

Canada - Alberta Technology Innovation and Emissions Reduction Regulation

General Information

ETS Description

The Alberta Technology Innovation and Emissions Reduction (TIER) Regulation is the province's industrial carbon pricing and emissions trading system. The "Technology Innovation and Emissions Reduction Implementation Act" paved the way for the system, which was implemented in January 2020, replacing former regulations for carbon pricing that had been in place since 2007. It aims to help industrial facilities identify innovative ways to reduce emissions and invest in clean technology, supporting competitiveness and resource efficiency.

The TIER Regulation applies to: (1) large emitters, defined as those that have emitted at least 100,000 tCO₂e in 2016, or any subsequent year, or those that have imported more than 10,000 tonnes of hydrogen in 2023 or any subsequent year; (2) opted-in facilities with emissions under 100,000 tCO₂e/year but more than 2,000 tCO₂e/year; and (3) opted-in aggregate facilities that include two or more small conventional oil and gas facilities.

Covered entities must reduce their emissions intensity (emissions per unit of production) by a set percentage each year, based on one of two benchmarks. Under the facility-specific benchmark methodology, a facility is required to reduce emissions intensity relative to its historical production-weighted average emissions intensity. High performance benchmarks are set based on the average emissions intensity of the most efficient facilities. In most cases, a covered entity is subject to the less stringent of the two benchmarks, and both benchmarks tighten annually.

Covered entities must fulfil a compliance obligation for emissions that exceed their annual emissions limit, determined by their production levels and emissions intensity benchmark. Entities that outperform their targets are granted emission performance credits (EPCs), which can be sold or used in future years. Those that exceed their limits are required to provide compensation by either:

1. purchasing EPCs from other regulated facilities;
2. paying into the TIER fund to purchase a fund credit for each tonne of excess emissions produced at the prescribed TIER Fund Price, set at CAD 95 [USD 67.95] per tonne from 2025 onward;
3. purchasing emissions offset credits generated within Alberta under an approved offset protocol;
4. making direct investments in on-site emissions reduction technologies; or
5. using capture recognition tonnes or sequestration credits.

In 2023, TIER covered 164.7 MtCO₂e of emissions, which represents about 63% of Alberta's total emissions for the year. The total emissions limit under the Alberta TIER Regulation is the sum of the annual emissions limits based on emissions intensity benchmarks for all covered entities. The limit is therefore not set *ex-ante* and is only known after the compliance period ends.

The TIER Regulation meets Canada's federal stringency requirements for carbon pollution pricing systems while achieving emissions reductions using a cost-efficient approach that is tailored to Alberta's industries and priorities.

ETS Status

in force

Jurisdictions

Alberta

Year in Review

In May 2025, the government of Alberta announced a freeze of the TIER Fund price at CAD 95 (USD 67.95) per tonne of CO₂e, halting the previously scheduled annual increases that were set to reach CAD 170 (USD 121.60*) per tonne by 2030. This decision was made in response to economic concerns, including global trade uncertainty and industry feedback regarding competitiveness.

In September 2025, two amendments to the TIER regulation were announced. A new Direct Investment Compliance Pathway was introduced, allowing covered entities to meet part of their compliance obligations through direct investments in on-site emissions reduction technologies. Entities can thus be credited for low-carbon investments in on-site projects.

A second amendment allowed smaller facilities to opt out of the system. Facilities below the regulated emissions threshold that had voluntarily opted into TIER instead of facing the federal fuel charge could choose to opt out early, following the federal government's elimination of the Canadian federal fuel charge as of April 2025.

Following the changes at the federal level, in response to concerns about the continuation of Alberta's key climate policies, the provincial government publicly reaffirmed its commitment to maintaining the TIER system. Industry feedback showed strong support for Alberta's approach, with 95% of respondents believing the province should maintain an industrial carbon market.

*USD conversion based on 2025 IMF exchange rate; actual future exchange rates may differ.

