

Alberta's Carbon Offset Registry

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World Bank Partnership for Market Readiness
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Alberta



Regulatory Approach to Manage Emissions

Climate Change and Emissions Management Act (2003)

Specified Gas Emitters Regulation (2007)

- regulating large industry ($\geq 100,000$ t CO₂e per year, over 100 sites)
- existing facilities required to immediately reduce per unit GHG output
 - currently 12% reduction stringency
 - 2016 increases to 15% stringency and 2017 increases to 20% stringency
- new facilities ramped up from operating years 4 to 9 to full stringency requirements
- Compliance flexibility
 - reduce emissions at facility
 - use emission performance credits
 - purchase serialized Albert-based carbon offset credits
 - pay into the Climate Change and Emissions Management Fund (dedicated fund defined in legislation)
 - currently \$15/tonne
 - 2016 increases to \$20/tonne and 2017 increases to \$30/tonne

Regulatory Compliance Results 2007-2014

- 61 Mt of emissions avoided (from BAU)
- \$578 million paid into the Climate Change and Emissions Management Fund

Compliance Cycle	Total Avoided Emissions		Fund Payment
	At Facility Reductions and Cogen	Offset Credits	
2007 (half year)	2.88 Mt	0.88 Mt	\$41.3 Million
2008	3.93 Mt	2.68 Mt	\$85.4 Million
2009	3.55 Mt	3.74 Mt	\$61.3 Million
2010	3.57 Mt	3.85 Mt	\$67.4 Million
2011	5.57 Mt	5.40 Mt	\$55.0 Million
2012	4.61 Mt	3.20 Mt	\$87.7 Million
2013	4.62 Mt	2.04 Mt	\$98.6 Million
2014	8.12 Mt	2.55 Mt	\$83.4 Million
Total	36.85 Mt	24.34 Mt	\$577.9 Million

Carbon Offsets in Alberta

- credits must originate in Alberta to be used for Alberta's regulatory requirements
 - can be sold outside Alberta to other systems (but must be retired from system)
 - may be retired in or outside Alberta for voluntary systems
- first compliance cycle – 2007
- program eligibility – 2002
- protocols in place – 32
- projects listed – 191
- typical annual volume – 3 Mt offsets and 2 Mt emission performance credits
- total units - ~ 48 M
- Registry
 - contract a registry provider for offset and emission performance credits via competitive bid process (currently CSA Group)
 - funding model based on transaction fee (minimal to no cost to GoA)

