

Renewable Electricity Facilities

If information in this document conflicts with the Technology Innovation and Emissions Reduction Implementation Act (the “Act”), the Technology Innovation and Emissions Reduction Regulation (the “Regulation”), or the Standards published under the Regulation, then the Act, Regulation, and/or Standard prevail over this document.

Background

The Technology Innovation and Emissions Reduction (TIER) Regulation is designed to help industrial facilities find innovative ways to reduce emissions and invest in clean technology. The Regulation provides regulated facilities with the following compliance options:

1. On-site emissions reductions
2. Use of emissions performance credits (EPCs)
3. Use of Alberta-based emission offsets
4. Payment into the TIER compliance fund

Emission offsets and EPCs are tracked on the [Alberta Carbon Registries](#).

Renewable Electricity Facilities

Renewable electricity facilities have two options to participate in the TIER Regulation:

1. Create an emission offset project
2. Apply to become an opted-in facility

Alberta Emission Offset Projects

New renewable electricity projects started in 2002 or after, and that meet all the Regulation requirements and offset system rules, may create an emission offset project using government approved quantification protocols, such as Wind-Powered Electricity Generation and Solar Electricity Generation. To generate emission offsets, projects cannot be a “regulated facility” under the TIER Regulation, nor can they double claim their production in any other system or scheme. Smaller projects which follow the same activity may be grouped together, or aggregated, in order to assist with project development, creation on the registry and emission offset claims. All projects and subprojects must meet all system requirements.

Offset projects are eligible for a standard consecutive eight year crediting period. Project Developers may apply for

director approval of five-year extension periods, which begins immediately after the end of the crediting period, if approved. Project developers also have the option to request of the director written authorization to have a crediting period of ten consecutive years, with no option of any extension, in lieu of the eight year plus five crediting period. Project developers may choose to claim emission offsets at any time interval covering a Reporting Period (it does not have to be a calendar year) in order to cover costs associated with quantification, verification and serialization on the registry.

Offsets are created when the greenhouse gas emissions from the project condition are less than emissions from the baseline condition.

The Carbon Offset Emission Factors Handbook is applicable for all emission offset projects and provides the electricity grid displacement factor used by renewable electricity offset projects for displacing grid-electricity with renewable generation. The current factor is 0.53 t CO₂e/MWh, scheduled to be updated in 2022 for 2023. New projects must always use the most current factors, whereas existing projects must update their factors only upon any credit extension approval or update to their offset project plan.

Please visit the [Alberta Emission Offset System](#) for more information and applicable documentation.

Opted-In Regulated Facilities

Please refer to [section 4 of the TIER regulation](#) for further detail on eligibility criteria. Electricity facilities, including renewable electricity facilities, are able to opt in under the direct competition pathway.

Renewable electricity facilities are defined in the TIER Regulation. Renewable electricity facilities are eligible to opt-in, **unless** any of the following criteria applies to the facility:

- The facility has a total nominal capacity of less than 5 megawatts.
- The facility has entered into a renewable electricity support agreement under section 7(4) of the *Renewable Electricity Act*.
- An economic benefit is being provided under a program or other scheme that is attributable to the electricity produced at the facility having been produced from a renewable energy resource.

Renewable electricity facilities cannot be grouped or aggregated to meet the 5 megawatt threshold.

All electricity facilities are subject to the High Performance Benchmark published in Schedule 2 of the TIER Regulation. The current electricity High Performance Benchmark is 0.37 t CO₂e/MWh.

Regulated facilities are able to create EPCs when the facility's total regulated emissions are less than the allocated emissions calculated using the electricity benchmark, as described in Section 9 of the TIER Regulation. The compliance year coincides with the calendar year; the compliance deadline is June 30 of the year following the compliance year.

Emission Performance Credits are typically issued after facility submissions have been reviewed, usually before the end of the calendar year. Renewable electricity generators may submit a verified compliance report by March 31st, covering the prior compliance year. The department will then aim to review and serialize the requested EPCs by June 1st of the year the compliance report is submitted.

Application to opt in to the TIER Regulation must be received by the Director in the prescribed format on or before September 1 of the year preceding the compliance year. A facility cannot generate emission offsets for any year that it is an opted-in facility. There is no time limit on how long a facility can remain opted-in and generate EPCs.

New facilities must seek authorization from the Director to be subject to compliance reporting prior to the third year of commercial operation (until 2023).

Renewable electricity facilities subject to TIER must register generating units and have production reported on the [Western Renewable Energy Generation Information System](#) for all electricity that will be claimed as production under the regulation.

Renewable electricity certificates associated with claimed production must be retired to a sub-account named "Alberta TIER EPC." Please refer to Part 2, Section 6.1 of the Standard for Completing Greenhouse Gas Compliance and Forecasting Reports for more information regarding the retirement of renewable attributes.

Any production claimed in any other system or scheme cannot be claimed under the TIER Regulation to generate EPCs.

Direct and indirect emissions

Emissions that occur at the facility, including service vehicles and back-up generators, and indirect emissions, such as electricity imported from the grid, must be accounted for in

both emission offset projects and compliance reporting. Offset project emissions are monitored and quantified according to the applicable quantification protocol. Regulated facilities must quantify emissions according to the Alberta Greenhouse Gas Quantification Methodologies.

Third party verification

Both emission offset project reports and regulated facility compliance reports require independent third party verification. The project developer or person responsible for the renewable electricity facility is responsible for the contract and costs of third party verification. The [Standard for Validation, Verification and Audit](#) provides the regulatory requirements and more details for the verification process.