Sectoral coverage

Fuel use in agriculture and/or forestry

Mining and extractives

Industry

Power

Revenue usage

General budget, including debt reduction

Climate mitigation

Low-carbon innovation

Emissions & Targets

Overall GHG Emissions excl. LULUCF (MtCO₂e)

263.0 MtCO₂e (2023)

GHG reduction targets

By 2050: Carbon neutrality ambition (Alberta Emissions Reduction and Energy Development Plan)

Current Allowance Price (per t/CO₂e)

Set TIER Fund price: CAD 95 (USD 67.95)

Size & Phases

Covered emissions (2023)

62.50%

Verified ETS Emissions

164.70MtCO₂e

GHGs covered

CO₂, CH₄, N₂O, HFCs, PFCs, NF₃, SF₆

Cap or total emissions limit

The total emissions limit under TIER changes as a function of production (output) and is the sum of the bottom-up facility-level emissions limits for all individual covered entities. However, the bottom-up emissions limits do not represent an absolute cap.

In the 2024 calendar year, TIER-covered entities emitted 164.7 MtCO₂e. Overall, there were 18.6 MtCO₂e of true-up compliance obligations and 6.62 MtCO₂e of EPCs were requested.

Sectors and thresholds

SECTORS: Mining and extractives, power, industry, forestry fuel use

INCLUSION THRESHOLDS: Coverage is mandatory for facilities with emissions equal to or exceeding 100,000 tCO₂e GHGs in 2016, or any subsequent year, or facilities that import more than 10,000 tonnes of hydrogen in 2023 or any subsequent year.

Facilities with annual emissions fewer than 100,000 tCO₂e may opt-in to the TIER system if they compete against a facility regulated under TIER or have annual emissions greater than 2,000 tCO₂e and are in an emissions-intensive, trade-exposed (EITE) sector.

The owner or operator of multiple small conventional oil and gas facilities can also opt-in to the TIER system by applying to be covered as an aggregate facility.

Point of regulation

Point source

Type of entities

Facilities (stationary fuel combustion, industrial processes, venting, flaring, fugitive/other, on-site transportation, waste and wastewater, formation CO₂)

Number of entities

In the 2024 calendar year, TIER covered 560 facilities. The number of sites is orders of magnitude higher as the opted-in conventional oil and gas facilities aggregate numerous small operations.

Allowance Allocation & Revenue

Allowance allocation

Allocation is determined in relation to annual emissions limits based on emissions intensity benchmarks. Entities that emit less than their limit receive a corresponding amount of emission performance credits (EPCs) for free from the government of Alberta. This is similar to free allocation based on benchmarks. These compliance units can be banked or sold to entities that exceed their emissions limits.

Facilities with emissions above their limit must provide compensation by a prescribed deadline for each tCO₂e above the limit.

Emissions reduction requirements under the TIER Regulation are set using two benchmarking approaches:

1. High-performance benchmarks (HPBs) that recognize and reward the most efficient facilities in an industry, or
2. Facility-specific product benchmarks (FSBs) which set a reduction target relative to a facility's historic performance.

The reduction target is being tightened at a rate of 2% per year for FSBs and HPBs, including heat, hydrogen, and electricity, since 2023.

Facilities comply with the least stringent of either benchmark.

HPB approach: Benchmarks are set based on the average emissions-intensity of the most emissions-efficient facilities producing each benchmarked product over reference years. If fewer than ten facilities are producing a product, the benchmark is set based on the emissions intensity of the best-performing facility. Where a facility produces a product that has not received an HPB, the FSB applies.

FSB approach: Facilities are required to reduce emissions intensity relative to the facility's historical production-weighted average emissions intensity. FSBs are not applicable for industrial heat or hydrogen or for facilities in the electricity sector.

A facility that initiated the capture of CO₂ and holds the sequestration credit generated from the associated emission offset may apply to convert the sequestration credit into a capture recognition tonne. Capture recognition tonnes may only be used for the year in which the CO₂ was sequestered, and they cannot be traded. Capture recognition tonnes are deducted from the calculation of a facility's total

regulated emissions and are therefore not subject to the credit use limit in TIER. Sequestration credits are similar to EPCs and can be traded, banked or used to meet a facility's compliance obligation. Sequestration credits expire six years from the year the sequestration occurred.

Total Revenue

CAD 4.5 billion (USD 3.5 billion) since the beginning of the program

CAD 564 million (USD 412 million) in 2024 for the 2023 compliance year
2025

Use of Revenues

Revenues (i.e., compensation payments of covered facilities that exceed their set emissions limit) are designated to the TIER Fund, which funds a variety of GHG reduction programs and low-carbon innovation projects and climate resilience (e.g., investment in carbon capture, utilization and storage [CCUS]).