Registry Functions

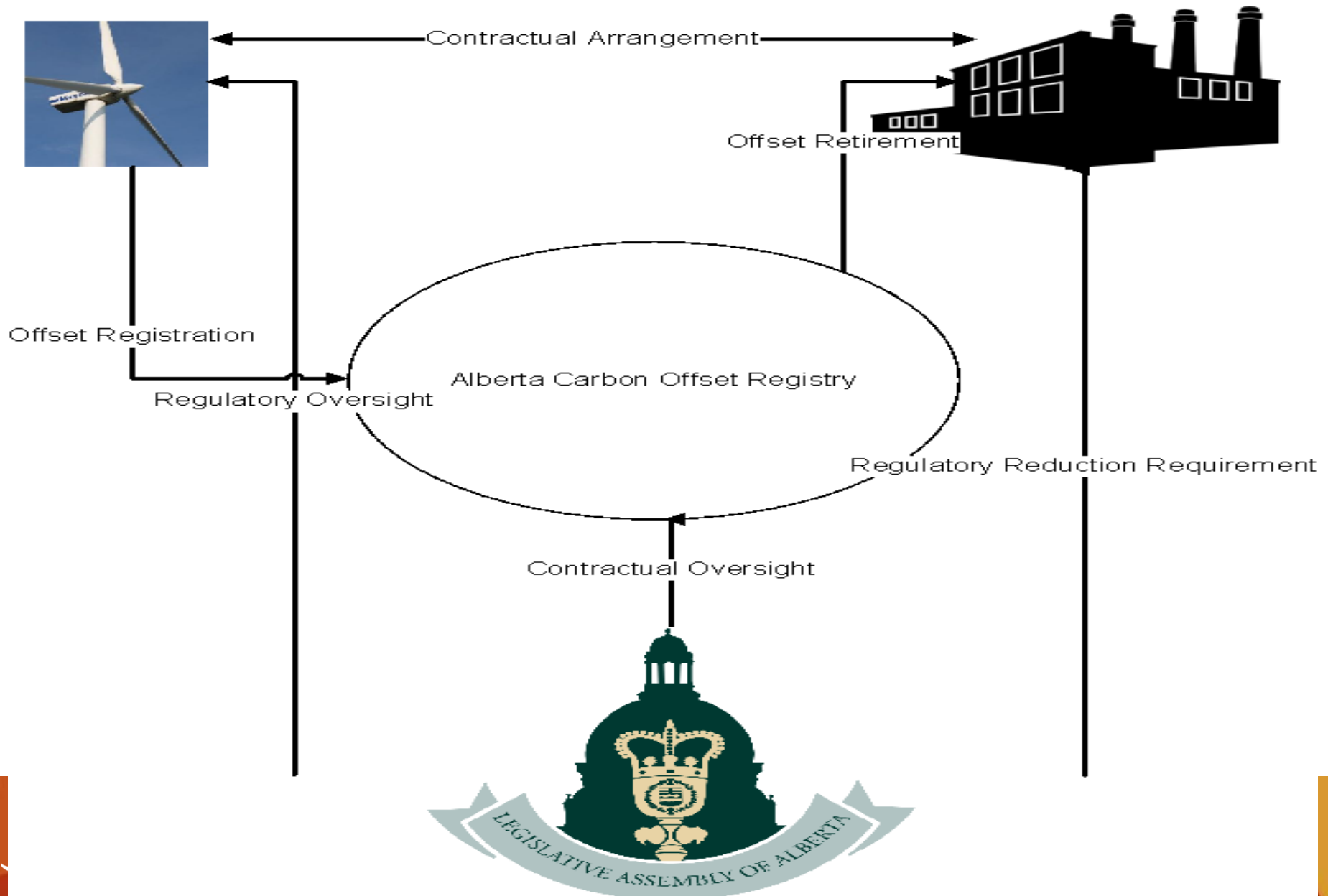
- User management and support
- Transparent repository of offset project documents
- Basic completeness and correctness testing of submitted documentation
- Serialization of credits
- Transfer of credits
- Display of current ownership and status of all serialized tonnes
- Retirement of tonnes by owner
- Duplication checking
- Execution of operations for/by regulator
 - Revocation
 - Final retirement
 - Suspension

<http://www.csaregistries.ca/albertacarbonregistries/home.cfm>

Functions Not Provided by Registry

- Transaction management (trade settlement)
- Price discovery
- Compliance reporting
- Validation

Legal Framework



Legal Framework – Offset Project Developer

- Voluntary participant with legal obligations
- Regulatory definitions and requirements through the Specified Gas Emitters Regulation and incorporated standards
 - carbon offsets and performance credits are revocable licenses
- May be subject to enforcement action through registration of non-conforming project
- Transfer of offset credits/options on credits are through contractual arrangement and do not involve the registry

Legal Framework – Large Emitter

- Regulatory reduction requirement for facilities subject to the Specified Gas Emitters Regulation
- Offsets may be used for compliance purposes but may also be revoked if found to be in error/poorly supported/non-conforming to program requirements
- If revoked, regulated party must make alternate payment

Legal Framework – Registry

- Registry services funded through transaction fees (some initial registry development funded by government)
 - transaction activity subject to goods and services tax collected by registry
- Legal requirements on registry through contract
 - registry is subject to the provincial *Freedom of Information and Privacy Act*
 - records keeping and retention requirements
 - non-disclosure requirements
 - management of conflict of interest
 - fee schedule

