

**First Regular Session
Seventy-fourth General Assembly
STATE OF COLORADO**

PREAMENDED

*This Unofficial Version Includes Committee
Amendments Not Yet Adopted on Second Reading*

LLS NO. 23-0894.01 Sarah Lozano x3858

HOUSE BILL 23-1281

HOUSE SPONSORSHIP

Titone and Vigil,

SENATE SPONSORSHIP

(None),

House Committees

Energy & Environment
Finance

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 from 2030 to 2050 will require further technical innovation and
9 economies of scale to bring costs down for deployment of innovative
10 technologies both for emission reductions of end uses and to generate
11 energy through innovative methods such as clean hydrogen; and

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

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

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

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

1 also helping achieve Governor Polis's goal of one hundred percent
2 renewable electricity generation in the state by 2040; and

3 (f) The inclusion of clean hydrogen as an element in
4 decarbonization pathways should include comprehensive assessments of
5 clean hydrogen in comparison to alternatives, including consideration of
6 life cycle emissions, costs, impacts on communities, including
7 disproportionately impacted communities, and environmental impacts on
8 water, air, land, and biodiversity.

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

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

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

15 (c) Ensure that the use of clean hydrogen in the state is in
16 alignment with the state's greenhouse gas emission reduction and
17 environmental justice goals.

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

20 **40-2-138. Projects for the production of clean hydrogen -**

21 **rules - definitions.** (1) AS USED IN THIS SECTION, UNLESS THE CONTEXT
22 OTHERWISE REQUIRES:

23 (a) "CLEAN HYDROGEN" MEANS:

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

25 OR

26 (II) HYDROGEN THAT IS PRODUCED THROUGH A PROCESS THAT
27 RESULTS IN LIFECYCLE GREENHOUSE GAS EMISSIONS RATES THAT ARE

1 WITHIN THE LIFECYCLE GREENHOUSE GAS EMISSIONS RATE RANGES SET
2 FORTH IN 26 U.S.C. SECS. 45V (b)(2)(C) AND 45V (b)(2)(D), AS
3 AMENDED.

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

6 (II) "CLEAN HYDROGEN PROJECT" INCLUDES ALL PIPELINES,
7 ELECTROLYZERS, TURBINE UPGRADES, ENVIRONMENTAL CONTROLS,
8 MONITORING EQUIPMENT, DEDICATED RENEWABLE ENERGY SOURCES FOR
9 ELECTROLYSIS, AND THE PURCHASE OF CLEAN HYDROGEN FROM THIRD
10 PARTIES.

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

16 (2) THE COMMISSION SHALL INITIATE A PROCEEDING, NO
17 LATER THAN AUGUST 1, 2023, AND ADOPT RULES, NO LATER THAN
18 SEPTEMBER 1, 2024, TO ADDRESS:

19 (a) AN APPROPRIATE REGULATORY FRAMEWORK, INCLUDING
20 GREENHOUSE GAS EMISSIONS, ECONOMIC, WORKFORCE, ENVIRONMENTAL,
21 AND ENVIRONMENTAL JUSTICE CONSIDERATIONS, FOR POTENTIAL FUTURE
22 CLEAN HYDROGEN PROJECTS;

23 (b) REQUIREMENTS FOR A POTENTIAL APPLICATION BY A UTILITY
24 FOR A CLEAN HYDROGEN PROJECT;

25 (c) A PROCESS FOR REVIEWING AND EVALUATING AN APPLICATION
26 BY A UTILITY FOR A CLEAN HYDROGEN PROJECT; AND

27 (d) REQUIREMENTS NECESSARY TO ENSURE THE HYDROGEN USED

1 IN CLEAN HYDROGEN PROJECTS MEETS THE DEFINITION OF CLEAN
2 HYDROGEN PURSUANT TO SUBSECTION (1)(a) OF THIS SECTION, INCLUDING
3 EMISSIONS ACCOUNTING FOR ADDITIONALITY, CURTAILMENT,
4 DELIVERABILITY, AND HOURLY TEMPORAL MATCHING.