Payments into a central fund for compliance purposes from 2007 to 2024 totaled approximately CAD 5 billion (USD 3.8 billion).

Fund investments in technology and innovation have been approximately CAD 2.8 billion (USD 2 billion) from 2009 through 2022.

In total, Alberta has invested or committed approximately CAD 2 billion (USD 1.4 billion) to CCUS projects and programs since 2009, with the Alberta Carbon Capture Incentive Program (ACCIP) expected to provide another CAD 3.2 billion to CAD 5.3 billion (USD 2.3 billion to 3.8 billion) of support between 2024 and 2035.

Flexibility & Linking

Offset credits

The use of Alberta-based emissions offset credits is allowed. The eligibility criteria for these credits are set in the TIER Regulations, the "Standard for GHG Emission Offset Project Developers", and the "Carbon Offset Emission Factors Handbook".

The government approves eligible project types through methodologies (quantification protocols) for the generation of Alberta emission offset credits. A quantification protocol outlines the eligible activity or activities and provides the appropriate monitoring, measurement, quantification, and verification procedures for the emission reduction or net sequestration resulting from

the implementation of an eligible activity.

Emission offsets created using the CCS or enhanced oil recovery quantification protocols may be converted to sequestration credits at the request of the project developer. This conversion cannot be undone. Sequestration credits can be traded, banked, or used to meet a facility's compliance obligation. These credits expire six years from the year the sequestration occurred. Sequestration credits are eligible for stacking with the federal Clean Fuels Regulation, meaning that the same activity can generate credits both in TIER and the CFR.

QUALITATIVE LIMITS: High-level criteria for emissions offset projects that are established under the TIER regulation include, but are not limited to, the project standard, the applicable quantification protocol, and criteria set out in the regulation requiring that the emission reduction or net sequestration activity:

- must occur in Alberta;
- must meet additionality requirements (including legal additionality);
- must result from an action taken that is not required by law;
- must result from action taken and occurring after January 2002;
- must be real and demonstrable;
- must be quantifiable and measurable using replicable techniques; and
- must not have reduced the total covered emissions of a TIER facility.

QUANTITATIVE LIMITS: The use of emission offset credits and EPCs to meet a facility's total compliance obligation was limited to 60% in 2023 and increases by 10 percentage points annually until it reaches 90% in 2026.

Transactions between buyer and seller are managed outside the Alberta Emissions Offset Registry; the registry is a tracking and listing service.

7.2 million credits were surrendered for compliance in 2024. As of the end of 2025, over 75 million offset credits had been retired for carbon pricing compliance obligations in Alberta since 2007, with a further 25 million credits available in the market. Credits stem mainly from activities such as agricultural management, renewable energy generation, CCUS, and methane reductions from pneumatic devices, among other eligible activities.

As of December 15, 2025, more than 400 carbon offset projects have been registered since 2007, and 18 different carbon offset protocols are available.

Banking and borrowing

EPCs can be banked, transferred, or retired by facilities subject to the TIER Regulation to meet their reduction requirements. The expiry length for EPCs varies based on reduction year and ranges from five to eight years.

Borrowing is not allowed.

Links with other Systems

The TIER system is not linked with any other system.

A subset of TIER offset types are recognized as compliance units under the Canadian (federal) output-based pricing system.

Some sequestration credits generated in the TIER system allow projects to also be recognized under the Canadian (federal) Clean Fuel Regulations.

Other carbon pricing instruments in the jurisdiction

Domestic offsetting mechanism: Alberta Emission Offset System

Compliance

Compliance mechanism

Covered entities must surrender one compliance unit per tCO₂e that exceeds the facility's annual emissions limit.

The six compliance options under the TIER system are:

- on-site emission reductions;
- use of EPCs produced and traded by facilities that surpass their emission reduction obligations;
- use of Alberta-based emissions offset credits
- use of Alberta-based sequestration credits;
- making direct investments in on-site emissions reduction technologies; and
- purchase fund credits by paying into the TIER fund at the prescribed price, which is equivalent to the Canadian federal minimum carbon price of CAD 95 (USD 67.95) per tCO₂e for the 2025 compliance year.

Maximum proportion of compliance that can be met with credits: 80% of a facility's total compliance obligation in 2025, increasing to 90% in 2026.

Compliance Period

One calendar year.