Current Registry Fees

	Fee AEOR	Fees EPC
Accountant Set up Fee	No Fee	No Fee
Offset Project Created <ul style="list-style-type: none"> • Project application form and schedules • Offset project plan 	\$500	N/A
Offset Project Registration <ul style="list-style-type: none"> • Offset project report • Spatial locator template • Third party verification report • Notice of Creation and Statutory Declaration 	\$500	N/A
Registered Project Add-ons/Updates <ul style="list-style-type: none"> • Offset project report • Spatial locator template • Third party verification report • Notice of Creation and Statutory Declaration 	\$500	N/A
Serialization of Offset Credit	\$0.10 per tonne	N/A
Transfer of Ownership of Offset Credits	\$0.02 per tonne	\$0.02 per tonne
Pending Retired	\$0.02 per tonne	\$0.05 per tonne
Retirement of Offset Credits	No Fee	No Fee
Revoked Offset Credits	No Fee	No Fee
Removed Offset Credits	\$0.02 per tonne	N/A
Exported Credits	\$0.05 per tonne	\$0.05 per tonne

Specific Questions

- What factors influenced your design?
 - Expedience, flexibility, simplicity. Relatively small number of actors in a non-litigious setting.
- How would you suggest overcoming bureaucratic constraints?
 - Adopting/modeling on existing working systems or building past learning into a new design.
- Which factors or issues, in the context of the legal framework for linkage, were considered of foremost significance?
 - No linkages currently. Systems to ensure quality. Ability to audit, revoke, investigate.
- Suggestions for anyone seeking to implement their own legal framework for registries today?
 - First priority should be systems to ensure the quality of the offset product being brought forward.
 - Nature of framework around the registry will depend on its desired functions and the possible failure modes of those functions.

Thank you

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Alberta Carbon Offset System

Government Approved Protocols

Agriculture Related Protocols:

- Anaerobic Decomposition of Agricultural Materials
- Conservation Cropping**
- Emission Reductions from Dairy Cattle
- Reducing Age at Harvest of Beef Cattle
- Reducing Days on Feed of Beef Cattle
- Nitrous Oxide Emission Reductions
- Selection for Low Residual Feed Intake Markers in Beef Cattle

Energy Related Protocols:

- Aerobic Landfill Bioreactor Projects
- Anaerobic Treatment of Wastewater Projects*
- Biofuel Production and Usage
- Diversion of Biomass to Energy from Biomass Combustion Facilities*
- Landfill Gas Capture and Combustion*
- Low-Retention, Water-Powered Electricity Generation as Run-of-the-River or an Existing Reservoir
- Non-Incineration Thermal Waste Conversion
- Solar Electricity Generation
- Waste Heat Recovery* (and Streamlined***)
- Wind Power Electricity

Other Protocols:

- Aerobic Composting Projects*
- Conversion of Drilling Rigs from Diesel-Electric to High Line Electricity Source
- Direct Reductions from Changes in Forest Harvesting Practices
- Direct Reductions in GHGs Arising from Forest Harvest Practices
- Distributed Renewable Energy Generation
- Enhanced Oil Recovery (and streamlined***)
- Energy Efficiency Projects
- Energy Efficiency for Commercial and Institutional Buildings
- Engine Fuel Management and Vent Gas Capture
- Gravel and Lightly Surfaced Road Rehabilitation Projects
- Instrument Gas Conversion to Instrument Air
- Nitrous Oxide Abatement from Nitric Acid Production
- Substitution of Bitumen Binder in Hot Mix Asphalt Production and Usage
- Sulphur Extender in Asphalt Production and Use

