

COMPETENCY PROFILE:

EMISSIONS ANALYST

ROLE OVERVIEW

Emissions analysts are crucial in measuring, reporting, and projecting an organization's emissions. Their duties span various sustainability services, such as creating greenhouse gas emissions inventories, establishing benchmarks, managing compliance and offset reporting, disclosing climate-related financial information, and strategizing emissions offsetting. They are vital for staying abreast of regulatory changes affecting the organization. They also play a crucial role in establishing and maintaining client relationships by informing them about emissions quantification and reduction mandates. Emissions analysts are responsible for gathering, analyzing, and reporting on the organization's emissions data, including Scope 1, 2, and 3 greenhouse gas emissions, within the organization.

In Canada, what was once optional environmental, social, and governance reporting, including emissions reporting, has become mandatory. With the Government of Canada targeting net-zero emissions by 2050, new regulatory demands across all sectors are emerging, emphasizing the importance of monitoring and analyzing greenhouse gas emissions. Thus, emissions analysts are increasingly critical to the Canadian economy's transition towards sustainability.

ALSO KNOWN AS:

- Emissions Auditor
- Greenhouse Gas Verifier
- Carbon Specialist
- Emissions Specialist
- Emissions Advisor
- Greenhouse Gas Inventory Manager

NATIONAL OCCUPATIONAL CLASSIFICATION:

- 21320 – Chemical engineers
- 41400 – Natural and applied science policy researchers, consultants, and program officers

EDUCATION AND EXPERIENCE

- A bachelor's degree in environmental science, engineering, or a related scientific discipline is essential. It offers the theoretical foundation and analytical skills needed to tackle emissions-related issues.
- The specific field of an undergraduate degree may vary based on the job's focus. For instance, chemical emissions roles may require a chemical engineering degree. At the same time, policy-oriented positions need a background in environmental law or policy.
- A few years of experience in emissions analysis, environmental consulting, or similar fields are typically needed. This experience is crucial for developing skills in data collection, analysis, and understanding environmental regulations.
- Certifications enhance an analyst's qualifications and show expertise in emissions management, including:
 - ISO-14064-3: For verifying and validating greenhouse gas emissions.
 - ISO-14064-2: Focuses on greenhouse gas projects and reductions.
 - ISO-14064-1: Deals with the quantification and reporting of greenhouse gas emissions.
 - GHG-Related Training Modules: Offered by environmental agencies, these modules provide specialized knowledge in greenhouse gas management and reporting.
- A combination of scientific education, practical work experience, and certifications prepares emissions analysts to effectively assess and reduce emission's environmental impact.

TECHNICAL



Data and Statistical Analysis

Uses established statistical methods to analyze emissions data, identifying trends, patterns, and opportunities that inform strategic decisions.

- Identify and collect the greenhouse gas inventory based on the facility's operations for emission calculation.
- Applies GHG calculation methodologies and applicable standards and guidelines for the province/territory to calculate Scope 1, 2, and 3 emissions of a facility/facilities.
- Works towards setting organizational emission reduction targets/net zero targets in line with the government's objectives (e.g., Net Zero by 2050) to ensure business continuity.
- Proposes decarbonization pathways/milestones to be followed to achieve the set targets.
- Applies a knowledge of Life Cycle Analysis (LCA) and/or Life Cycle Cost Analysis (LCCA) to accurately calculate the carbon intensity (CI) of the organization's operations.
- Completes climate change risk assessments (mitigation and adaptation) to keep track of a changing business environment and enable effective decision-making.
- Understands and applies carbon neutrality and net zero strategies based on existing data trends to work towards net zero emissions for the organization.
- Evaluates the efficacy of emission reduction and adaptation strategies to identify and prioritize the feasible options.
- Adopts analytical thinking and problem-solving to navigate complex emission reduction challenges.

Data and Information Management

Coordinates and controls documentation within defined limits of authority as per company, industry, and regulatory requirements to ensure timely, accurate, clear, thorough, and accessible reporting of information to authorized personnel as/when required.