Monitoring, Reporting, Verification (MRV)

FRAMEWORK: The rules for reporting GHG emissions are outlined in the TIER Regulation and "Alberta Greenhouse Gas Quantification Methodologies".

MONITORING: Continuous monitoring with annual compliance reports. Thresholds for MRV are the same as for compliance under TIER.

Alberta has a separate reporting-only system for facilities that emit GHGs but are not covered by TIER. This is governed by the "Specified Gas Reporting Regulation" (SGRR) and covers all industrial sectors that emit specified gases (CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, NF₃). Thresholds for SGRR are lower than TIER, as facilities emitting at least 10,000 tCO₂e/year must report annually. This includes facilities in

sectors such as:

- Manufacturing
- Mining (non-oil sands)
- Waste management
- Agriculture (certain operations)
- Commercial buildings (if above threshold)
- Any other industrial operations

REPORTING: All facilities are required to submit verified annual compliance reports annually by the end of June of the year following the compliance year. Facilities with annual emissions in excess of 1 million tCO₂e and significant compliance obligations are also obliged to submit an annual compliance forecasting report.

VERIFICATION: Reports must be verified by a qualified third-party assurance provider.

Penalties and enforcement

If a covered entity does not meet its compliance obligation, the maximum amount of the fine can be up to CAD 400 (USD 286.12) for every tCO₂e by which they exceed their emission limit. Fines are limited to CAD 50,000 (USD 35,765) for individuals and CAD 500,000 (USD 357,650) for corporations.

Market Regulation

Market Stability Provisions

TIER FUND

Instrument type: Set price or set price trajectory

Functioning: To compensate for emissions exceeding the facility's annual emissions limit, covered entities can purchase and surrender fund credits by paying into the TIER Fund at the prescribed TIER Fund price. The TIER Fund price, which functions as a price ceiling, is CAD 95 (USD 67.95) per tCO₂e for the 2025 compliance year, and onward.

Market Design

MARKET PARTICIPATION: The main market for credits (Alberta offsets, EPCs, sequestration units) is directed at compliance entities, including both mandatory and voluntary entities (for inclusion thresholds see 'Sectors and Thresholds' section.) Offset project developers also participate by generating Alberta emission offsets, then offering those credits for purchase and use.

MARKET TYPES:

Primary: Compliance units are currently not auctioned.

Secondary: Covered entities may purchase EPCs from other regulated entities that have outperformed their compliance obligation. Transactions of EPCs are conducted via the Alberta Emission Performance Credit Registry (EPCR), which also handles the allocation, transfer, and retirement of EPCs. Transactions of offset credits and sequestration credits are conducted via the Alberta Emissions Offsets Registry. Transactions are negotiated outside the registries. Trading is mainly conducted over-the-counter (OTC) through bilateral agreements between parties. Since 2024, the ICE NGX exchange offers further options for trading EPCs and Alberta offset credits.

LEGAL STATUS OF ALLOWANCES: EPCs are considered revocable licenses.

Other Information

Institutions involved

Government of Alberta, Alberta Environment and Protected Areas: Responsible for establishing the regulatory framework of the TIER system, enforcement of the regulation, and allocation of EPCs.

Alberta Carbon Registries: Comprises the Alberta Emission Performance Credit Registry, which handles the allocation, transfer, or retirement of EPCs, and the Alberta Emissions Offset Registry, which handles the registration and transactions of emission offset credits.

Both registries are operated by CSA Group in coordination with the government of Alberta. The CSA Group provides the infrastructure and public transparency for both registries.

Regulatory Framework

[Emissions Management and Climate Resilience Act \(EMCRA\)](#)

[Technology Innovation and Emissions Reduction Regulation \(TIER Regulation\)](#)

[TIER information page](#)

[Alberta Emissions Reduction and Energy Development Plan](#)

[Standard for developing TIER benchmarks](#)

[Alberta's greenhouse gas emissions reduction performance](#)

[Alberta industrial GHG compliance information](#)

[Alberta Greenhouse Gas Quantification Methodologies](#)

[Standard for Greenhouse Gas Emission Offset Project Developers](#)

[Standard for Validation, Verification and Audit](#)

[Carbon Offset Emission Factors Handbook](#)

[Approved Alberta Emission Offset Quantification Protocols](#)

Evaluation / ETS review

The government of Alberta completed its latest revision of the TIER Regulation in December 2025. The TIER Amendment Regulation includes requirements for a next review by the end of 2030.

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