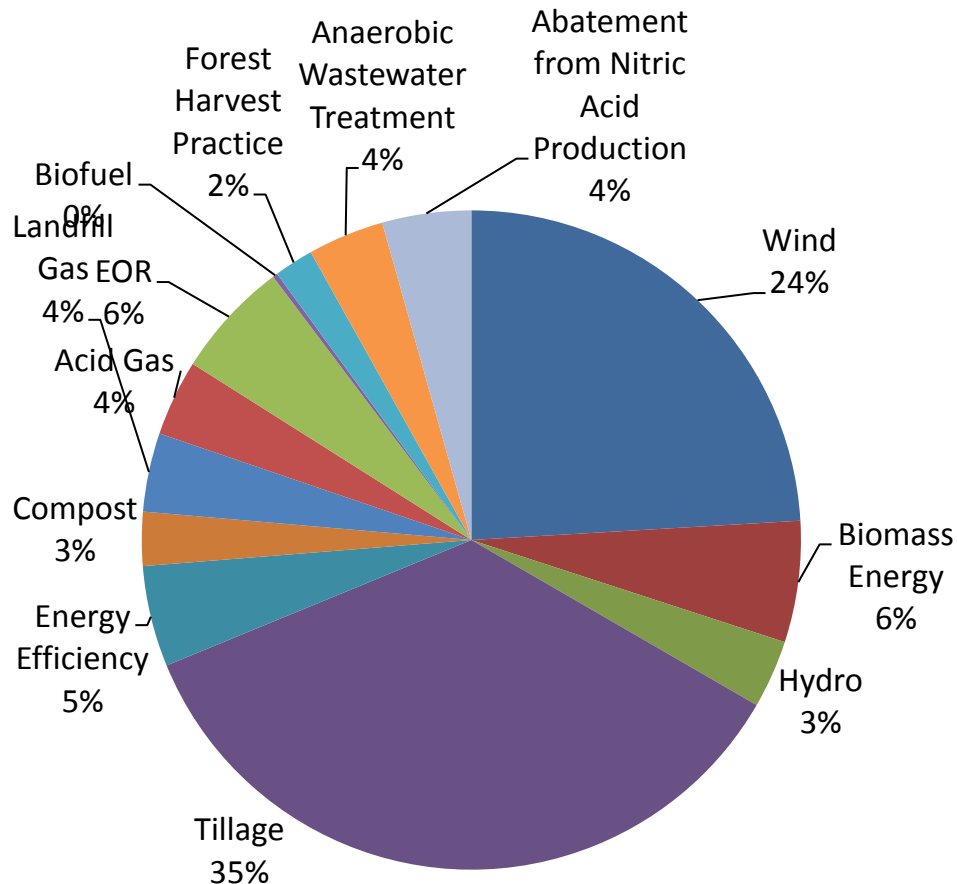
* Protocol is under review. New projects need approval of government.