- Generates, maintains, retains, and distributes documentation and reports on emissions reduction activities and results, as required to ensure accurate records.
- Compiles and analyzes emissions performance and emissions intensity records and data to enable easier reporting and tracking.
- Review internal controls and documentation to ensure appropriate quality assurance and quality control for compliance.
- Ensures confidentiality requirements are met to protect organizational interests and privacy.
- Ensures that data traceability and integrity are maintained (for audits, decision-making, etc.) to enable accurate and effective audits.
- Maintains comprehensive documentation of emissions accounting methodologies, assumptions, and data sources to make the process transparent and auditable.
- Identifies the organizational boundary and scope of emissions as relevant to the organization's intended use. Implements rigorous data quality checks to ensure the integrity of emissions data.

Quality Assurance

Follows appropriate processes, as directed by the applicable regulations, standards, guidelines, and best practices, to ensure quality is maintained throughout the emissions quantification and auditing processes.

- Establishes and maintains rigorous quality assurance and control processes to ensure the precision and reliability of greenhouse gas quantification and audits.
- Establishes systems to manage data collection and analysis from various sites and fields of the organization.
- Review the organization's benchmark and annual emissions to pinpoint discrepancies between existing practices and efforts to reduce emissions.
- Maintains the organization's emissions inventory to facilitate decision-makers in continually improving emissions reduction strategies.

Operational Management

Supports and develops a comprehensive emissions monitoring procedure and reduction plans to perform the necessary actions and processes required to complete the project plan.

- Schedules activities to ensure that emission-related monitoring is completed in a reasonable time frame.
- Identifies risks to the project to suggest mitigation activities and keep the project on time and budget.
- Prepares and submits emissions compliance or offset reports as required while ensuring the accuracy and traceability of documentation for the regulators to ensure that all requirements are met.
- Organizes, implements, and oversees projects to guarantee effective management.

Technical and Report Writing

Identifies reporting requirements and necessary/relevant information and composes it into a report to concisely distill relevant information and convey the results and findings.

- Identifies relevant and accurate information for the report to ensure the necessary information is included.
- Writes and delivers reports on emissions quantification and reduction performance to keep all levels of management on the same page.
- Follow applicable standards and protocols for reporting and analyzing the emissions to increase reporting transparency.
- Presents the information in the report in an easily interpretable way for the target audience.
- Writes technical reports that reflect the current environment, applying a working knowledge of evolving greenhouse gas protocols, technologies, and regulatory requirements.



Communication

Communicate proactively and promptly with stakeholders internally and externally to address any legal or operational issues regarding emissions quantification and reporting.

- Engages with engineers, sustainability professionals, climate scientists, and others to effectively respond to an organization's significant risks and available opportunities for emissions mitigation and adaptation strategies.
- Meets with clients and external partners to understand their needs and address concerns.
- Communicates requirements to staff to ensure all personnel are aware of them.
- Actively participates in or leads team discussions to generate ideas and solutions and improve overall organizational emission-related performance.
- Presents emission quantification and audit findings clearly and effectively to internal and external stakeholders to establish common ground.

Collaboration

Engages in professional collaborative efforts with other team members, including sharing information and expertise, utilizing input from others, and recognizing others' contributions to work towards a common goal.

- Collaborates with operations in all departments (and potentially across sites) to ensure the required activities are completed and detailed.
- Works with regulators and organizational team members to maintain compliance and ensure that responsible parties are aware of any changes.
- Builds and sustains strong relationships with stakeholders, individuals, agencies, and the public to foster collaborative partnerships in quantifying and reducing emissions or to aid in disseminating and interpreting findings.
- Shares relevant and valuable knowledge or expertise to aid in accomplishing emission monitoring and reducing objectives more efficiently or effectively.
- Works collaboratively with cross-functional teams, including environmental specialists, engineers, and regulatory affairs professionals, to integrate GHG quantification and audit results into broader sustainability initiatives.

