 (II) FOR INCOME TAX YEARS COMMENCING ON AND AFTER
2 JANUARY 1, 2026, BUT BEFORE JANUARY 1, 2029, THE OFFICE SHALL NOT
3 ISSUE A TAX CREDIT CERTIFICATE TO A TAXPAYER INDICATING ELIGIBILITY
4 FOR A TAX CREDIT FOR AN AMOUNT EXCEEDING FIVE HUNDRED THOUSAND
5 DOLLARS IN A TAX YEAR.

6 (III) FOR INCOME TAX YEARS COMMENCING ON AND AFTER
7 JANUARY 1, 2029, BUT BEFORE JANUARY 1, 2033, THE OFFICE SHALL NOT
8 ISSUE A TAX CREDIT CERTIFICATE TO A TAXPAYER INDICATING ELIGIBILITY
9 FOR A TAX CREDIT FOR AN AMOUNT EXCEEDING TWO HUNDRED FIFTY
10 THOUSAND DOLLARS IN A TAX YEAR.

11 (4)(a) A TAXPAYER SHALL SUBMIT AN APPLICATION TO THE OFFICE
12 FOR A TAX CREDIT CERTIFICATE TO CLAIM THE CREDIT ALLOWED BY THIS
13 SECTION ON A FORM AND IN A MANNER PRESCRIBED BY THE OFFICE. THE
14 APPLICATION MUST INCLUDE INFORMATION TO ALLOW THE OFFICE TO
15 MAKE A DETERMINATION THAT THE USE IS A QUALIFIED USE AND TO
16 VERIFY THE AMOUNT FOR WHICH THE TAX CREDIT CERTIFICATE IS APPLIED.
17 A TAXPAYER IS ENTITLED TO RECEIVE ONE TAX CREDIT CERTIFICATE PER
18 INCOME TAX YEAR.

19 (b) (I) THE OFFICE SHALL MAINTAIN A DATABASE OF ANY
20 INFORMATION DETERMINED NECESSARY BY THE OFFICE TO EVALUATE THE
21 EFFECTIVENESS OF THE INCOME TAX CREDIT ALLOWED IN THIS SECTION IN
22 MEETING THE PURPOSE SET FORTH IN SUBSECTION (1)(a) OF THIS SECTION
23 AND SHALL PROVIDE SUCH INFORMATION, AND ANY OTHER INFORMATION
24 THAT MAY BE NEEDED, IF AVAILABLE, TO THE STATE AUDITOR AS PART OF
25 THE STATE AUDITOR'S EVALUATION OF THIS TAX EXPENDITURE REQUIRED
26 BY SECTION 39-21-305.

27 (II) THE OFFICE SHALL, IN A SUFFICIENTLY TIMELY MANNER TO

1 ALLOW THE DEPARTMENT TO PROCESS RETURNS CLAIMING THE INCOME
2 TAX CREDIT ALLOWED IN THIS SECTION, PROVIDE THE DEPARTMENT WITH
3 AN ELECTRONIC REPORT FOR THE PRECEDING TAX YEAR LISTING EACH
4 TAXPAYER TO WHICH THE OFFICE ISSUED A TAX CREDIT CERTIFICATE AND
5 THAT INCLUDES THE FOLLOWING INFORMATION:

6 (A) THE TAXPAYER'S NAME;

7 (B) THE AMOUNT OF THE INCOME TAX CREDIT THAT THE
8 CERTIFICATE INDICATES THE TAXPAYER IS ELIGIBLE TO CLAIM; AND

9 (C) THE TAXPAYER'S SOCIAL SECURITY NUMBER OR THE
10 TAXPAYER'S COLORADO ACCOUNT NUMBER AND FEDERAL EMPLOYER
11 IDENTIFICATION NUMBER.

12 (III) THE OFFICE SHALL DEVELOP STANDARDS FOR THE QUALIFIED
13 USES FOR WHICH AN INCOME TAX CREDIT UNDER THIS SECTION IS
14 ALLOWED. THE OFFICE SHALL POST THE STANDARDS ON THE OFFICE'S
15 WEBSITE.

16 (5) IN ORDER TO CLAIM THE CREDIT AUTHORIZED BY THIS SECTION,
17 A TAXPAYER SHALL FILE THE TAX CREDIT CERTIFICATE WITH THE
18 TAXPAYER'S STATE INCOME TAX RETURN, AND, IF THE TAXPAYER IS
19 EXEMPT FROM TAX PURSUANT TO SECTION 39-22-112 (1), THE TAXPAYER
20 SHALL FILE A RETURN PURSUANT TO SECTION 39-22-601 (7)(b). THE
21 AMOUNT OF THE CREDIT THAT THE TAXPAYER MAY CLAIM PURSUANT TO
22 THIS SECTION IS THE AMOUNT STATED ON THE TAX CREDIT CERTIFICATE.

23 (6) IF AN INCOME TAX CREDIT AUTHORIZED IN THIS SECTION
24 EXCEEDS THE INCOME TAX DUE ON THE INCOME OF THE TAXPAYER FOR
25 THE TAXABLE YEAR, THE EXCESS CREDIT MAY NOT BE CARRIED FORWARD
26 AND MUST BE REFUNDED TO THE TAXPAYER.

27 (7) IF THE FEDERAL INTERNAL REVENUE SERVICE DOES NOT ADOPT

1 REGULATIONS OR GUIDANCE FOR THE MEASUREMENT OF LIFECYCLE
2 GREENHOUSE GAS EMISSIONS RATES ON AN HOURLY BASIS BEFORE
3 JANUARY 1, 2031, THE OFFICE SHALL ADOPT GUIDANCE FOR THE
4 MEASUREMENT OF LIFECYCLE GREENHOUSE GAS EMISSIONS RATES ON AN
5 HOURLY BASIS.

6 (8) THIS SECTION IS REPEALED, EFFECTIVE DECEMBER 31, 2036.

7 **SECTION 4. Act subject to petition - effective date.** This act
8 takes effect at 12:01 a.m. on the day following the expiration of the
9 ninety-day period after final adjournment of the general assembly; except
10 that, if a referendum petition is filed pursuant to section 1 (3) of article V
11 of the state constitution against this act or an item, section, or part of this
12 act within such period, then the act, item, section, or part will not take
13 effect unless approved by the people at the general election to be held in
14 November 2024 and, in such case, will take effect on the date of the
15 official declaration of the vote thereon by the governor.