** Replaces Tilling System Management protocol.

*** Streamlined protocol is for projects of limited scope.

Alberta Carbon Offset System

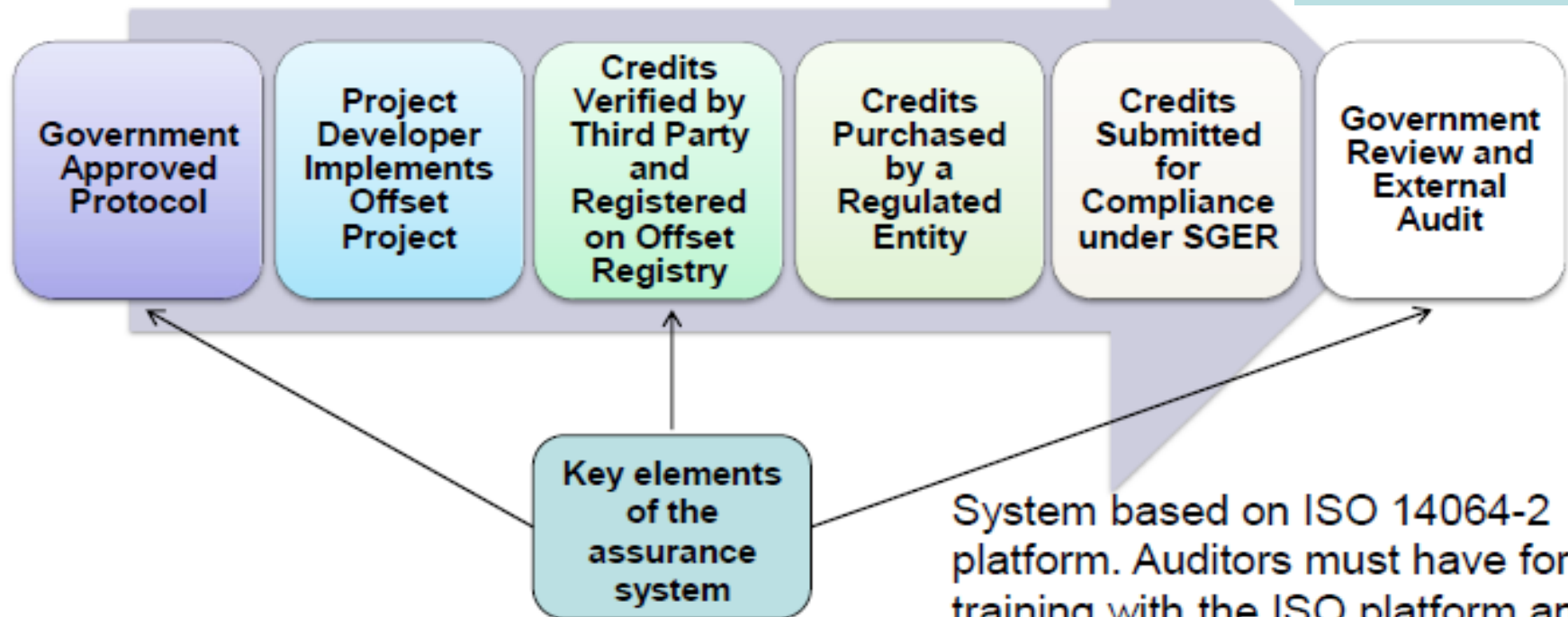
- **Primarily Alberta-based compliance option**
 - credits must originate in Alberta to be used for Alberta’s regulatory requirements
 - can be sold outside Alberta (but must be retired from system)
 - may be retied in or outside Alberta for voluntary systems
- **Foundation of quantification**
 - 32 approved protocols
 - ISO-based verification by third parties
 - guidance on protocol development, project reporting and verification
- **24 Mt of offsets have been retired**
 - 36 Mt registered



Alberta Carbon Offset System

Offset Credit Process

Government can use monies from Climate Change and Emissions Management Fund for audit.