Ethical Conduct

Conducts work with integrity and respect in personal and organizational practices to maintain and grow the company's reputation for professionalism and ethical standards.

- Competency in this role is demonstrated when the individual:
- Manages data security to ensure confidentiality of the organization's data.
- Ensures the use of facilities and resources appropriate for protecting the accurate emissions monitoring.

- Communicates and advises senior management on ethical dilemmas to enable better decision-making.
 - Ensures compliance with professional rules of conduct and standards by communicating expectations.
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Attention to Detail

Review completed work by monitoring and checking information, organizing tasks and resources efficiently, and assessing all areas involved in achieving an objective.

- Accurately completes documents and report logs to ensure accurate projections and reporting.
- Detects and corrects missing or incomplete data/errors or omissions to ensure completeness and accuracy in emission reporting.
- Applies standards and best practices to ensure the accuracy of information and work to provide accurate and consistent work.
- Establish procedures or processes to carry out the data collection activity promptly and set up a data collection frequency.
- Establishes procedures or processes to validate activity data and calculated emissions.
- Works effectively to minimize misstatements to the organization's quantified emission and reporting.
- Documents hurdles or anomalies to accurately monitor emissions or activity data for emission quantification.



Emissions Audits

Supports and/or implements the creation and administration of reporting procedures and processes to streamline processes to meet compliance requirements and improve data gathering.

- Establishes Organizational boundaries for emissions reporting to determine what should be included in the reports.
- Identifies scope and emissions sources within the boundary of an organization's operations to streamline the reporting process.
- Ensures all sources of emissions within the applicable scope are included and reported to provide a clearer picture of the organization's overall emissions.
- Determines what facilities, processes, and business operations will be evaluated (scope) in calculating Scope 3 (indirect) emissions in an organization's upstream and downstream activities to establish a value chain of emissions.
- Reports emissions data according to existing reporting frameworks to ensure harmonized data and regulatory compliance.
- Assesses gaps between the current emission quantification process and compliance reporting requirements to ensure corrective actions to fill the gaps.

Compliance

Audits and inspections of the greenhouse gas emissions tracking and reporting process are conducted to verify compliance with regulatory standards, internal policies, procedures, and client expectations.

- Ensures regulatory requirements are continuously identified and applied in all areas of data collection, quantification, and reporting of emissions.
- Evaluates the suitability of quantification methodologies against regulatory requirements to maintain compliance with evolving regulations and standards.
- Engages with and manages expectations of various stakeholders, including regulatory bodies, clients, and internal teams, to keep all relevant parties informed.
- Assists in incident reporting, investigation, and implementation of corrective actions to ensure they are correctly followed.



Environmental Policy

Evaluates the effectiveness of an organization's emissions monitoring, reporting, and reducing policy(s) to develop sustainable alternatives to support business practices.

- Analyzes trends with peers to facilitate senior management in developing business strategies.
- Identifies strategies an organization could use to reduce and work towards net-zero emissions.
- Advises on reducing Scope 1, 2, and 3 emissions to help an organization decide where to cut further.
- Identifies emissions reduction options with the cross-functional teams to provide organizations with clear recommendations.
- Recommends improvements to the greenhouse gas emissions quantification process to better understand, quantify, monitor, and report greenhouse gas emissions.

Long-Term Emissions Strategy and Modelling

Analyze data and options to forecast how an organization may need to adapt to meet long-term regulatory requirements and internal emission goals.

- Sets objectives for greenhouse gas emissions management to keep immediate actions in line with business strategy and risk management processes.
- It helps define roles and responsibilities across the organization and harmonizes responsibilities with specific actions included in the GHG reduction plan.
- Works on areas of automating data processing to streamline emissions monitoring.
- Evaluate how greenhouse gas emissions affect assets, liabilities, revenue, and expenses.
- Uses scenario modelling to forecast financial and operational outcomes of alternate mitigation actions.
- Monitors and maintains utility consumption models to enable financial and budgetary decision-making.
- Uses software to estimate emissions and track emissions trends.