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

7 **39-22-549. Clean hydrogen tax credit - qualified uses - tax**
8 **preference performance statement - definitions - legislative**
9 **declaration - repeal.** (1) (a) IN ACCORDANCE WITH SECTION 39-21-304
10 (1), WHICH REQUIRES EACH BILL THAT CREATES A NEW TAX EXPENDITURE
11 TO INCLUDE A TAX PREFERENCE PERFORMANCE STATEMENT AS PART OF A
12 STATUTORY LEGISLATIVE DECLARATION, THE GENERAL ASSEMBLY FINDS
13 AND DECLARES THAT THE PURPOSE OF THE TAX CREDIT PROVIDED IN THIS
14 SECTION IS TO INDUCE CERTAIN DESIGNATED BEHAVIOR BY TAXPAYERS.
15 SPECIFICALLY, THE TAX EXPENDITURE IS INTENDED TO PROVIDE TAX
16 RELIEF FOR CERTAIN BUSINESSES OR INDIVIDUALS FOR PURPOSES OF
17 ENCOURAGING THEM TO ENGAGE IN CERTAIN QUALIFIED USES OF CLEAN
18 HYDROGEN.

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

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

27 (a) "CLEAN HYDROGEN" HAS THE MEANING SET FORTH IN SECTION

1 40-2-138 (1)(a).

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

3 (c) (I) "HARD TO ELECTRIFY INDUSTRIAL USE" MEANS INDUSTRIAL
4 USES THAT INCLUDE:

5 (A) THE GENERATION OF HEAT OF AT LEAST ONE HUNDRED FIFTY
6 DEGREES CELSIUS FOR INDUSTRIAL PURPOSES; AND

7 (B) ADDITION AS FEEDSTOCK FOR INDUSTRIAL PURPOSES,
8 INCLUDING MANUFACTURE OF STEEL, AMMONIA, FERTILIZER, AND
9 CHEMICALS.

10 (II) "HARD TO ELECTRIFY INDUSTRIAL USE" DOES NOT INCLUDE
11 THE DIRECT USE OF HYDROGEN FOR RESIDENTIAL OR COMMERCIAL
12 HEATING.

13 (d) "LIFECYCLE GREENHOUSE GAS EMISSIONS RATE" MEANS
14 LIFECYCLE GREENHOUSE GAS EMISSIONS, AS DEFINED IN 26 U.S.C. SEC.
15 45V (c)(1)(A), AS AMENDED, MEASURED IN ACCORDANCE WITH ANY
16 APPLICABLE FEDERAL INTERNAL REVENUE SERVICE REGULATIONS OR
17 GUIDANCE, SUBJECT TO SUBSECTION (7) OF THIS SECTION.

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

20 (f) "QUALIFIED USE" MEANS THE USE OF CLEAN HYDROGEN IN THE
21 STATE FOR:

22 (I) HARD TO ELECTRIFY INDUSTRIAL USES;

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

25 (III) AVIATION.

26 (g) "TAXPAYER" MEANS A PERSON SUBJECT TO TAX PURSUANT TO
27 THIS ARTICLE 22 OR A PERSON OR POLITICAL SUBDIVISION OF THE STATE

1 THAT IS EXEMPT FROM TAX PURSUANT TO SECTION 39-22-112 (1).

2 (h) "TIER ONE 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)(D), AS AMENDED.

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

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

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

18 (II) THIRTY-THREE CENTS PER KILOGRAM OF CLEAN HYDROGEN
19 USED FOR A QUALIFIED USE THAT RESULTS IN A TIER TWO GREENHOUSE
20 GAS EMISSIONS RATE IN THE INCOME TAX YEAR.

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

27 (c) (I) FOR INCOME TAX YEARS COMMENCING ON AND AFTER

1 JANUARY 1, 2024, BUT BEFORE JANUARY 1, 2026, THE OFFICE SHALL NOT
2 ISSUE A TAX CREDIT CERTIFICATE TO A TAXPAYER INDICATING ELIGIBILITY
3 FOR A TAX CREDIT FOR AN AMOUNT EXCEEDING ONE MILLION DOLLARS IN
4 A TAX YEAR.

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

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

15 (4) (a) (I) A TAXPAYER SHALL SUBMIT AN APPLICATION TO THE
16 OFFICE FOR A TAX CREDIT CERTIFICATE TO CLAIM THE CREDIT ALLOWED BY
17 THIS SECTION ON A FORM AND IN A MANNER PRESCRIBED BY THE OFFICE.
18 THE APPLICATION MUST INCLUDE INFORMATION TO ALLOW THE OFFICE TO
19 MAKE A DETERMINATION THAT THE USE IS A QUALIFIED USE AND THAT THE
20 HYDROGEN USED MEETS THE DEFINITION OF CLEAN HYDROGEN PURSUANT
21 TO SUBSECTION (2)(a) OF THIS SECTION AND TO VERIFY THE AMOUNT FOR
22 WHICH THE TAX CREDIT CERTIFICATE IS APPLIED. A TAXPAYER IS ENTITLED
23 TO RECEIVE ONE TAX CREDIT CERTIFICATE PER INCOME TAX YEAR.