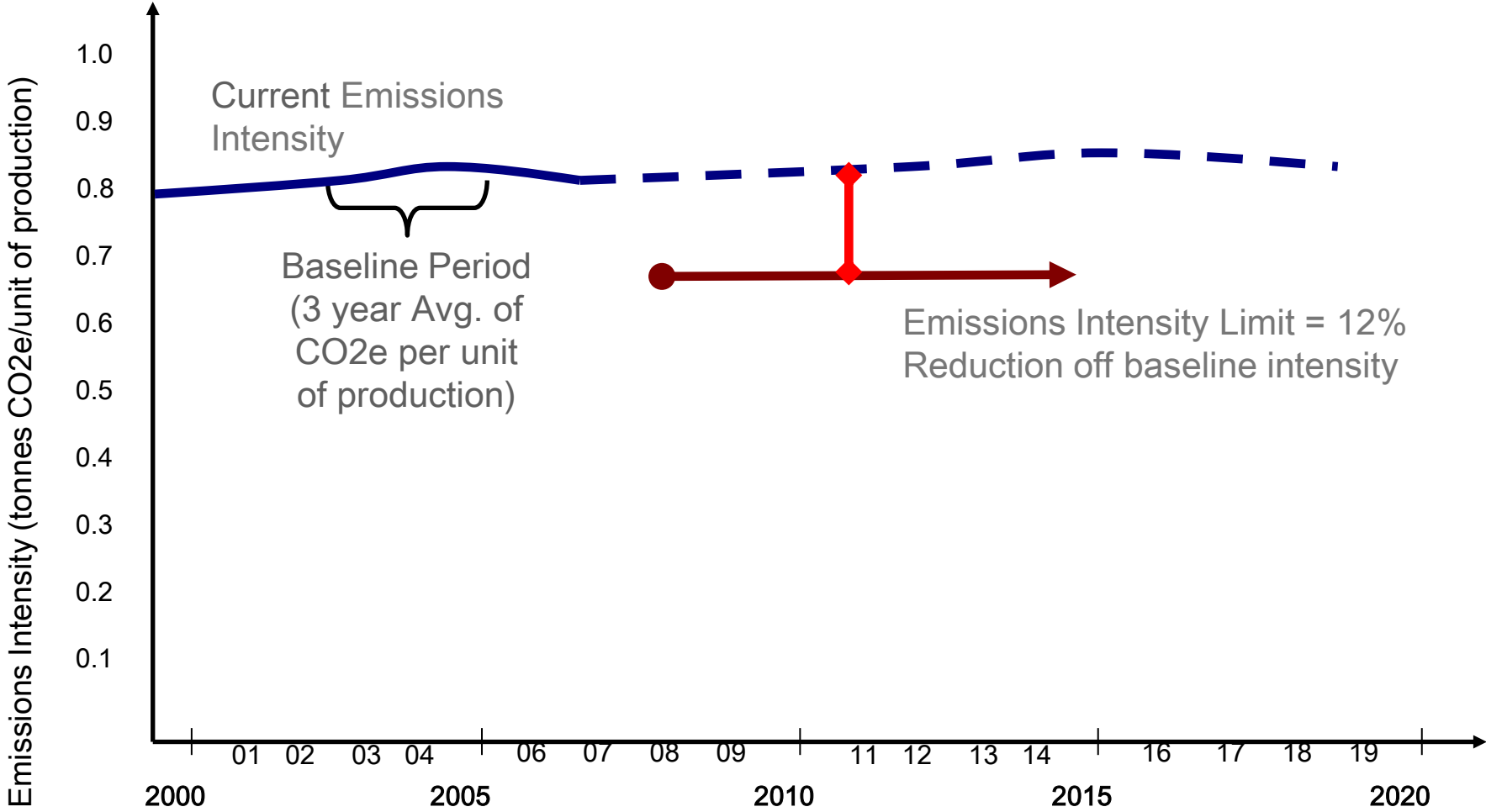


System based on ISO 14064-2 platform. Auditors must have formal training with the ISO platform and possess a professional designation (e.g., P.Eng and C.A.).

Assurance Program

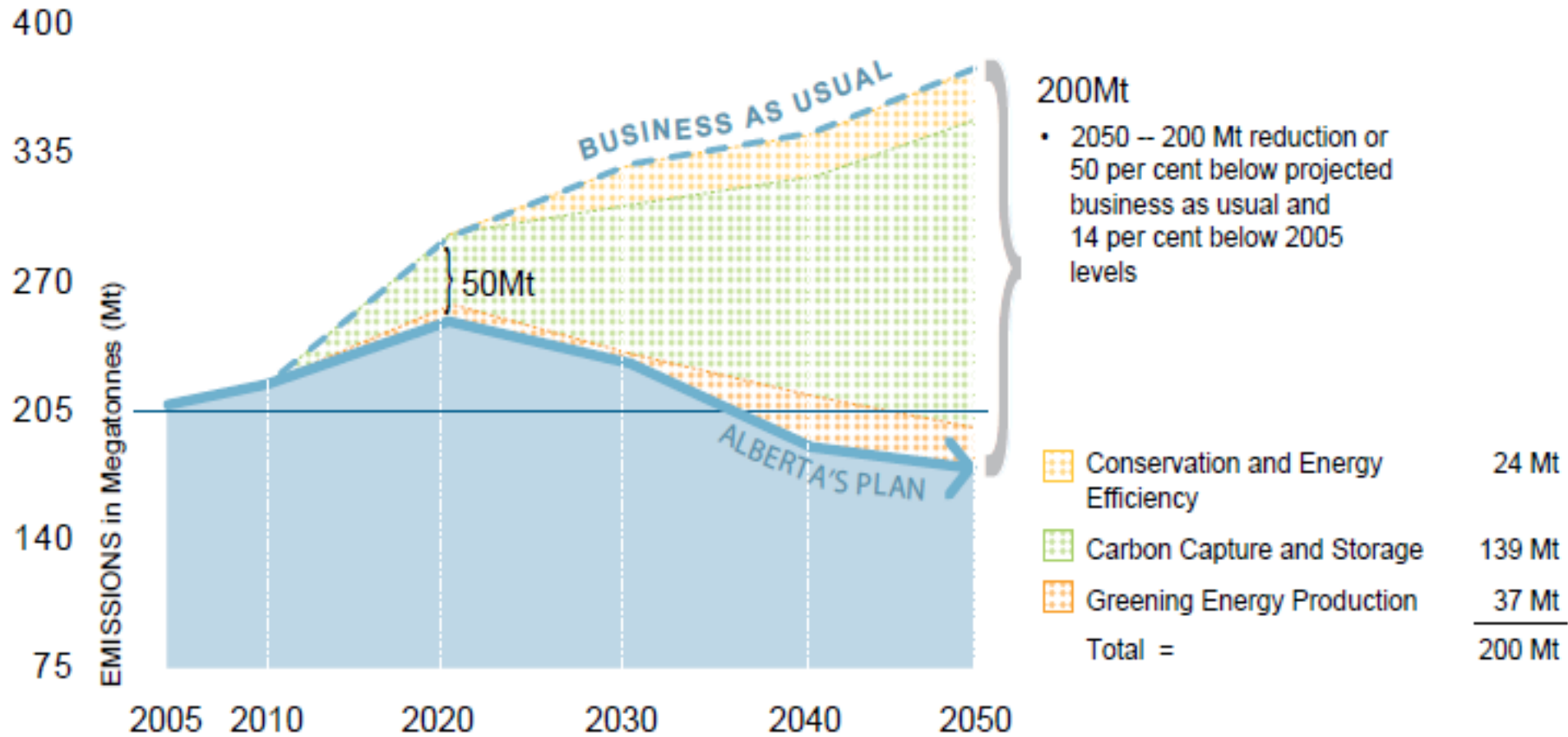
- **Third party verification**
 - Required for all compliance reports as well as offset project serializations
- **Department Review**
 - Depart reviews all baselines, compliance reports and offset projects
- **Government re-verification**
 - Government contracts for re-verification of baselines, compliance reports and offset projects
 - Approximately 10% are selected annually based on risk factors.
- **Error Correction**
 - Materiality threshold used to determine retroactive error correction.
 - Offsets revoked under to correct material errors.
 - Compliance amounts are corrected retroactively under material errors up to 3 years.

Target Example – Existing Facility



Alberta's Climate Change Strategy Targets

Alberta's Reduction Commitments



Offset and Emissions Performance Registries

- <http://www.csaregistries.ca/albertacarbonregistries/home.cfm>

Program details

- <http://aep.alberta.ca/climate-change/guidelines-legislation/specified-gas-emitters-regulation/offset-credit-system-protocols.aspx>