24 (II) THE APPLICATION DESCRIBED IN SUBSECTION (4)(a)(I) OF THIS
25 SECTION MUST ALSO INCLUDE VERIFICATION FROM THE HYDROGEN
26 PRODUCER PASSED TO THE USER AT THE POINT OF SALE THAT THE
27 HYDROGEN USED MEETS THE DEFINITION OF CLEAN HYDROGEN PURSUANT

1 TO SUBSECTION (2)(a) OF THIS SECTION.

2 (b) (I) THE OFFICE SHALL MAINTAIN A DATABASE OF ANY
3 INFORMATION DETERMINED NECESSARY BY THE OFFICE TO EVALUATE THE
4 EFFECTIVENESS OF THE INCOME TAX CREDIT ALLOWED IN THIS SECTION IN
5 MEETING THE PURPOSE SET FORTH IN SUBSECTION (1)(a) OF THIS SECTION
6 AND SHALL PROVIDE SUCH INFORMATION, AND ANY OTHER INFORMATION
7 THAT MAY BE NEEDED, IF AVAILABLE, TO THE STATE AUDITOR AS PART OF
8 THE STATE AUDITOR'S EVALUATION OF THIS TAX EXPENDITURE REQUIRED
9 BY SECTION 39-21-305.

10 (II) THE OFFICE SHALL, IN A SUFFICIENTLY TIMELY MANNER TO
11 ALLOW THE DEPARTMENT TO PROCESS RETURNS CLAIMING THE INCOME
12 TAX CREDIT ALLOWED IN THIS SECTION, PROVIDE THE DEPARTMENT WITH
13 AN ELECTRONIC REPORT FOR THE PRECEDING TAX YEAR LISTING EACH
14 TAXPAYER TO WHICH THE OFFICE ISSUED A TAX CREDIT CERTIFICATE AND
15 THAT INCLUDES THE FOLLOWING INFORMATION:

16 (A) THE TAXPAYER'S NAME;

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

19 (C) THE TAXPAYER'S SOCIAL SECURITY NUMBER OR THE
20 TAXPAYER'S COLORADO ACCOUNT NUMBER AND FEDERAL EMPLOYER
21 IDENTIFICATION NUMBER.

22 (III) THE OFFICE SHALL DEVELOP STANDARDS FOR THE QUALIFIED
23 USES FOR WHICH AN INCOME TAX CREDIT UNDER THIS SECTION IS
24 ALLOWED. THE OFFICE SHALL POST THE STANDARDS ON THE OFFICE'S
25 WEBSITE.

26 (5) IN ORDER TO CLAIM THE CREDIT AUTHORIZED BY THIS SECTION,
27 A TAXPAYER SHALL FILE THE TAX CREDIT CERTIFICATE WITH THE

1 TAXPAYER'S STATE INCOME TAX RETURN, AND, IF THE TAXPAYER IS
2 EXEMPT FROM TAX PURSUANT TO SECTION 39-22-112 (1), THE TAXPAYER
3 SHALL FILE A RETURN PURSUANT TO SECTION 39-22-601 (7)(b). THE
4 AMOUNT OF THE CREDIT THAT THE TAXPAYER MAY CLAIM PURSUANT TO
5 THIS SECTION IS THE AMOUNT STATED ON THE TAX CREDIT CERTIFICATE.

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

10 (7) IF THE FEDERAL INTERNAL REVENUE SERVICE DOES NOT ADOPT
11 REGULATIONS OR GUIDANCE FOR THE MEASUREMENT OF LIFECYCLE
12 GREENHOUSE GAS EMISSIONS RATES ON AN HOURLY BASIS BEFORE
13 JANUARY 1, 2031, THE OFFICE SHALL ADOPT GUIDANCE FOR THE
14 MEASUREMENT OF LIFECYCLE GREENHOUSE GAS EMISSIONS RATES ON AN
15 HOURLY BASIS.

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

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